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Sent: Thursday, February 25, 2016 9:20 PM

To: Monroe, Pamela

Cc: Town Administrator

Subject: Response to Request for Advance Public Comment on Rules Related to Certificates of Site and Facility, Site 300

Ms. Monroe:

Thank you for the opportunity to provide comments on the Site 300 Rulemaking as it pertains to high pressure gas pipelines. Despite the 25 January 2016 date of the request, please be advised that we did not receive the request until 11 February 2016. I respectfully request that the deadline for submission be extended beyond 29 February 2016 to give the municipalities and members of the public a reasonable opportunity to contribute to this process.

We have reviewed the current Site 300 rules and the provisions specified in the Request for Comment and found them to be inadequate. Respectfully, we request that the following provisions be considered:

1. Public and Private Drinking Water Wells
 - a. Avoidance of aquifers that are used for public and private drinking wells
 - b. Identify impacts of blasting on groundwater for public and private drinking wells
 - c. Require hydrogeological studies to support application
 - d. Identify impacts and risks associated with hydrostatic testing
 - e. Identify impacts of air pollution from surface facilities (compressor engines, compressor blowdowns, condensate tanks, storage tanks, truck loading racks, glycol dehydration units, amine units, separators, fugitive emission sources, etc.) on dug wells
 - f. Testing and monitoring of public and private wells prior to construction (baseline) and periodically post construction; test for flow as well as contaminants (i.e., arsenic, radon, benzene, VOCs, etc.)
2. Public Health and Safety
 - a. Current state (baseline) of the impacted Town's Emergency Management, Fire Department and Police Department capabilities
 - b. Identify risks of proximity to high-tension electrical wires and other ignition sources; avoid EMI
 - c. Identify Emergency Response Plans; training and equipment; ability of Town's to respond to wildfires and other disasters; Mutual Aid impacts, etc.
 - d. Identify security requirements and associated risks
 - e. Identify system shut-down procedures; identify risks associated with road structure and conditions, terrain, weather, etc.
 - f. Require highest quality of pipe, considering health and safety impacts, not only population density
 - g. Use and management of dangerous substances; major hazards assessment and management; pollution prevention; solid and chemical waste management
 - h. Avoid steep-slopes; identify risks due to erosion, pipe cleaning and maintenance, etc.
 - i. Current state (baseline) of roads and public right of ways; impacts to roads for logging, construction and maintenance activities

- j. Require road bonds prior to construction
 - k. Audits and inspections during operations
3. Air Pollution
 - a. Require Comprehensive Health Impact Assessment
 - b. Require surface facilities (compressor engines, compressor blowdowns, condensate tanks, storage tanks, truck loading racks, glycol dehydration units, amine units, separators, fugitive emission sources, etc.) to be constructed to control emissions and prevent air pollution
 - c. Identify impacts to people, business, schools, local farms, surface waters, etc.
 - d. Twelve months of air monitoring prior to operation to establish current state (baseline)
 - e. Constant testing and monitoring for air pollution
 - f. Guidelines for levels of pollutants that shuts down the surface facility
 - g. Soil testing and monitoring to identify local conditions (baseline) and periodically after operation
 4. Noise, Vibration and Light Pollution
 - a. Identify current local conditions (baseline)
 - b. Identify impacts to people, business, local farms, etc.
 - c. Requirements of local ordinances
 - d. Identify risks to homes, businesses and farms
 5. Socioeconomic
 - a. Assessment of Baseline Social, Economic and Environmental conditions
 - b. Identify impacts to property values and abatement impacts on Town revenue
 - c. Identify impacts to local businesses
 - d. Identify local Master Plans; address impacts to Town planning and development
 - e. Require independent study of local economic impacts due to effects of project on Public and Private Drinking Wells, Public Health and Safety, Air Pollution, Noise and Light Pollution, Aesthetics and Deforestation, Threatened and Endangered Species, etc.
 - f. Require local resource taxes be paid by the applicant to include Timber Tax, Excavation Taxes, Local Permitting Fees, Change of Use (e.g., Current Use), etc.
 - g. Avoid disproportionate impact on low income and disadvantaged or vulnerable groups
 6. Land Use, Recreation and Aesthetics
 - a. Identify impacts and risks
 - b. Identify impacts due to deforestation
 - c. Avoid land with current conservation easement or with non-development deed restrictions
 - d. Protect cultural property and heritage
 7. Threatened and Endangered Species
 - a. Avoid Endangered, Threatened and Species of Special Concerns
 - b. Avoid Highest Ranked Wildlife Habitat
 8. Alternatives
 - a. Identify and consider feasible environmentally and socially preferable alternative locations
 - b. Avoid use of Eminent Domain or condemnation
 - c. Consider efficient production, delivery and use of energy

In addition, we submit the attached reference materials for your consideration:

1. *Governor's Pipeline Infrastructure Task Force (PITF) Report*, dated February 2016, by the Pennsylvania Department of Environmental Protection Pipeline Infrastructure Task Force <http://files.dep.state.pa.us/ProgramIntegration/PITF/PITF%20Report%20Final.pdf>
2. *A Brief Review of Compressor Stations*, dated November 2015, by the Southwest Pennsylvania Environmental Health Project <http://www.environmentalhealthproject.org/wp-content/uploads/2014/05/A-Brief-Review-of-Compressor-Stations-.pdf>
3. *Summary on Compressor Stations and Health Impacts*, dated 24 February 2015, by the Southwest Pennsylvania Environmental Health Project <http://www.environmentalhealthproject.org/wp-content/uploads/2012/03/Compressor-station-emissions-and-health-impacts-02.24.2015.pdf>

If you have any questions, please do not hesitate to contact me.

Thanks,
Wendy

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A Brief Review of Compressor Stations

Prepared by: Nathan Kloczko, Yale University Graduate Student Assistant

November 2015

Compressor Stations and Pipelines

To transport natural gas across the country, the oil and gas industry relies on an extensive network of inter- and intrastate pipelines. A crucial component of this network is the compressor station. As gas is transported, it needs to remain under pressure (800-1500 psi) to ensure consistent movement against the friction and elevation changes it experiences through the pipeline.ⁱ Compressor stations, located every 40-70 miles along the pipeline, are used to increase the gas pressure and to scrub the gas of any liquids or solids that may have accumulated through transport. These stations typically consist of 8-16 compressors of 1,000 horsepower or more running in parallel, operating continuously.ⁱ

Sources of Emissions

There are three types of compressor stations: reciprocal, centrifugal, and electric. Reciprocal and centrifugal stations are powered by unprocessed natural gas taken directly from the pipeline. Depending on the composition of the shale play from which the gas in the pipeline was extracted, this gas can be considered 'dry' or 'wet.' Wet gas, or gas that contains a higher composition of C₂₊ hydrocarbons such as ethane and butane, (commonly found in the Marcellus shale playⁱⁱ), often does not meet the necessary specifications for compressor engines, causing incomplete combustion of the natural gas and increased emissions of a number of chemicals, explained in detail below. Electric compressors are powered independently, so there are significantly fewer emissions associated with their operation.

Two other sources of pollutant emissions from compressor stations are from fugitive emissions (leaks) and blowdowns. A blowdown is a complete venting of the natural gas within a compressor or pipeline to the atmosphere, to reduce pressure and empty the system. These typically either occur during an emergency shutdown or during routine station maintenance. It is unknown exactly how often these events occur—a recent FERC risk assessment calculates exposures from a complete station blowdown happening once every 5 years,ⁱⁱⁱ though it has been noted that planned maintenance blowdowns typically occur 8 to 10 times a year.^{iv} Anecdotally, there are other reports of multiple blowdowns occurring per month.^v

A single compressor blowdown can release up to 15,000 cubic feet of methane to the atmosphere^{vi}, along with any other products in the pipeline. Anecdotally, there have been reports of respiratory conditions, headaches, and burning eyes associated with these events. Methods exist to reduce gas loss and human exposure during blowdowns, such as re-routing the gas to alternative pipelines or compressor station fuel

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tanks, or maintaining the gas at pressure within sections of the pipeline.^{vii} In addition to reduced human health impacts, there are also significant financial incentives to reducing the amount of natural gas released from the pipelines.

Health Impacts

The health impacts of residing near these compressor stations are far-ranging, from the chemical exposures to mental health impacts and greater community stress. The chemical emissions attributable to compressor stations are associated with the three forms of emissions mentioned above: leaks, blowdowns, and incomplete combustion. Leaks and blowdowns typically result in emissions of the pipeline contents, such as methane, heavier hydrocarbons, and any byproducts used to ‘sweeten’ (reduce hydrogen sulfide) or dry the gas, such as alkanolamines and ethylene glycols, while incomplete combustion is associated with increased emissions of nitrogen oxides (NO_x), carbon monoxide (CO), particulate matter (PM), and other volatile organic compounds (VOCs).^{viii}

NO_x, CO, and PM, all major components of smog, are known to cause significant health effects in exposed populations. These primarily increase respiratory symptoms and aggravate respiratory conditions such as asthma, especially in children, older adults, or individuals with heart or lung diseases. Recent measurements near the Minisink compressor station in Westtown, NY have demonstrated that families living within 1.5 km of a compressor station, many of whom reported repeated respiratory symptoms, were acutely exposed to elevated levels of PM_{2.5}.^{ix}

Along with the major operating emissions mentioned above, there have been a host of other chemicals found to be associated with the operation of these compressor stations that have potential to impact human health. Carcinogens such as benzene and formaldehyde have been found at levels exceeding federal risk levels over 2,500 ft from compressor stations,^x far greater than currently mandated residential setbacks (the largest of which is 750 ft). Other benzene-like chemicals known to impact the central nervous system such as ethylbenzene, toluene, and xylene have been identified as a fingerprint for compressor station emissions.^{xi} Beyond these, a wide range of chemicals have been found at different stations at varying levels across the country, which have been categorized elsewhere.^{xii} Further information concerning compressor station emissions and health impacts has been previously summarized.^{xiii}

Additionally, there have recently been reports about the increasing impact of shale gas development on mental health.^{xiv} This association continues when investigating the mental health impacts of the wider unconventional natural gas infrastructure—both mental and physical impairment has been found in greater proportions of populations that live in close proximity to compressor stations as compared to expected numbers in the U.S.^{xv}

Current and Future Regulations

Regulations for these stations are still in development. There is little being done to address the health concerns associated with compressor stations; much of the focus has been on greenhouse gases (GHGs). For example, while there are regulations on the amount of methane and NO_x that can be emitted from

these stations, the only health-oriented measures are mandated setbacks, which vary widely by town and state.

In August 2015, the Environmental Protection Agency released an update to their 2012 New Source Performance Standards, a set of measures to further reduce the amount of methane and VOCs released from compressor stations, primarily from improved engine operations and scavenging of leaks.^{xvi} Though these efforts are targeted to reduce GHG emissions, increasing maintenance on engines and proactively searching for and eliminating leaks will likely reduce exposures to health hazards as well. Notably, these proposed guidelines do not target equipment that routinely vents natural gas as its function, so blowdowns would not be impacted.

One potential regulatory method to reduce human exposures is to require electric engines at compressor stations, eliminating emissions from incomplete combustions. As well as the beneficial public health ramifications, this has also been shown to be economically beneficial for pipeline operators due to the reduction of gas used from the pipeline.^{xvii} Though some compressor stations are geographically isolated far from the electric grid, it is likely that any stations in an area populous enough to pose a public health risk would also have access to electricity.

Questions to be Answered

More information is continually emerging that demonstrates the impacts of unconventional natural gas development on human health, much of which has been categorized and summarized.^{xviii} Information on compressor stations has been scarce, but many of the same health impacts have been observed. Unfortunately, there is still a tremendous amount of information missing.

- *Daily Health Effects from Gas Quality*

It is difficult to determine potential health effects from exposure to compressor station emissions, since the actual contents of the pipeline vary from day to day. Some days the gas may be wet, others dry, which will ultimately change the symptoms of the exposed populations. Developing a monitoring and reporting program for the pipeline gas quality may provide a method for communities to know the potential health impacts they may face in a given day.

- *Acute Emissions and Associated Health Effects*

Much of the exposure research done to date has either measured the concentrations of compressor station emissions averaged over 12- or 24-hour periods, or calculated yearly total emissions, neither of which are particularly effective at linking immediate respiratory symptoms to acute exposures. Few have investigated these chemical emissions on a shorter time scale, though there are many anecdotal reports of acute symptoms associated with blowdowns, or with close residential proximity to compressor stations. Measuring emissions on a much shorter time scale, averaged over the minute or quarter-hour, would provide a more accurate measure of the acute exposures people are receiving, and may help link respiratory outcomes with measured exposures.

A recent study has used a community-based method to capture grab samples at times when they were experiencing negative health symptoms.¹⁰ This methodology can help elucidate the connections that exist between high exposures and immediate respiratory effects.

- *Long-term Health Effects*

Simultaneously, it is important to begin to observe long-term impacts of exposure to compressor stations. The shale gas boom and associated infrastructure has been in place for over a decade, so it may be possible to begin investigating the impact to chronic exposure to these chemicals. One method of achieving this is to create a health registry, as has been previously explained.^{xix} Establishing a population of exposed individuals can provide a more thorough understanding of reported health effects in the short-term, but can also create a population to follow through time, elucidating the long-term impact of exposure to this family of chemicals.

- *Radioactive Exposure*

Finally, it would be beneficial to determine the risk of radioactive exposure associated with compressor stations. It has been established that radioactive materials are present within the shale underground, and are being mobilized through the extraction process of hydraulic fracturing. It has been observed that radon levels across Pennsylvania have been rising, potentially due to these processes.^{xx} Natural gas samples taken at the input of four PA compressor stations has ranged from 28.8 to 58.1 pCi/L, with fence monitors measuring up to 0.8 pCi/L, double the average outdoor concentration.^{xxi} These levels suggest that there is significant potential for human health impacts. The effects of radon exposure are typically long-term, reinforcing the need for extended monitoring of exposed individuals through a health registry.

In summary, though many questions about compressor stations and their health impacts upon communities still exist, it is necessary to begin to take action for individuals affected by their presence. Continued research on the topics mentioned above will help complete the picture, but initial research and anecdotal reports have demonstrated a clear negative impact on human health. Compressor stations are a necessary component of the natural gas transportation system, so it is unlikely any substitution or removal will occur in the near future. Tighter chemical emission regulations and increased engineering innovations guided by recent research can begin to tackle the problem of degrading air quality and negative human health impacts.

November 2015

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www.environmentalhealthproject.org

Summary on Compressor Stations and Health Impacts February 24, 2015

Compressor station emissions

Compressor station emissions fall into two categories: construction emissions and operational emissions. Within operational emissions there are three types that warrant individual attention – blowdowns, fugitives and accidents. This document provides perspective on the aptness of the method of estimation (in tons per year) and need for further detail about the VOC and PM estimated emissions to better consider health risk.

Compressor construction and operational phases are generally projected to produce emissions below the NAAQS standards. They are presented in *tons per year*. This measure of emissions is used for NAAQS purposes which determines the air quality designation over a region and over long periods of time. The problem posed by estimating tons of contaminants emitted per year is that over the course of a year emissions will vary, often greatly. As phases of construction and operation change so will emissions content and concentrations. For a resident living near a compressor station, the concern is not simply PM_{2.5} emissions over the course of a year, but is PM_{2.5} emissions during the peak construction time when it's at its most intense.

Even during normal operations compressor stations have been shown not to emit uniformly (“blowdown” and accident events will be discussed separately).¹ The measurement *tons per year*, while common in the industry and common in the environmental field where regional air quality is at issue, is not an appropriate measure to determine individuals' health risks which increase during episodes of high exposures.

Table 4 shows the day to day and morning to evening variability in emissions at one compressor station near Hickory, Pennsylvania. It comes from a Pennsylvania Department of Environmental Protection. We present this case to show documentation of fluctuations not captured by averages.² Note how much relevant emissions information is lost when relying on averages, even of just three days. When extending this logic across a year, there is little doubt that there will be times of high levels of contaminants released and these high levels can increase health risks to residents. It is also notable that the EPA inhalation reference concentration (RfC) for ethylbenzene is 1 mg/m³ (equivalent to 1,000 ug/m³).³ Some of the reported emissions exceed this standard of health safety.

Table 1. Variation in ambient air measurements of five VOCs near a compressor station reported in ug/m³ *⁴

Chemical	May 18		May 19		May 20		3 day average
	morning	evening	morning	evening	morning	evening	
Ethyl-benzene	No detect	No detect	964	2,015	10,553	27,088	6,770
n-Butane	385	490	326	696	12,925	915	2,623
n-Hexane	No detect	536	832	11,502	33,607	No detect	7,746

*The PA DEP collected data on many more chemicals than those listed above; the authors of this paper have chosen these chemicals specifically to highlight variation in emissions.

Documented compressor emissions

It is important to know, with more specificity, what chemicals will be emitted by a compressor facility so that a targeted assessment can be made about its potential health impacts.

There is a small but growing body of literature on emissions from shale gas extraction, processing and transport activities. In its early stages of inquiry, the focus was predominantly on drill pad activity, but there are now some reports on natural gas compressor station emissions. Below are examples of chemicals that have been found at or near compressor stations during operations. These emissions reports – whether from public databases or from a private sector firm or organization – do not provide relevant background levels of the chemicals detected. Without a “control” location it is not possible to say with certainty that the chemicals found are the result of the compressor station, although these facilities are often the only industrial activity in the areas where they are found.

Emissions from two compressor stations (Stewart and Energy Corps), published by the Pennsylvania Department of Environmental Protection (DEP)⁵ are:

- | | |
|------------------|------------------|
| MTBE | 2-methyl butane |
| CO | 2 methyl pentane |
| iso-Butane | 3 methyl pentane |
| methyl mercaptan | ethyl benzene |
| n-Butane | benzene |
| n-hexane | ethane |
| n-octane | propane |
| nitrogen dioxide | methanol |
| nitrous- | naphthelene |
| acidstyrene | |

The Texas Commission on Environmental Quality (TCEQ), as part of its Barnett Shale Formation Area Monitoring Projects found the following chemicals downwind from two monitored compressor stations⁶:

- Downwind of Devon Energy Company LP's Justin compressor station the TCEQ reports propane, isobutene, n-butane, ethane, cyclohexane, benzene, n-octane, toluene, m+p-xylene, n-hexane.
- Downwind of Targa North Texas LP's Bryan Compressor Station the TCEQ reports: ethane, propane, isobutene, n-butane, cyclohexane, n-octane, toluene, isopentane, n-pentane + isoprene, benzene.⁷

Officials in DISH, TX commissioned a study of compressor station emissions in its vicinity. Wolf Eagle Consultants performed whole air emissions sampling for VOCs, HAPs as well as Tentatively Identified Compounds (TICs). Chemicals identified as *exceeding* Texas's ESLs include:⁸

benzene	tetramethyl benzene
dimethyl disulfide	naphthalene 1,2,4-trimethyl benzene
methyl ethyl disulphide	m&p xylenes
ethyl-methylethyl disulfide	carbonyl sulfide
trimethyl benzene	carbon disulfide
diethyl benzene	methyl pyridine
methyl-methylethyl benzene	dimethyl pyridine

In 2011 and 2013, Earthworks, a non-profit organization, collected air samples within 0.33 miles of two compressor stations: Springhill compressor in Fayette County and the Cumberland/Henderson compressor station in Greene County, Pennsylvania.⁹ Results from samples collected include:

1,1,2-Trichloro-1,2,2-trifluoroethane,
1,2-dichlorobenzene
2-butanone
benzene
carbon tetrachloride
chloromethane
dichlorodifluoromethane
ethylbenzene
methane
methylene chloride
tetrachloroethylene
toluene
trichloroethylene
trichlorofluoromethane

Anecdotally, we know that people living near compressor stations report episodic strong odors as well as visible plumes during venting or blowdowns. Residents often report symptoms that they associate with odors such as burning eyes and throat, skin irritation, and headaches. These are simply anecdotes but they are fairly consistently reported. It should be noted that residents in southwest Pennsylvania where these anecdotes were collected, often live near drill pads and in some instances processing plants along with compressor stations.¹⁰

Emissions pathways

In addition to the emissions produced during the normal operations of a compressor station there are several other ways that emissions might be dispersed from the site. These include fugitive releases, blowdowns, and accidents. Trucks play a significant role in the emissions profile during construction but are not common once the facility is complete and on line.

Fugitive emissions

Fugitive emissions are uncontrolled or under-controlled releases. They occur from equipment leaks and evaporative sources. It has been suggested that fugitive emissions will increase over time as machinery begins to wear.¹¹

There does not appear to be a central publically available source of information of these emissions. There are, however, many opportunities for fugitive emissions to be released from a compressor station. We were able to locate only one study on natural gas compressor station fugitive emissions. In that study, conducted in the Fort Worth, TX area, researchers evaluated compressor station emissions from eight sites, focusing in part on fugitive emissions. A total of 2,126 fugitive emission points were identified in the four month field study of 8 compressor stations: 192 of the emission points were valves; 644 were connectors (including flanges, threaded unions, tees, plugs, caps and open-ended lines where the plug or cap was missing); and 1,290 were classified as Other Equipment. The Other category consists of all remaining components such as tank thief hatches, pneumatic valve controllers, instrumentation, regulators, gauges, and vents. 1,330 emission points were detected with an IR camera (i.e. high level emissions) and 796 emission points were detected by Method 21 screening (i.e. low level emissions). Pneumatic Valve Controllers were the most frequent emission sources encountered at well pads and compressor stations.¹²

Blowdowns

The largest single emission at a compressor station is the compressor blowdown.¹³ They can be scheduled or accidental. As the natural gas rushes through the blowdown valve, a gas plume extends upward of 30 to 60 meters. The most forceful rush of air occurs at the very beginning, then the flow gradually slows down. The first 30 to 60 minutes of the blowdown are the most intense, but the entire blowdown may last up to three hours.¹⁴ One blowdown vents 15 Mcf gas to atmosphere on average. Isolation valves leak about 1.4 Mcf/hr on average through open blowdown vents.¹⁵

It is not possible to know what exactly would be emitted in a given natural gas compressor station blowdown as there is no data available. We know that it will include whatever is in the pipeline when the blowdown occurs. This would undoubtedly include the constituents of natural gas: methane, ethane, etc., and various additional constituents would be present during different episodes. We are especially concerned about the presence of radioactive material during a blowdown. Anecdotally, there are reports of odors and burning eyes, headaches and coughing associated with the events.¹⁶

An exposure to blowdown concentrations of contaminants would have different health implications than a long-term lower level exposure (i.e. yearly average) to the same contaminants when the compressor is on line.

Accidents

In addition to planned emissions, fugitive emissions and blowdowns there is also the possibility of accidents at the compressor station. There are no central national or state inventories of compressor station accidents that we were able to locate. In their absence we turned to local news accounts of individual accidents (which are generally in the form of fires). Without knowing what precisely is in the pipeline nor what else (if anything) may be housed on the site, it is not possible to estimate emissions from a fire at the compressor station. The possibility, however, is very real. A gas compressor station exploded near Godley, TX. That fire destroyed the compressor station where it started and also the one next to it. The fire burned for several hours.¹⁷ In a compressor station fire in Madison County, TX volunteer firefighters from four towns were dispatched to the site. First responders blocked roads near the site and evacuated three homes.¹⁸ In Corpus Christi, TX a fire broke out at a compressor station which then spread to nearby brush before being extinguished.¹⁹

The possibility of fire or other accidents raises the concern over whether the localities surrounding a compressor station have the resources available to contain a fire or explosion adequately and whether first responders and hospitals are able to care for injured workers or others nearby or whether an evacuation plan could be implemented. In Wheeler County, TX four contractors were performing maintenance activities near a compressor station when a flash fire occurred. The workers were brought to a nearby hospital. Two were treated and released; the other two were transferred to a burn unit in Lubbock.²⁰ In Carbon County, UT an explosion and fire damaged a natural gas compressor station and other buildings on the site injuring two workers and engulfing the facility in flame. Firefighters from every city in the county responded to the emergency. Injured workers had to be evacuated by medical helicopters.²¹

Overall, there is little information on the division of responsibility between the company operating the facility and the locality. This should be clarified.

The question of radioactivity

A 2008 publication of the International Association of Oil & Gas Producers has laid out the discussion on radioactive material in the natural gas extraction and production process.

During the production process, naturally occurring radioactive material (NORM) flows with the oil, gas and water mixture and accumulates in scale, sludge and scrapings. It can also form a thin film on the interior surfaces of gas processing equipment and vessels. The level of NORM accumulation can vary substantially from one facility to another depending on geological formation, operational and other factors.

[R]adionuclides such as Lead-210 and Polonium-210 can ... be found in pipelines scrapings as well as sludge accumulating in tank bottoms, gas/oil separators, dehydration vessels, liquid natural gas (LNG) storage tanks and in waste pits as well as in crude oil pipeline scrapings.²²

The gas which flows through the pipeline likely carries gaseous radon with it, and as radon decays within the pipeline, the solid daughter elements, polonium and lead, accumulate along the interior of the pipes. There is a concern that the gas transiting, and being compressed and regulated, will have radioactivity levels which will put at risk not only the workers at these stations and along the pipeline, but potentially also to the residents.²³ Radon, a gas, has a short half-life (3.8 days) but its progeny are lead and polonium, and these are toxic and have relatively long half-lives of 22.6 years and 138 days respectively.²⁴ There is no data that we can turn to in order to assess the risk of radioactive exposures in our community.

Health risks from relevant air contaminants

Averages, peaks and health events

As stated previously, one of our primary concerns is the poor fit of a *tons per year* measurement to the assessment of risk to the public's health near a compressor station. Furthermore, the National Ambient Air Quality Standards (NAAQS) used as a benchmark for air quality were not created to assess the air quality and safety in a small geographic area with fluctuating emissions. NAAQS effectively address regional air quality concerns. But these standards do not adequately assess risk to human health for residents living in close proximity to polluting sources such as unconventional natural gas development (UNGD) sites, where emissions can be highly variable.

Generally, it has been shown that:

1. Current protocols used for assessing compliance with ambient air standards do not adequately determine the intensity, frequency or durations of the actual

human exposures to the mixtures of toxic materials released regularly at UNGD sites, including compressor stations.

2. The typically used periodic 24-hour average measures can underestimate actual exposures by an order of magnitude.
3. Reference standards are set in a form that inaccurately determines health risk because they do not fully consider the potential synergistic combinations of toxic air emissions.²⁵

Thus estimates of yearly totals of contaminants released by a compressor station do not allow for an assessment of the physiological impact of those emissions on individuals.

NAAQS reflects what, over a region, over time, is deemed safe population-wide. This is very different than what is safe within for instance 1200 feet of this compressor station. As already stated, averaging over a year can wash out important higher spikes in emissions (thus exposures) that may occur at various points throughout the year. These high spikes can put residents at risk for illnesses caused by air toxics.

Toxicity and characterization of exposures

Toxicity of a chemical to the human body is determined by the concentration of the agent at the receptor where it acts. This concentration is determined by the intensity and duration of the exposure. All other physiological sequelae follow from the interaction between agent and receptor. Once a receptor is activated, a health event might be produced immediately or in as little as one to two hours.^{26 27} In some instances, where there is a high concentration of an agent, a single significant exposure can cause injury or illness. This is the case in the instance of an air contaminant induced asthma event. On the other hand, after an initial exposure, future exposures might compound the impact of the first one, in time, producing a health effect. Repeated exposures will increase, for instance, the risk for ischemic heart disease.²⁸

Peak exposures

Researchers have demonstrated the wisdom of looking at peak exposures as compared to averages over longer periods of time. Darrow et al (2011) write that sometimes peak exposures better capture relevant biological processes. This is the case for health effects that are triggered by, short-term, high doses. They write, "Temporal metrics that reflect peak pollution levels (e.g., 1-hour maximum) may be the most biologically relevant if the health effect is triggered by a high, short-term dose rather than a steady dose throughout the day. Peak concentrations ... are frequently associated with episodic, local emission events, resulting in spatially heterogeneous concentrations...."²⁹

Delfino et al (2002) posited that maxima of hourly data, not 24-hour averages, better captured the risks to asthmatic children, stating, "it is expected that biologic responses may intensify with high peak excursions that overwhelm lung defense mechanisms."

Additionally, they suggest that “[o]ne-hour peaks may be more influenced by local point sources near the monitoring station that are not representative of regional exposures....”³⁰

Because episodic high exposures are not typically documented and analyzed by researchers and public agencies, natural gas compressor stations emissions are rarely correlated with health effects in nearby residents. However, examination of published air emission measurements shows the very real potential for harm from industry emissions.³¹ Reports of acute onset of respiratory, neurologic, dermal, vascular, abdominal, and gastrointestinal sequelae near natural gas facilities contrast with research that suggests there is limited risk posed by unconventional natural gas development.

Health Effects from exposures to VOCs

VOCs, present at compressor station construction and operation, are a varied group of compounds which can range from having no known health effects to being highly toxic. Short-term exposure can cause eye and respiratory tract irritation, headaches, dizziness, visual disorders, fatigue, loss of coordination, allergic skin reaction, nausea, and memory impairment. Long-term effects include loss of coordination and damage to the liver, kidney, and central nervous system. Some VOCs, such as benzene, formaldehyde, and styrene, are known or suspected carcinogens.³² The case for elevated risk of cancer from UNGD VOC exposure has been made by McKenzie et al (2012) and others.³³

The inhalation of the VOC, benzene, produces a number of risks including

[acute (short-term)] drowsiness, dizziness, headaches, as well as eye, skin, and respiratory tract irritation, and, at high levels, unconsciousness. Chronic (long-term) inhalation exposure has caused various disorders in the blood, including reduced numbers of red blood cells and aplastic anemia, in occupational settings. Reproductive effects have been reported for women exposed by inhalation to high levels, and adverse effects on the developing fetus have been observed in animal tests. Increased incidence of leukemia (cancer of the tissues that form white blood cells) have been observed in humans occupationally exposed to benzene. EPA has classified benzene as known human carcinogen for all routes of exposure.³⁴

Benzene, which is documented at compressor stations by the States of Pennsylvania and Texas, carries its own risk, including risk for cancer.^{35 36} There is growing evidence that benzene is associated with childhood leukemia. Benzene affects the blood-forming system at low levels of occupational exposures, and there is no evidence of a threshold. It has been argued in the literature that “[t]here is probably no safe level of exposure to benzene, and all exposures constitute some risk in a linear, if not supralinear, and additive fashion.”³⁷

Another substance that is detected near compressor stations is methylene chloride.

According to the EPA:

The acute (short-term) effects of methylene chloride inhalation in humans consist mainly of nervous system effects including decreased visual, auditory, and motor functions, but these effects are reversible once exposure ceases. The effects of chronic (long-term) exposure to methylene chloride suggest that the central nervous system (CNS) is a potential target in humans and animals. Human data are inconclusive regarding methylene chloride and cancer. Animal studies have shown increases in liver and lung cancer and benign mammary gland tumors following the inhalation of methylene chloride.³⁸

The VOC formaldehyde is also considered a Hazardous Air Pollutant (HAP) by the US EPA (EPA).³⁹ It is one of the emissions chemicals that the natural gas development industry is required to report, for instance to the PA DEP. According to these reports, compressor stations are the highest UNGD source for formaldehyde.⁴⁰ For the year 2012, emissions of formaldehyde from compressor stations in Pennsylvania ranged from 0.0 TPY to 22.5 TPY.⁴¹

A recent study of air emissions in the Barnett shale region of Texas found concentrations of formaldehyde at sites with large compressor stations.⁴² Some of these concentrations were greater than the Texas Commission on Environmental Quality's health protective levels (page 62). Formaldehyde was one of 101 chemicals found in association with methane in this study. The research showed that aromatics in particular were associated with compressor stations.

Air exposures to formaldehyde target the lungs and mucous membranes and in the short-term can cause asthma-like symptoms, coughing, wheezing, and shortness of breath. The EPA classifies it as a probable human carcinogen.⁴³ The World Health Organization classifies it as carcinogenic to humans.⁴⁴ It has also been associated with childhood asthma.⁴⁵ The California Office of Environmental Health Hazard assessment (OEHHA) has "identified formaldehyde as a Toxic Air Contaminant and gives it an inhalation Reference Exposure Level (REL) of 55 $\mu\text{g}/\text{m}^3$ for acute exposures and 9 $\mu\text{g}/\text{m}^3$ for both 8-hour and chronic exposures.⁴⁶ The acute REL is 74 ppb based on irritation of asthmatics.⁴⁷ It has also been linked with adverse pregnancy outcomes and reproductive and developmental toxicity.⁴⁸

More recent investigations on formaldehyde near compressor stations are focused on the chemical reaction between methane and sunlight.⁴⁹ While it is well known that stationary compressor station engines emit formaldehyde, it is less well known that formaldehyde may also be formed at these sites through this chemical reaction. While the research is ongoing, it suggests that health hazards associated with formaldehyde

may be greater than previously thought. Because reported health symptoms near compressor stations, such as respiratory impacts and shortness of breath, can be caused by exposure to formaldehyde, targeted monitoring of this chemical at these sites would be recommended.

Effects from exposure to particulate matter

In addition to the VOC exposure presented above, PM2.5 also poses a significant health concern and interacts with the airborne VOCs increasing their impact. In fact, at a compressor station PM2.5 may pose the greatest threat to the health of nearby residents. Fine particles are expected to reach a total of 1.136 tons for 2015 and 2016.

The size of particles determines the depth of inhalation into the lung; the smaller the particles are, the more readily they reach the deep lung. Particulate matter (PM10, PM2.5 and ultrafine PM), in conjunction with other emissions, are at the core of concern over potential effects of UNGD.

High particulate concentrations are of grave concern because they absorb airborne chemicals in their midst. The more water soluble the chemical, the more likely it is to be absorbed onto a particle. Larger sized particles are trapped in the nose and moist upper respiratory tract thereby blocking or minimizing their absorption into the blood stream. The smaller PM2.5 however, is more readily brought into the deep lung with airborne chemicals and from there into the blood stream. As the particulates reach the deep lung alveoli the chemicals on their surface are released at higher concentrations than they would in the absence of particles. The combination of particles and chemicals serves, in effect, to increase in the dose of the chemical. The consequences are much greater than additivity would indicate; and the physiological response is intensified. Once in the body, the actions between particles and chemicals are synergistic, enhancing or altering the effects of chemicals in sometimes known and often unknown ways.⁵⁰

Reported clinical actions resulting from PM2.5 inhalation affect both the respiratory and cardiovascular systems. Inhalation of PM2.5 can cause decreased lung function, aggravate asthma symptoms, cause nonfatal heart attacks and high blood pressure.⁵¹ Research reviewing health effects from highway traffic, which, like UNGD, has especially high particulates, concludes, “[s]hort-term exposure to fine particulate pollution exacerbates existing pulmonary and cardiovascular disease and long-term repeated exposures increases the risk of cardiovascular disease and death.”⁵² PM2.5, it has been suggested, “appears to be a risk factor for cardiovascular disease via mechanisms that likely include pulmonary and systemic inflammation, accelerated atherosclerosis and altered cardiac autonomic function. Uptake of particles or particle constituents in the blood can affect the autonomic control of the heart and circulatory system.”⁵³

Ultrafine particles (<0.1) get less attention in the literature than PM2.5 but is found to have high toxic potency.⁵⁴ These particles readily deposit in the airways and centriacinar region of the lung.⁵⁵ Research suggests increases in ultrafine particles pose additional risk to asthmatic patients.⁵⁶ Ultrafine particles are generally produced by combustion processes. They, along with the larger PM2.5, are found in diesel exhaust.

Diesel is prevalent during the construction phase of compressor station site. High levels of diesel exhaust from construction machinery as well as trucks increase the level of respirable particles. Health consequences of diesel exposure have been widely studied and include immediate and long term health effects. Diesel emissions can irritate the eyes, nose, throat and lungs, and can cause coughs, headaches, lightheadedness and nausea. Short-term exposure to diesel exhaust also causes inflammation in the lungs, which may aggravate chronic respiratory symptoms and increase the frequency or intensity of asthma attacks. Long-term exposure can cause increased risk of lung cancer.⁵⁷

PM2.5 acute effects

There is an abundance of research on the health effects of short term PM2.5 exposure. Mills et al demonstrate that one to two hours of a diesel exhaust exposure, which occurs during the construction phase of development, includes reduced brachial artery diameter and exacerbation of exercise-induced ST-segment depression in people with pre-existing coronary artery disease; ischemic and thrombotic effects in men with coronary heart disease;⁵⁸ and is associated with acute endothelial response and vasoconstriction of a conductance artery.⁵⁹ Fan He et al. suggest that health effects can occur within 6 hours of elevated PM2.5 exposures, the strongest effects occurring between 3 and 6 hours. Such an acute effect of PM2.5 may contribute to acute increase in the risk of cardiac disease, or trigger the onset of acute cardiac events, such as arrhythmia and sudden cardiac death.⁶⁰

Numerous epidemiological studies have demonstrated a consistent link between particulate matter and increased cardiopulmonary morbidity and mortality (Brook et al. 2004; Mann et al. 2002; Pope et al. 2002; Samet et al. 2009; Schwartz 1999).⁶¹ Previous studies have suggested that PM2.5 exposure is significantly associated with increased heart rate and decreased heart rate variability (HRV; Gold et al., 2000; He et al. 2010; Liao et al. 1999; Luttmann-Gibson et al. 2006; Magari et al. 2001; Park et al. 2005).

In addition to short term exposures and associated effects, there is evidence of health impacts from long-term exposures.⁶² An HIA reviewing data from a number of European cities found that nearly 17,000 premature deaths from all causes, including cardiopulmonary deaths and lung-cancer deaths, could be prevented annually if long-term exposure to PM2.5 levels were reduced. Equivalently, this reduction would increase life expectancy at age 30 by a range between one month and more than two years in the study cities. A Canadian national cohort study found positive and

statistically significant associations between non-accidental mortality and estimates of PM2.5, the strongest association being with ischemic heart disease. Associations in this study were with concentrations of PM2.5 as low as only a few micrograms per cubic meter.⁶³ Research has also shown that there is an association between PM2.5 and hospitalization for COPD in elderly people.⁶⁴

There is also a considerable literature on the health effects specifically from diesel emission that include PM2.5 along with chemical components. Mills et al conclude that even dilute diesel emissions can induce risk and point to ischemic and thrombotic mechanisms for the adverse cardiovascular events associated with diesel exposure.⁶⁵

After an extensive review the EPA concluded that

long-term inhalation exposure is likely to pose a lung cancer risk to humans. Estimation of cancer potency from available epidemiology studies was not attempted.... A noncancer chronic human health hazard is inferred from rodent studies showing dose-dependent inflammation and histopathology in rats. Short-term exposures were noted to cause irritation and inflammatory symptoms of a transient nature these being highly variable across an exposed population. The assessment also indicates that there is emerging evidence from the exacerbation of existing allergies and asthma symptoms.⁶⁶

Children, pregnant women and air contaminants

Children and pregnant women are especially sensitive to pollution. Many studies confirm a range of adverse effects of air pollution on children's lung function and respiratory symptoms, especially for asthmatics. Recent studies have found statistically significant associations between the prevalence of childhood asthma or wheezing and living very close to high volume vehicle roadways.⁶⁷ Other research aimed specifically at children's PM2.5 exposure has found that PM2.5 and several of its components have important effects on hospital admissions for respiratory disease, especially pneumonia. The authors count among the sources for this exposure diesel exhaust, motor vehicle emissions, and fuel combustion processes.⁶⁸

Health effects have been found in pregnant women from high particulate highway pollution. Such particle pollution "may provoke oxidative stress and inflammation, cause endocrine disruption, and impair oxygen transport across the placenta, all of which can potentially lead to or may be implicated in some low birth weight ... and preterm births." The consequences do not stop with low birth weight and preterm births because these conditions can negatively affect health throughout childhood and into adulthood.⁶⁹

Mixtures and sequential exposures

Mixtures of pollutants are a critically important topic in addressing the public health implications of UNGD broadly and compressor stations in this case. While this report has focused primarily on three pollutants (VOCs, formaldehyde as one example, and PM2.5), in fact, a very large number of chemicals are released together. Medical reference values are not able to take the complex nature of the shale environment, its multiple emissions and interactions into full consideration.⁷⁰ Although the shale gas industry is not unique in emitting multiple pollutants simultaneously, this industry is unique in doing so as close as 500 feet from residences.

Chemicals that reach the body interfere with metabolism and the uptake and release of other chemicals, be they vitally important biochemical produced and needed by the body or other environmental chemicals with potentially toxic effects. Some chemicals attack the same or similar target sites creating an additive effect. This is the case with chemicals of similar structure such as many in the class of VOCs. Some mixtures like PM and VOC act synergistically to increase the toxicity of the chemicals. Other chemicals released environmentally are rapidly absorbed and slowly excreted. These slowly excreted chemicals will interfere with subsequent actions of chemicals because the body has not yet cleared the effects from the earlier exposure.

Noise

Excessive noise has been associated with an array of psychological and physical effects. A review article on noise exposure and health risk published in *Noise and Health* claims that the evidence for a causal relationship between community or transportation noise and cardiovascular risk has risen in recent years. In sum, the author finds limited evidence for a causal relationship between noise and biochemical effects; limited or sufficient evidence for hypertension; and sufficient evidence for ischemic heart disease.⁷¹

According to a World Health Organization assessment of research, excessive noise can also increase risk of cognitive impairment in children, sleep disturbance, tinnitus, and high levels of annoyance.⁷² Researchers have found associations between elevated sound levels – including community sounds levels – and hearing loss, reduced performance and aggressive behavior.⁷³ Additionally some attention is being paid to the health effects of vibration exposure which is connected with but distinct from noise itself.⁷⁴

Noise exposures are associated with construction activities and during blowdown episodes. As with air exposures, the periods of extreme exposures (in this case noise exposures) can cause different and sometimes more serious effects than low-level exposures.

Summary

In sum, we know that a number of different chemicals as well as PM2.5 are present during the construction phase of compressor stations and they are present in close

proximity to compressor stations that are on line. Some, although not all, have documented health effects on vulnerable populations and on the population at large. What we do not know is the precise mix and concentration of chemicals that will be released into the air. Without that information it is not possible to assess the compressor station's full impact on area residents.

Reported health effects specific to compressor stations

There is a growing body of research on emissions and health impacts from UNGD generally, though few studies specifically address health impacts from compressor stations. This is partly due to the fact that many compressors are sited in proximity to other UNGD sites such as well pads, impoundments, condensate tanks and processing stations. As the infrastructure for transporting natural gas continues to expand, more pipelines, metering stations and compressor stations will be sited away from other UNGD facilities.

Recent research that has been conducted near compressor stations in different parts of the country shows consistencies in the types of symptoms experienced by those living near these sites. These symptoms are associated with health impacts on respiratory, neurological and cardiovascular body systems. It should be noted that in each of the studies cited here health survey forms were filled out by residents and, as such, the findings are self-reported. To date there have been no epidemiological studies performed to identify health impacts from compressor stations.

A peer-reviewed article, *Investigating Links Between Shale Gas Development And Health Impacts Through A Community Survey Project In Pennsylvania* (2014) is one of the few publications that explicitly addresses health impacts from compressors.⁷⁵ The report states:

In the Pennsylvania study, distance to industrial sites correlated with the prevalence of health symptoms. For example, when a gas well, compressor station, and/or impoundment pit were 1500-4000 feet away, 27 percent of participants reported throat irritation; this increased to 63 percent at 501-1500 feet and to 74 percent at less than 500 feet. At the farther distance, 37 percent reported sinus problems; this increased to 53 percent at the middle distance and 70 percent at the shortest distance. Severe headaches were reported by 30 percent of respondents at the farther distance, but by about 60 percent at the middle and short distances.⁷⁶ P.62

Age groups also responded differently in terms of health symptoms:

Among the youngest respondents (1.5-16 years of age), for example, those within 1500 feet experienced higher rates of throat irritation (57% vs. 69%) and severe headaches (52% vs. 69%). It is also notable that the youngest group had the highest occurrence of frequent nosebleeds (perhaps reflective of the more

sensitive mucosal membranes in the young), as well as experiencing conditions not typically associated with children, such as severe headaches, joint and lumbar pain, and forgetfulness.

Among 20- to 40-year-olds, those living within 1500 feet of a facility reported higher rates of nearly all symptoms; for example, 44 percent complained of frequent nosebleeds, compared to 29 percent of the entire age group. The same pattern existed among 41- to 55-year-olds with regard to several symptoms (e.g., throat and nasal irritation and increased fatigue), although with smaller differences and greater variability than in the other age groups.

The subset of participants in the oldest group (56- to 79-year-olds) living within 1500 feet of facilities had much higher rates of several symptoms, including throat irritation (67% vs. 47%), sinus problems (72% vs. 56%), eye burning (83% vs. 56%), shortness of breath (78% vs. 64%), and skin rashes (50% vs. 33%).

In sum, while these data do not prove that living closer to oil and gas facilities causes health problems, they do suggest a strong association since symptoms are more prevalent in those living closer to facilities than those living further away. Symptoms such as headaches, nausea, and pounding of the heart are known to be the first indications of excessive exposure to air pollutants such as VOCs [36], while the higher level of nosebleeds in the youngest age group is also consistent with patterns identified in health survey projects in other states [9, 10].” P.64

Earthworks, a non-profit organization, conducted the Pennsylvania study referred to above, (Gas Patch Roulette 2012) in which they surveyed residents about health symptoms and conducted air and water tests near residences in Pennsylvania and New York⁷⁷. In their report, specific mention is given of a residence 800 feet from a compressor station. Health symptoms experienced by the residents (parents and children) were extreme tiredness, severe headaches, runny noses, sore throats and muscle aches, as well as dizziness and vomiting by one individual.

Earthworks also conducted a health survey in Dish, Texas in 2009.⁷⁸ The health symptoms reported to be associated with compressors were: burning eyes, nausea, headaches, running nose, sore throat, asthma, sinus problems and bronchitis. Odors experienced by residents near compressor stations were described as: sulfur smell, odorized natural gas, burnt wire, strong chemical-like smell and ether.

Wilma Subra⁷⁹, an environmental chemist and consultant who is on the Earthworks Board of Directors, has compiled information on health symptoms experienced near compressor stations based on her research with communities concerned about health impacts from UNGD⁸⁰. Subra has served as Vice-Chair of the Environmental Protection Agency National Advisory Council for Environmental Policy and Technology (NACEPT),

and recently completed a five year term on the National Advisory Committee of the U.S. Representative to the Commission for Environmental Cooperation and a six year term on the EPA National Environmental Justice Advisory Council (NEJAC) where she served as a member of the Cumulative Risk and Impacts Working Group of the NEJAC Council. While her research on health impacts associated with compressor stations is reported back to communities, most of the data shown here have not been published in peer-reviewed journals (she is an author on the above-mentioned peer-reviewed article on Pennsylvania data).

Subra has reported the following health impacts in association with compressor stations:

Table 2. Most Prevalent Medical Conditions In Individuals Living in Close Proximity to Compressor Stations and Metering Stations

Medical Conditions:	% of Individuals (71)
Respiratory Impacts	58
Throat Irritation	55
Weakness and Fatigue	55
Nasal Irritation	55
Muscle Aches & Pains	52
Vision Impairment	48
Sleep Disturbances	45
Sinus Problems	42
Allergies	42
Eye Irritation	42
Joint Pain	39
Breathing Difficulties	39
Severe Headaches	39
Swollen & Painful Joints	32
Frequent irritation	32

The full list of health impacts “Reported by Community Members Living 50 feet to 2 miles from Compressor Stations and Gas Metering Stations Along Gas Transmission Pipelines” is available at the Luzerne County Citizens for Clean Air website⁸¹. It is notable that Subra reports that 61% of health impacts are associated with the chemicals present in the air that were in excess of short and long term effects screening levels.

Subra further reports that the following units at compressor stations and gas metering stations release emissions into the air:

Compressor Engines

Compressor Blowdowns

Condensate Tanks
Storage Tanks
Truck Loading Racks
Glycol Dehydration Units

Amine Units
Separators
Fugitive Emission Sources

She reports that 90% of individuals surveyed reported experiencing odor events from these facilities. Based on her analysis, the following health symptoms are associated with the chemicals detected in the air at compressor stations:

Allergies
Persistent Cough
Shortness of Breath
Frequent Nose Bleeds
Sleep Disturbances
Joint Pain

Difficulty in Concentrating
Nervous System Impacts
Forgetfulness
Sores and Ulcers in Mouth
Thyroid Problems

Subra reports that both the construction and production phases of compressor stations can cause acute and chronic impacts. In the construction phase impacts come from diesel truck emissions and from dust particles. In the production phase impacts are derived from constant emissions, venting, blowdowns, accidents/malfunctions and from the effects of noise, light and stress. She considers respiratory health impacts of particular concern, and vulnerable groups such as pregnant women, children, the elderly and sensitive individuals to be at greatest risk. Acute and chronic health impacts that Subra has documented are listed below.

Acute Health Impacts Experienced by Individuals Living and Working near Compressor Stations

Tense and nervous
Joint and muscle aches and pains
Vision Impairment
Personality changes
Depression, Anxiety
Irritability
Confusion
Drowsiness
Weakness
Irregular Heartbeat

Irritates skin, eyes, nose, throat and lungs
Respiratory impacts
Sinus problems
Allergic reactions
Headaches
Dizziness, Light headedness
Nausea, Vomiting
Skin rashes
Fatigue
Weakness

Chronic Health Impacts Experienced by Individuals Living and Working near Compressor Stations

Damage to Liver and Kidneys	Damage to Nervous System
Damage to Lungs	Brain Impacts
Damage to Cardiovascular System	Leukemia
Damage to Developing Fetus	Aplastic Anemia
Reproductive Damage	Changes in Blood Cells
Mutagenic Impacts	Impacts to Blood Clotting Ability
Developmental Malformations	

Radioactive elements: a long-term health threat

The possibility of exposure to radiation from natural gas pipelines and compressor stations is also a concern, especially for long-term health effects. The New York public health group, Concerned Health Professionals of New York, describes the problem in their report, Compendium Of Scientific, Medical, And Media Findings Demonstrating Risks And Harms Of Fracking (Unconventional Gas And Oil Extraction) (July 10, 2014): “Unsafe levels of radon and its decay products in natural gas produced from the Marcellus Shale, known to have particularly high radon content, may also contaminate pipelines and compressor stations, as well as pose risks to end-users when allowed to travel into homes.”(P.5). Health impacts from exposure to radioactive materials in compressor station emissions have not been documented, but the risk of exposure to these carcinogens are a serious public health concern.

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- ² Southwestern Pennsylvania Marcellus Shale Short-Term Ambient Air Sampling Report. Pennsylvania Department of Environmental Protection. November 2010.
- ³ <http://www.atsdr.cdc.gov/ToxProfiles/tp110.pdf>. Page 216.
- ⁴ Ibid., Appendix A, p.31.
- ⁵ "Emission Inventory." Pennsylvania Department of Environmental Protection. http://www.dep.state.pa.us/dep/deputate/airwaste/aq/emission/emission_inventory.htm 2010.
- ⁶ Texas Commission on Environmental Quality Barnett Shale Formation Area Monitoring Projects. Doc number BS0912-FR http://www.tceq.state.tx.us/assets/public/implementation/barnett_shale/2010.01.27-BarnettShaleMonitoringReport.pdf.
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- ⁹ Steinzor N, Subra W, Sumi L. Investigating Links between Shale Gas Development and Health Impacts through a Community Survey Project in Pennsylvania New Solutions 2013; 23(1): 55-84.
- ¹⁰ Southwest Pennsylvania Environmental Health Project internal review of intake materials, August 2014.
- ¹¹ Eastern Research Group, Inc. and Sage Environmental Consulting, LP. City of Fort Worth natural gas air quality study: final report. 2011. Available at: http://www.edf.org/sites/default/files/9235_Barnett_Shale_Report.pdf. July 13, 2011.
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- ¹³ Natural Gas Industry Methane Emission Factor Improvement Study Final Report Cooperative Agreement No. XA-83376101. Prepared by: Matthew R. Harrison Katherine E. Galloway Al Hendler Theresa M. Shires
- ¹⁴ http://www.transcanada.com/docs/Our_Responsibility/Blowdown_Notification_Factsheet.pdf
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- ¹⁷ <http://www.cleburnetimesreview.com/godley/x489007782/Compressor-station-blows-up>.
- ¹⁸ http://www.madisonvillemeteor.com/news/article_bb02293e-656e-11e2-b466-0019bb2963f4.html
- ¹⁹ <http://www.caller.com/news/natural-gas-explosion-in-jim-wells-county-shoots>
- ²⁰ <http://www.newschannel10.com/story/24605246/four-people-injured-in-workplace-accident>
- ²¹ http://www.sunad.com/index.php?tier=1&article_id=26535

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**Governor's
Pipeline Infrastructure
Task Force
(PITF)
Report**

February 2016

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LETTER FROM TASK FORCE TO GOVERNOR TOM WOLF

On May 27, 2015, Governor Tom Wolf announced the formation of the Pipeline Infrastructure Task Force to engage stakeholders in a collaborative process to achieve a world-class pipeline infrastructure system in Pennsylvania. He invited citizens to volunteer to serve as Task Force members, and more than 200 people applied to participate. On July 7, 2015, Governor Wolf appointed 48 Task Force members. We are honored to submit our report that reflects the results of our work.

Governor Wolf tasked us to help Commonwealth agencies, the natural gas industry, and communities across the state collaborate more effectively as thousands of miles of pipelines are being proposed to transport natural gas and related byproducts to markets from gas wells throughout the state. During the time we worked together, our appreciation of the need and the complexity of the assignment grew.

We have had the help of many Pennsylvanians. We have been informed by the essential work of 101 dedicated individuals who served on our Task Force's 12 workgroups. We are indebted to them for diligence. It is the foundation on which our work is built.

Our work process was transparent. Citizens addressed us at our seven public meetings and presented letters. More than 1,500 individuals also offered written comments on our draft report during a 45-day public comment period via DEP's *eComment* system at <http://www.ahs.dep.pa.gov/eComment/>. Task Force meetings were webcast, and those meetings, work products, meeting agenda, and materials have been preserved on our webpage at <http://www.dep.pa.gov/Business/ProgramIntegration/PipelineTaskForce/Pages/default.aspx#.Vk92Lxwo6BM>.

Ultimately, the responsibility was ours for meeting the Governor's charge "to recommend a series of best practices for: planning, siting and routing pipelines to avoid/reduce environmental and community impacts; amplifying and engaging in meaningful public participation; maximizing opportunities for predictable and efficient permitting; employing construction methods that reduce environmental impact; and developing long-term operations and maintenance plans to ensure pipeline safety and integrity." Our overall goal was "to make sure that the positive economic benefits of Pennsylvania's rich natural resources can more quickly be realized in a responsible way."

The workgroups shaped more than 180 separate recommendations. While there were varying degrees of overlap among some recommendations, all recommendations are presented in this report to retain the full value provided by the workgroups.

As Task Force members, we achieved remarkable consensus - but not unanimity on every recommendation, word or sentence of this report. Task Force member comments on recommendations are contained in Appendix A.

We have fashioned a list of recommendations that are purposefully challenging and long term, and several recommendations propose ideas that might be impractical as current government policy.

Our report will be a success if it touches off a sustained debate and promotes collaboration of stakeholders to facilitate the responsible development of a world-class pipeline infrastructure system in the Commonwealth. It is meant to prompt wider public discussion on the critical, complex, interrelated environmental, community, and other issues that Pennsylvania faces in the development of the infrastructure needed to get Pennsylvania's natural gas to market.

Our report is not meant to be the final word, but the start of a longer conversation, and of extensive follow-on work across state and local governments, and in company board rooms and communities, to determine the feasibility of and implementation strategies for each recommendation.

Respectfully submitted to Pennsylvania Governor Tom Wolf,

Sarah Battisti
Serena Bellew
Curtis Biondich
Terry Bossert
Gladys Brown
Dave Callahan
Col. Edward Chamberlayne
Keith Coyle
Kathi Cozzone
Fredrick Dalena
Dennis Davin
Dan Devlin
Michael R. DiMatteo
Andrew Dinniman
Joseph Fink
Richard Flinn

Anthony Gallagher
Wayne Gardner
Nicholas Geanopoulos
Michael Gross
Mark Gutshall
John Hanger
David Hanobic
Michael Helbing
Walter Hufford
Thomas Hutchins
Cindy Ivey
Cristina Jorge Schwarz
William Keller
Don Kiel
William Kiger
Kenneth Klemow

Joseph McGinn
Doug McLearn
David Messersmith
Marvin Meteer
Karen Murphy
Lauren Parker
Duane Peters
John Quigley
Mark Reeves
Leslie S. Richards
Heather Smiles
David Smith
Michael F. Smith
David Sweet
Steve Tambini
Justin Trettel
Davitt Woodwell

EXECUTIVE SUMMARY AND RECOMMENDATIONS FROM THE TASK FORCE

Beginning in 2005, horizontal drilling methods combined with high-volume hydraulic fracturing techniques have made possible the capture of natural gas from Pennsylvania's shale deposits. Since 2008, Pennsylvania's natural gas production has increased dramatically. In 2014, more than four trillion cubic feet of natural gas were produced in Pennsylvania, making the state the second-largest supplier of natural gas in the nation.

Drilling for natural gas in Pennsylvania has far outpaced the development of the infrastructure needed to get that gas to markets. Almost a third of the wells that have been drilled in Pennsylvania since 2004 are shut in because the pipelines to move that gas from the well to end users have not caught up with the pace of drilling. So, the primary challenge the industry faces now is to get the gas around or out of Pennsylvania to connect it to customers.

In the next decade, Pennsylvania will undergo a substantial pipeline infrastructure build-out to transport gas and related byproducts from thousands of wells throughout the state. This pipeline infrastructure build-out will impact communities and the environment in every county in Pennsylvania.

In general, the location of most pipelines transporting oil or natural gas in Pennsylvania is determined by transactions between private parties governed by common law property and contract principles. However, landowners may also be required to allow pipeline development on their property when the pipeline is considered to provide an important public benefit. The federal Natural Gas Act authorizes the Federal Energy Regulatory Commission (FERC) to review applications for proposed interstate natural gas transmission pipelines and to grant certificates of public convenience and necessity when it determines the proposed pipeline provides important public benefits. When FERC grants such a certificate, the pipeline company has the right to obtain the property needed to construct the pipeline through condemnation proceedings if the company is unable to negotiate the purchase of the necessary property rights from the landowner.

Pipeline infrastructure development is governed by a complicated matrix of federal and state laws and regulations, county plans, and local ordinances. Multiple agencies are involved in permitting and overseeing siting, construction, operation and maintenance of infrastructure. Given this complicated legal framework, the Task Force identified a statewide need for clarity in the permitting process and in the role that citizens, non-profits and government officials can play in that process.

One of the greatest challenges to ensuring the reduction of impact and responsible and safe transmission is that no single federal or state agency is responsible for pipeline permitting. Permits are not reviewed for the cumulative and long-term impacts at a landscape level. Chosen routes do not necessarily avoid sensitive lands, habitats, and natural features, nor are the impacts to natural and cultural resources, landowners, and communities along them always minimized or mitigated. Individual decisions can accumulate into a much broader and longer impact on the citizens and the lands of a community, county or watershed. It can also waste financial resources.

Faced with these challenges, Pennsylvania Governor Tom Wolf created the Pipeline Infrastructure Task Force to engage stakeholders in a transparent, collaborative process to achieve responsible development of pipeline infrastructure in the Commonwealth. He invited citizens to volunteer to serve as Task Force members, and more than 200 people applied to participate.

Governor Wolf appointed 48 volunteers to serve on the Task Force, and appointed Department of Environmental Protection (DEP) Secretary John Quigley to serve as Chairman. More than 100 additional volunteers served on 12 workgroups that were charged with developing recommendations in specific topic areas related to pipeline infrastructure. These 150-plus individuals were broadly representative of all stakeholders in the pipeline development process.

Governor Wolf charged the Task Force with defining a series of best practices and recommendations to:

- Amplify and engage in meaningful public participation
- Develop long-term operations and maintenance plans to ensure pipeline safety and integrity
- Employ construction methods that reduce environmental impact
- Maximize opportunities for predictable and efficient permitting
- Plan, site and route pipelines to avoid/reduce environmental and community impacts
- Enhance Workforce/Economic Development

Governor Wolf charged the Task Force to provide a final report by February 2016. The Task Force conducted seven public meetings that were streamed live via the Internet, and each meeting included an opportunity for the public to comment. The Task Force heard from citizens who spoke of their personal experiences with the industry and concerns about natural gas drilling generally.

The twelve workgroups prepared a total of 184 recommendations for consideration by the Task Force. All of them are important and contain valuable information. Thus, they are all included in this report, grouped into the six charges established by the Governor.

Top Recommendations

The Task Force used weighted voting to register their preferences on the workgroup recommendations in an effort to identify those that are of the highest priority for the Commonwealth to assess for possible implementation. Below are the top two recommendations under each charge that resulted from that voting process:

- **Amplifying and engaging in meaningful public participation**
 - Establish Early Coordination with Local Landowners and Lessors
 - Educate Landowners on Pipeline Development Issues
- **Developing long-term operations and maintenance plans to ensure pipeline safety and integrity**
 - Train Emergency Responders
 - Enhance Emergency Response Training for Responder Agencies
- **Employing construction methods that reduce environmental impact**
 - Minimize Impacts of Stream Crossings

- Use Antidegradation Best Available Combination of Technologies to Protect Exceptional Value and High Quality Waters
- **Maximizing opportunities for predictable and efficient permitting**
 - Ensure Adequate Agency Staffing for Reviewing Pipeline Infrastructure Projects
 - Implement Electronic Permit Submissions for Chapters 102 and 105
- **Planning, siting and routing pipelines to avoid/reduce environmental and community impacts**
 - Expand PA1Call for All Classes of Pipelines
 - Identify Barriers to Sharing Rights-of-Ways
- **Workforce/Economic Development**
 - Attract Military Veterans to the Energy Workforce
 - Enhance Science, Technology, Engineering, and Math (STEM) Education

The next step is for the recommendations in this report that fall within the purview of Commonwealth agencies to be further assessed and evaluated for possible implementation. It is suggested that industry and other agencies do the same for recommendation that lie within their purviews.

It is important to note that some of the recommendations in this report are already required by law or regulation. The fact that they were identified by workgroups shows, first, that additional stakeholder education and engagement is necessary. Second, experience has shown that regulatory requirements are not always followed, and enforcement is required. Highlighting key regulatory requirements is appropriate for an industry with such significant potential impacts.

It is also important to note that some of the recommendations in this report are already being embraced and practiced by leading companies, leading counties, and in state and Federal agencies. However, high levels of practice are not universal, and raising the bar for industry, government agencies, communities, and stakeholders is one of the goals in convening the Task Force. The work of raising the bar for the performance of all actors in pipeline infrastructure development must continue.

As noted in the Task Force's letter to Governor Wolf, this report will be a success if it promotes sustained collaboration of stakeholders and facilitates the responsible development of pipeline infrastructure in the Commonwealth. It is not meant to be the final word, but the start of a longer conversation, and of follow-on work across state and local governments, and in company board rooms, and in communities, to assess and implement the recommendations contained in this report.

BACKGROUND ON THE PIPELINE INFRASTRUCTURE TASK FORCE

Pennsylvania Governor Tom Wolf appointed the Department of Environmental Protection (DEP) Secretary John Quigley to serve as the Pennsylvania Pipeline Infrastructure Task Force (PITF) Chairman in May 2015, and appointed 48 Task Force members in July 2015. He charged the Task Force to provide a final report on the PITF activities by February 2016.

Through an open solicitation process each member voluntarily requested to be on the Task Force or to serve on a Workgroup. Appointees were not compensated and were not considered an employee or official of the state; however, portions of the Governor's Code of Conduct at *7 Pa. Code* §§ 7.151-7.159 (<http://www.pacode.com/secure/data/007/chapter7/subchapKtoc.html>) apply to appointees, including the Gift Ban.

MISSION

In the next decade, Pennsylvania will undergo a substantial pipeline infrastructure build-out to transport gas and related byproducts from thousands of wells throughout the state. The unprecedented build-out creates an opportunity for the Commonwealth to engage stakeholders in a collaborative process to achieve a world-class pipeline infrastructure system.

As a stakeholder-driven effort, the PITF was tasked with developing policies, guidelines and tools to assist in pipeline development (including planning, permitting and construction) as well as long-term operation and maintenance.

This has been a transparent process, and entailed close coordination with federal agencies, state partners, local governments, industry representatives, landowners and environmental advocates.

OBJECTIVES AND RESPONSIBILITIES

The purpose and goals of the Task Force were to define a series of best practices and recommendations to:

- Plan, site and route pipelines in ways that avoid or reduce environmental and community impacts;
- Amplify and engage in meaningful public participation;
- Maximize opportunities for predictable and efficient permitting;
- Employ construction methods that reduce environmental and community impact; and
- Ensure pipeline safety and integrity during operation of the pipeline.

PROCESS

The PITF conducted seven meetings in 2015 and one meeting in 2016: July 22, August 26, September 23, October 28, November 18, December 16 and January 20. In addition, the PITF created 12 workgroups that were charged with specific issues related to the Pipeline Infrastructure. A chair was appointed to each workgroup to set up agendas and guide the workflow. Meetings of the PITF were advertised and open to the public, and streamed live via the Internet.

Agendas, full copies of presentations and other material presented at the Task Force meetings were sent to the Task Force and Workgroup members and also posted on the DEP Pipeline Infrastructure Task Force web site:

<http://www.dep.pa.gov/Business/ProgramIntegration/PipelineTaskForce/Pages/default.aspx#.VnFMFPMo4sc>.

Task Force meetings included updates from the workgroup chairs on the activities and presentations by various subject matter experts. The expertise, guidance and professionalism of these individuals were critical in developing this report.

TASK FORCE COMPOSITION

The Task Force was made up of 48 representatives from state agencies, the General Assembly, federal and local governments, the pipeline and natural gas industries and environmental groups, among others.

The Task Force was informed by twelve workgroups:

- Agriculture
- Conservation & Natural Resources
- County Government
- Emergency Preparedness
- Environmental Protection
- Historical/Cultural/Tribal
- Local Government
- Natural Gas End Use
- Pipeline Safety and Integrity
- Public Participation
- Siting and Routing
- Workforce/Economic Development

Each workgroup was asked to:

- Establish the framework of information-gathering and productive discussion around best management practices within the particular workgroup focus area;
- Conduct a series of working sessions with workgroup members and other stakeholders as deemed appropriate and/or necessary to fully understand the issues related to pipeline infrastructure development within the context of the workgroup focus area;
- Develop, for consideration by the Task Force, a series of recommended best practices; and
- Develop, for consideration by the Task Force, other recommendations within the context of the workgroup focus area.

The information developed by the workgroup was reported to the Task Force for additional discussion and consideration, and incorporation into this final report to the Governor.

TASK FORCE MEMBERS

State Government:

John Quigley, Secretary, Department of Environmental Protection (Task Force chair)

Dennis Davin, Secretary, Department of Community and Economic Development

(Denise Brinley, Department of Community and Economic Development &

Neil Weaver, Department of Community and Economic Development – Alternates)

Karen Murphy, Secretary, Department of Health

(Corey Coleman, Department of Health – Alternate)

Leslie S. Richards, Secretary, Department of Transportation

(Leo Bagley, Department of Transportation – Alternate)

David Sweet, Special Assistant, Governor's Office

(Ben Zhang, Governor's Office – Alternate)

John Hanger, Secretary, Policy and Planning, Governor's Office

(Sam Robinson, Governor's Office – Alternate)

Dan Devlin, State Forester, Department of Conservation and Natural Resources

(Chris Plank, Department of Conservation and Natural Resources – Alternate)

Michael F. Smith, Executive Deputy Secretary, Department of Agriculture

Richard D. Flinn, Jr., Director, Pennsylvania Emergency Management Agency

(Angel Gillette, Pennsylvania Emergency Management Agency &

Alan Brinser, Pennsylvania Emergency Management Agency – Alternates)

Heather Smiles, Chief, Natural Gas Section, Pennsylvania Fish and Boat Commission

(Mark Hartle, Chief, Division of Environmental Services, Pennsylvania Fish and Boat Commission – Alternate)

*Michael R. DiMatteo, Chief, Division of Environmental Planning and Habitat Protection,
Pennsylvania Game Commission*

*Serena Bellew, Deputy State Historic Preservation Officer, Pennsylvania Historical and Museum
Commission*

Doug McLearn, Division Manager, Pennsylvania Historical and Museum Commission

Gladys Brown, Chairman, Pennsylvania Public Utility Commission

(Paul Metro, Pennsylvania Public Utility Commission &

Matthew Wurst, Pennsylvania Utility Commission – Alternates)

David Smith, Property Management Administrator, Pennsylvania Turnpike Commission

External Stakeholders:

Agriculture

David Messersmith, Penn State Extension, Honesdale, Wayne County

Conservation and Natural Resources

Mark Gutshall, LandStudies, Lititz, Lancaster County

Conventional Oil and Gas

Nicholas Geanopulos, Geanopulos Representations, Mount Lebanon, Allegheny County

County Government

Kathi Cozzone, Chester County Commissioner, Exton, Chester County

Emergency Preparedness

William Kiger, PAICall System, West Mifflin, Allegheny County

Environmental Protection

Davitt Woodwell, Pennsylvania Environmental Council, Pittsburgh, Allegheny County

Kenneth Klemow, Wilkes University, Wilkes-Barre, Luzerne County

Michael Gross, Post & Schell, P.C., Philadelphia

(Stephen Luttrell, Post & Schell – Alternate)

Michael Helbing, Citizens for Pennsylvania's Future, Archbald, Lackawanna County

Federal Government

David Hanobic, Federal Energy Regulatory Commission, Washington D.C.

Steve Tambini, Delaware River Basin Commission, West Trenton, New Jersey

Col. Ed Chamberlayne, U.S. Army Corps of Engineers, Baltimore, Maryland

(Bill Seib, U.S. Army of Corps of Engineers &

Matthew Gall, U.S. Army of Corps of Engineers – Alternate)

Historic/Cultural/Tribal

Curtis Biondich, TRC

Local Government

Marvin Meteer, Wyalusing Township, Wyalusing, Bradford County

Natural Gas End User

Cristina Jorge Schwarz, Apex Companies LLC, Malvern, Chester County

Wayne Gardner, W E Gardner Company, LLC, Downingtown, Chester County

Pipeline Industry

Duane Peters, American Council of Engineering Companies - PA Chapter, Harrisburg, Dauphin County

(Sara Blascovich, American Council of Engineering Companies – Alternate)

Joseph Fink, CONE Midstream Partners LP, Canonsburg, Washington County

Thomas Hutchins, Kinder Morgan, Tomball, Texas

Dave Callahan, MarkWest, Canonsburg, Washington County

Joseph McGinn, Sunoco Logistics Partners LP, Philadelphia

Cindy Ivey, Williams, Houston, Texas

Pipeline Safety and Integrity

Keith Coyle, Van Ness Feldman, Arlington, Virginia

Unconventional Oil and Gas

Fredrick Dalena, EQT Corporation, Pittsburgh, Allegheny County

Justin Trettel, Rice Energy, Canonsburg, Washington County

Mark Reeves, SWEPI LP

Sarah Battisti, Southwestern, Camp Hill, Cumberland County

Walter Hufford, Talisman Energy/Repsol, Warrendale, Allegheny County

Workforce/Economic Development

Anthony Gallagher, Steamfitters LU420, Philadelphia

Don Kiel, SEDA-COG, Lewisburg, Union County

Legislative Appointments:**President Pro Tempore of the Senate**

Terry Bossert, Range Resources, Mechanicsburg, Cumberland County

Minority Leader of the Senate

Andrew Dinniman, Pennsylvania Senate

Speaker of the House

Lauren Parker, Civil and Environmental Consultants, Pittsburgh, Allegheny County

Minority Leader of the House

William Keller, Pennsylvania House of Representatives

WORKGROUP MEMBERS

Agriculture: This workgroup was tasked with developing best practices related to avoiding, minimizing, and mitigating the impacts of pipeline infrastructure development on the agricultural sector including, but not limited to, consideration of preserved farmland, crop valuation, top soil segregation and preservation, agricultural drainage, farm field roads, no till and organic farms, and reclamation.

Michael Smith, Executive Deputy Secretary, Department of Agriculture (Chair)

Hannah Smith-Brubaker, Department of Agriculture (Alternate Chair)

David Messersmith, Penn State Extension

James Kennedy, Four Seasons Farm

Ross Pifer, Penn State Dickinson School of Law

Christian Herr, PennAg Industries

Ronald Kopp, Stoney Lawn Farms

Hathaway Jones, USDA/NRCS

Larry Morton, Tallman Family Farms

David Garg, Department of Environmental Protection

Conservation and Natural Resources: This workgroup was tasked with developing best practices related to avoiding, minimizing, and mitigating the impacts of pipeline infrastructure development on, but not limited to, species, habitat, and wildlife, scenic vistas and aesthetics, recreational values, and State Forest and State Game Lands.

Dan Devlin, State Forester, Department of Conservation and Natural Resources (Chair)

Chris Plank, Department of Conservation and Natural Resources (Alternate Chair)

Mark Gutshall, LandStudies

Michael DiMatteo, PA Game Commission

Cathy Yeakel, Bradford County Conservation District

George Kelly, Resource Environmental Solutions

John Conroy, SWCA Environmental Consultants

Jay Parrish, Jay Parrish LLC

Trevor Walczak, National Association of Royalty Owners, PA Chapter

Silas Chamberlin, Schuylkill River National Heritage Area

Ed Patterson, Indiana County Parks and Trails

Raymond Banach, Precision Pipeline LLC

Thomas Barnard, Independent Consultant

Karen Martynick, Lancaster Farmland Trust

John Donahue, National Park Service

Kim Childe, Department of Environmental Protection

County Government: This workgroup was tasked with defining the intersection of pipeline projects with county government functions – including GIS mapping and long range land use planning in order to define best practices related to harmonizing pipeline infrastructure development with county land use planning.

Kathi Cozzone, Chester County Commissioner (Chair)
Roy Livergood, Jr., York County Planning Commission
Donna Iannone, Sullivan County Commissioner
Harlan Shober, Jr., Washington County Commissioner
Robert Wheat, Comtech Industries
Lisa Schaefer, County Commissioners Association
Gary Dovey, Penn Northwest Development Corporation
Tonya Winkler, Rice Energy
Dana Aunkst, Department of Environmental Protection

Emergency Preparedness: This workgroup was tasked with developing best practices related to on-the-ground first response and developing adequate and appropriate training programs for first responders in communities impacted by pipeline infrastructure development.

Richard D. Flinn, Jr., Director, Pennsylvania Emergency Management Agency (Chair)
Angel Gillette, Pennsylvania Emergency Management Agency (Alternate Chair)
Alan Brinser, Pennsylvania Emergency Management Agency (Alternate Chair)
William Kiger, PAICall System
Adrian King, Jr., Ballard Spahr
Adam Johnson, Emporium Volunteer Fire Department
Craig Konkle, Lycoming County Department of Public Safety
Scott Polen, Retired
Christopher Zwiebel, Zwiebel EHS for Energy
Paul Cook, Center Township Supervisor
Lyle Hoover, Sadsbury Township Supervisor
Lester Houck, Salisbury Township Supervisor
Robert May, Synergy Environmental
George Turner, West Whiteland Township Supervisor
Patrick Pauly, PA State Fire Academy
Kerry Leib, Department of Environmental Protection

Environmental Protection: This workgroup was tasked with developing best practices related to the protection of land, water and air during pipeline infrastructure development and identify ways to maximize opportunities for predictable and efficient permitting across state and Federal jurisdictions.

Hayley Jeffords, Department of Environmental Protection (Chair)

Kenneth Klemow, Wilkes University

Heather Smiles, Pennsylvania Fish and Boat Commission

Karen Murphy, Secretary, Department of Health

Steve Tambini, Delaware River Basin Commission

Lauren Parker, Civil and Environmental Consultants

Robert Hughes, Eastern Pennsylvania Coalition for Abandoned Mine Reclamation

Kinsasha Brown, Environmental Protection Agency

John Gaadt, Gaadt Perspectives LLC

Jonathan Rinde, Manko Gold Katcher Fox

Davitt Woodwell, Pennsylvania Environmental Council

Steven Ewing, Woodard and Curran

Brian Bury, DTE Energy

Michael Gross, Post & Schell

Walt Hufford, Talisman Energy/Repsol

Michael Helbing, Citizen's for Pennsylvania's Future

Will Ratcliffe, Williams

Colonel Ed Chamberlayne, U.S. Army Corps of Engineers

Joe Buczynski, Department of Environmental Protection

Historical/Cultural/Tribal: This workgroup was tasked with developing best practices related to protection of historic and cultural resources and identifying ways to maximize tribal involvement in pipeline infrastructure development.

Serena Belew, Deputy State Historical Preservation Officer, PA Historical Museum (Co-Chair)

Doug McLearn, PA State Historical Museum (Co-Chair)

Curtis Biondich, TRC

David Jones, Native Preserve and Land Council

Kathie Gonick, Lancaster County Conservancy

Robin Maguire, Native Preserve and Land Council

Charles Niquette, CRAI/LEAP

Lisa Dugas, Cultural Resources Consultation

Julie Lalo, Department of Environmental Protection

Local Government: This workgroup was tasked with identifying important issues to local governments across the Commonwealth before, during, and after pipeline infrastructure development, and identifying best practices in engaging and communicating with local governments as part of that process.

Marvin Meteer, Wyalusing Township Supervisor (Chair)
Rebecca Miles, Conestoga Township Supervisor
James Pennington, Lower Nazareth Township
Keith Shaner, Penn Township Supervisor
Pasquale Avolio, Pine Township Supervisor
Mark Freed, Tredyffrin Township Supervisor
Laura Hough, West Pike Run Township Supervisor
Michelle O'Brien, O'Brien Law Group
Clayton Anderson, Williams
Joseph Ferguson, Allegheny Township Board of Supervisors
Bartley Millett, Durham Township Board of Supervisors
Steven Risk, Paul Risk Associates
Vincent Pompo, East Bradford Board of Supervisors
Sarah Clark, Department of Environmental Protection

Natural Gas End Use: This workgroup was tasked with identifying potential expansion options in PA for end uses of the gas, including but not limited to energy technologies such as combined heat and power (CHP) and natural gas fuel cells that can benefit Pennsylvania businesses and spur the creation of micro grids; economic/regulatory obstacles; and methods by which communities that are currently not served by natural gas – particularly those in proximity to the resource – can avail themselves of access to it.

Sarah Battisti, Southwestern Energy (Chair)
Cristina Jorge Schwarz, Apex Companies LLC
Terry Bossert, Range Resources
Wayne Gardner, WE Gardner Company
Francis Rainey, PEI Power Corporation
Michael Butler, Consumer Energy Alliance
Paul Hartman, America's Natural Gas Alliance
Michael Huwar, Columbia Pipeline Group
Terrance Fitzpatrick, Energy Association of Pennsylvania
Jeffrey Davis, ETC Northeast Pipeline LLC
Erin Vizza, Greater Philadelphia Chamber of Commerce
Dave Callahan, MarkWest
Frank Sorg, Midlantic Advisors
Jeffrey Warmann, Monroe Energy
Joe McGinn, Sunoco Logistics
Donald O'Hora, Northway Industries, Inc.
Stephen Wisyanski, Department of Revenue
Dennis Davin, Department of Community and Economic Development
Denise Brinley, Department of Community and Economic Development
Patrick McDonnell, Department of Environmental Protection

Pipeline Safety and Integrity: This workgroup was tasked with identifying best practices for construction (including construction inspection), pipeline testing and inspection, and long term operations and maintenance to ensure long term pipeline safety and integrity. Special consideration should be given to Leak Detection and Repair (LDAR) to minimize methane emissions from pipeline infrastructure.

Gladys Brown, Chairman, Public Utility Commission (Chair)
Paul Metro, Public Utility Commission (Alternate Chair)
Matthew Wurst, Public Utility Commission (Alternate Chair)
Keith Coyle, Van Ness Feldman
Emily Kraffack, Connection for Oil, Gas and Environment - Northern Tier
Barry Hutchins, County of Lycoming Department of Public Safety
Tom Hutchins, Kinder Morgan
Lynda Farrell, Pipeline Safety Coalition
Keith Rutherford, Plumbers Pipefitters Welders of UA Local 520
Morgan Abele, PULS, Inc.
Anthony DeCesaris, Williams
Lisa Dorman, Department of Environmental Protection

Public Participation: This workgroup was tasked with developing best practices to amplify and engage in meaningful public participation in the pipeline infrastructure development process.

Cindy Ivey, Williams (Chair)
John Hanger, Secretary, Policy and Planning, Governor's Office
Sam Robinson, Governor's Office
Andrew Dinniman, Pennsylvania Senator
David Hanobic, Federal Energy Regulatory Commission
Raul Chiesa, Becketts Run Woodlands
Eileen Juico, Independent Consultant
Gerald Powers, Montour Township Supervisor
Alisa Harris, UGI Energy Services
Raynold Wilson, Jr., Wyoming County Landowners
Nolan Ritchie, Executive Director, Senator Rafferty's Office
Marcus Kohl, Department of Environmental Protection

Siting and Routing: This workgroup was tasked with developing best practices related to planning, siting and routing pipelines in ways that avoid, minimize, or mitigate environmental and community impacts from pipelines across the Commonwealth.

Leslie Richards, Secretary, Department of Transportation (Chair)

Leo Bagley, Department of Transportation (Alternate Chair)

Duane Peters, American Council of Engineering Companies - Penna. Chapter

David Smith, Turnpike Commission

Roy Kraynyk, Allegheny Land Trust

Alan Seltzer, Buchanan Ingersoll and Rooney

Joe Fink, CONE Midstream Partners LP

Raymond Schilling, Erdman Anthony

Robert Burnett, Houston Harbaugh

Joshua Billings, Lycoming County Planning and Community Development

Robert Payne, Pennsylvania General Energy Company LLC

Justin Trettel, Rice Energy

Mark Reeves, SWEPI LP

John Sheridan, Spectra Energy

Liz Johnson, The Nature Conservancy

Michael Kasprzak, National Fuel Gas Company

Domenic Rocco, Department of Environmental Protection

Workforce and Economic Development: This workgroup was tasked with considering the workforce and economic development potential for the Commonwealth related to pipeline infrastructure development. Working collaboratively with the Natural Gas End Use Workgroup, this workgroup will focus on identifying approaches to creating opportunities for existing and new Pennsylvania businesses and manufacturers to utilize natural gas, including but not limited to business recruitment strategies; encouraging the creation of offtake points for local economic development during pipeline planning; policy/regulatory/financial obstacles; developing a skilled workforce.

David Sweet, Special Assistant, Governor's office (Chair)

Beining Zhang, Governor's Office (Alternate Chair)

Don Kiel, SEDA-COG

Dennis Davin, Secretary, Department of Community and Economic Development

John Hayes, AFC First

Ken Zapinski, Allegheny Conference on Community Development

Jeffrey Logan, Bravo Group

Joy Ruff, Dawood Engineering

Fredrick Dalena, EQT Corporation

Nicholas Geanopulos, Geanopulos Representations, Mount Lebanon, Allegheny County

Robert Durkin, Greater Scranton Chamber of Commerce

Lue Ann Pawlick, Middle Monogahala Industrial Development Association

Kim Barnes, Northern Tier Regional Planning and Development Commission

Deb Lutz, Oil Regional Alliance of Business, Industry and Tourism

Randy Seitz, Penn Northwest Development Corporation

Frank Zukas, Schuylkill Economic Development Corporation

Ronald McGlade, Tenaska Resources LLC

William Doyle, US Federal Maritime Commission

Anthony Gallagher, Steamfitters LU420

David Horn, Laborers International Union of North America

Martina White, Pennsylvania House of Representatives

William Keller, Pennsylvania House of Representatives

Denise Brinley, Department of Community and Economic Development

Carol Kilko, Department of Community and Economic Development

Cosmo Servidio, Department of Environmental Protection

PIPELINE INFRASTRUCTURE DEVELOPMENT IN PENNSYLVANIA AND THE ROLE OF THE PIPELINE INFRASTRUCTURE TASK FORCE

Pennsylvania is rich in natural resources, and the state's timber, coal and oil have fed ever-growing industrial, commercial and residential energy needs – both domestic and global - since the early decades of this nation. Since the start of the 21st century, new technologies to unlock natural gas from the shale formations deep beneath Pennsylvania's surface have opened a new wave of energy development.

Beginning in 2005, horizontal drilling methods combined with high-volume hydraulic fracturing techniques have made possible the capture of natural gas from Pennsylvania's shale deposits. Since 2008, Pennsylvania's natural gas production has increased dramatically. In 2014, more than four trillion cubic feet of natural gas were produced in Pennsylvania, making the state the second-largest supplier of natural gas in the nation.

Drilling for natural gas in Pennsylvania has far outpaced the development of the infrastructure needed to get that gas to markets. Almost a third of the wells that have been drilled in Pennsylvania since 2004 are shut in because the pipelines to move that gas from the well to end users have not caught up with the pace of drilling. So, the primary challenge the industry faces now is to get the gas around or out of Pennsylvania to connect it to customers.

That challenge exists because natural gas is not used at the point of extraction. Infrastructure is needed to process, compress, store and transport the natural gas to market. As outlined in the *Governor's Marcellus Shale Advisory Commission Report*ⁱ, the natural gas industry is divided into three parts: upstream, midstream and downstream. Exploration, extraction and production are upstream activities. Gathering gas from multiple wells, storage and the treatment of gas are midstream activities. These gathering lines connect the wells to the processing stations and lead to the downstream lines: transmission lines, used for processing, transportation and storage; and distribution lines, which terminate at processing or consumer endpoints.

Pennsylvania already has more than 12,000 miles of large-diameter oil and gas pipelines in the ground, but now, according to *Pipeline Development – Strategies and Tools to Minimize Landscape Impacts*, a presentation made to the PITF by The Nature Conservancyⁱⁱ, the miles of natural gas gathering lines alone will at least quadruple by 2030. The footprint of just that expansion is larger than the cumulative area impacted by all other Marcellus gas infrastructure combined, and could exceed 300,000 acres, or 1 percent of the state's land area. The movement of natural gas will also require compressor stations, estimated to number in the hundreds, to be built along the anticipated pipeline miles. All told, this pipeline infrastructure build-out will impact communities and the environment in every county in Pennsylvania.

According to *Natural Resource Management of Pipeline Infrastructure*ⁱⁱⁱ, a presentation made to the PITF by the Pennsylvania Department of Conservation and Natural Resources (DCNR) Bureau of Forestry, the land use impacts include:

- Surface disturbance;
- Forest fragmentation;

- Habitat loss and species impacts;
- Invasive plant spreading;
- Loss of wild character; and
- Soil erosion and sedimentation.

One of the greatest challenges to ensuring the reduction of impact and the consistency of responsible and safe transmission is that no single federal or state agency is responsible for pipeline permitting. Permits are not reviewed for the cumulative and long-term impacts at a landscape level. Chosen routes do not necessarily avoid sensitive lands, habitats, and natural features, nor are the impacts to natural and cultural resources, landowners, and communities along them always minimized or mitigated.

This lack of smart planning can lead to individual decisions accumulating into a much broader and longer impact on the citizens and the lands of a community, county or watershed. It can also waste financial resources. According to *The Case for Smart Planning in Pipeline Infrastructure Development*^{iv}, a presentation made to the PITF by Secretary Quigley, the use of smart planning in pipeline infrastructure development can lower overall development costs.

To analyze the challenges and propose strategies to overcome them, Governor Tom Wolf established the PITF in May 2015, led by Secretary Quigley. He charged Secretary Quigley to conduct a collaborative conversation among all stakeholders -- state, federal and local regulatory agencies; communities; environmental and cultural resource groups; and companies – and together, identify best practices and other recommendations that focus on:

- Planning, siting and routing pipelines to avoid/reduce environmental and community impacts;
- Amplifying and engaging in meaningful public participation;
- Maximizing opportunities for predictable and efficient permitting;
- Employing construction methods that reduce environmental impact; and
- Developing long-term operations and maintenance plans to ensure pipeline safety and integrity.

In his opening remarks to the PITF in July 2015, as Task Force chair, Secretary Quigley^v said that Governor Wolf expects that Pennsylvania should take full economic advantage of this immense energy resource while ensuring that extraction and transmission of it is done responsibly.

Secretary Quigley reviewed the 2011 Marcellus Shale Advisory Commission report's recommendations that smart planning is an essential tool to reduce the cumulative impacts of the expected pipelines. The report recommended identifying the legislative and regulatory changes needed to:

- Effect sharing of pipeline capacity, reduce surface disturbance and associated environmental impacts;
- Encourage use of existing pipeline infrastructure, and co-location with other rights-of-way;
- Achieve coordination and consistency of infrastructure planning and siting decisions by state, county and local governments; and

- Provide sufficient authority and resources for appropriate government agencies to ensure that ecological and natural resource data are used in review and siting of proposed pipelines, to avoid or minimize impacts to these resources.

Secretary Quigley also reviewed the *Report to the General Assembly on Pipeline Placement of Natural Gas Gathering Lines*^{vi}, submitted by the Office of Governor Tom Corbett that contained six basic recommendations:

- Remove legal impediments to the sharing of state and local road rights-of-way with gathering lines to encourage the use of existing corridors and reduce habitat fragmentation;
- County planning offices should work with drillers and gathering line companies to maximize opportunities for shared rights-of-way;
- Enhance the PA Natural Diversity Inventory (PNDI) review tool to assist gathering line developers in avoiding conflicts with threatened and endangered species;
- DEP should adopt environmental review standards for drilling proposals that avoid surface disturbances, impacts on sensitive lands, forest fragmentation, viewsheds and direct intersection with waterways;
- County and municipal governments should be encouraged to consult with gathering line operators to better understand the implications of a proposed project on local comprehensive plans; and
- Pipeline operators should be encouraged to consult with appropriate experts to replant rights-of-way with vegetation that fosters habitat development for wildlife.

Secretary Quigley pointed out that there are numerous examples of the successful adoption of smart planning by Federal and state government agencies and oil and gas companies, and strong endorsement of the practice by industry trade groups and analysts. There is, he said, a critical need for smart planning in the development of pipeline infrastructure in Pennsylvania, extensive cross-sectorial and investor support for it, and robust recommendations for and an emerging practice of it.

Secretary Quigley concluded that Pennsylvania has the opportunity to take a national leadership position in demonstrating how smart planning can achieve environmental and business “win-wins” that will go a long way to ensuring responsible production of shale gas.

Each of the ensuing monthly Task Force meetings included an opportunity for the public to comment. During the October 28 meeting, 27 individuals provided comments to the Task Force. At that meeting, individuals commented on a variety of matters, such as concerns about the impacts of climate change on Pennsylvania, fears about home and livelihood damages that landowners attribute to natural gas drilling, frustration with pipeline companies’ treatment of landowners and communities, confusion about the decision-making process, and anger over an erosion of landowner rights.

Commenters also urged DEP to enforce existing regulations, enact appropriate fines, proactively monitor natural gas extraction, and do away with any self-reporting. Several citizens asked Governor Wolf to disband the Task Force for their belief that the composition is heavily weighted with industry representation.

In November, 13 individuals signed up to speak. Many raised issues similar to those heard during the October meeting. Citizens from Pennsylvania, New York and New Jersey expressed concerns related to the safety of citizens and the protection of Pennsylvania's environment, questioning the economic feasibility of the natural gas industry in Pennsylvania. Some requested a public hearing, or additional time to review the proposed Task Force Report, while others urged the Task Force to disband. Several asked for a shutdown of fracking of natural gas.

In December, 26 individuals signed up to speak. Most of the commenters in opposition to the natural gas industry and pipelines expressed comments similar to earlier meetings. Several commenters, representing local labor organizations, expressed support for extraction of Pennsylvania's natural gas resources, advocating for safe, responsible development.

The final meeting of the task force, in January 2016, was temporarily halted by a group of protesters, who had to be physically removed from the meeting. The final public comment included 23 speakers. Several were from unions associated with the pipeline industry, and several were homeowners who expressed frustrations about pipeline company employees overstepping the bounds of rights-of-way and other terms for access to a pipeline on the property.

DEP received 1,530 comments during the public comment period. There was much variation in the comments received; however, there were some apparent themes.

Many Pennsylvania residents expressed concern over what can be classified as perceived cost-benefit disparities in allowing the natural gas industry to increase pipeline construction within the state. These commenters do not believe that the benefits from expansion of the natural gas industry within Pennsylvania will outweigh the costs to the state and individuals with regards to property rights, the environment, public safety, and public health.

Landowners voiced apprehension regarding eminent domain actions (mostly under FERC pipelines) and loss of property value. Some provided examples of pipeline construction disrupting commercial businesses and the potential loss of enjoyment of portions of their property, while others conveyed their fear of these losses. There were many comments from people concerned about the safety of underground pipelines, mostly regarding potential accidents from lack of long-term maintenance and repair of the pipelines. Others expressed concerns as to whether pipeline construction can ever be fully protective of the water, air, wildlife, and habitats throughout Pennsylvania. Comments on air pollution focused on perceived public health and climate change risks.

Similarly, there were comments suspect of the economic benefits of natural gas build-out to Pennsylvania and its economy. These commenters feel that too much of the gas is being exported out-of-state and that the industry will rise and fall within a short time span, negating any short-term benefits to the state's economy.

Many commenters expressed their support and optimism for the benefits of increasing natural gas presence within the state. Numerous comments focused on the increased labor force that will be necessary to support the planning, construction, and long-term maintenance and operation of new

pipelines. This increase in the labor market, others stated, will have external effects resulting in other benefits for local communities and the state. Likewise, some commenters stated beliefs that the increase of availability of natural gas will benefit Pennsylvanians as residents with home heating needs and in helping to reduce the state's carbon footprint from other fossil fuels.

Some commenters responded directly to PITF recommendations within the document, saying they generally agree, or analyzing the content and suggesting potential improvements to the recommendations. Others voiced concern that the recommendations within the report will add more burden to an already highly-regulated industry.

In addition to the comments received on the PITF's work, approximately 1,300 examples of comment letters were received pertaining to pipeline projects under the purview of the Federal Energy Regulatory Commission. Various types of informational materials were also received, and have been catalogued and maintained for reference.

All presentations made to the Task Force, video recordings of the proceedings and transcripts can be found on the DEP's Pipeline Infrastructure Task Force web site:
http://www.dep.pa.gov/Business/ProgramIntegration/PipelineTaskForce/Pages/default.aspx#.Vk9On_Mo4sc.

LEGAL FRAMEWORK FOR OIL AND NATURAL GAS PIPELINE DEVELOPMENT IN PENNSYLVANIA

Pipeline Location

In general, the location of most pipelines transporting oil or natural gas in Pennsylvania is determined by transactions between private parties governed by common law property and contract principles. Individuals or entities interested in the development of oil or gas resources on their property typically negotiate leases with companies in the business of developing these resources. Oil and gas leases usually allow for the construction of pipelines on the leased property to transport the oil or natural gas produced to the point of sale. A landowner's ability to control the location of such pipelines is governed by the terms of the lease and the parties' willingness to negotiate the location.

When a private company wants to construct an oil or gas pipeline across a property for which access is not available through an oil and gas lease, it will negotiate with the landowner to obtain the right to construct the pipeline, typically through an easement or right of way agreement. The rights of landowners to control the location of oil or natural gas pipelines on their property are limited under the law in two instances. The first instance occurs when the rights to the oil or gas are severed from surface ownership. The second occurs when statutes grant the right for the unilateral acquisition of property for a public benefit through condemnation proceedings.

In the first circumstance, the right of a landowner to control pipeline development may be limited because the landowner did not acquire the subsurface oil or gas rights when the landowner purchased the property. In this situation, the common law in Pennsylvania requires the surface landowner to grant access to the owner of the subsurface oil or gas rights for activities necessary to develop the oil or gas. The rights of the surface landowner will be governed by the terms of the deed executed at the time the subsurface oil or gas rights were severed from the surface ownership, as well as common law principles developed through court decisions. In general, both the surface landowner and owner of the subsurface oil or gas have the right to use and enjoy their property, and must give due regard to the rights of the other.

Landowners may also be required to allow pipeline development on their property when the pipeline is considered to provide an important public benefit. The federal Natural Gas Act authorizes the Federal Energy Regulatory Commission (FERC) to review applications for proposed interstate natural gas transmission pipelines and to grant certificates of public convenience and necessity when it determines the proposed pipeline provides important public benefits. When FERC grants such a certificate, the pipeline company has the right to obtain the property needed to construct the pipeline through condemnation proceedings if the company is unable to negotiate the purchase of the necessary property rights from the landowner.

In addition to the above common law principles and federal law authority, the location of a proposed pipeline may be modified as a result of conditions of environmental permits required for the project (see discussion below). In addition, municipalities in Pennsylvania may have ordinances related to zoning, subdivision and land use, stormwater control, open space or other

issues of local concern that may impose restrictions on the location of oil and gas pipelines within their jurisdictions.

Pipeline Construction, Operation and Maintenance

Department of Environmental Protection Regulation

The construction, operation and maintenance of oil and gas pipelines in Pennsylvania are regulated by the Department of Environmental Protection (DEP) under various State environmental statutes in the same manner that other land development activities are regulated. DEP has authority to protect waters of the Commonwealth through State statutes, including the Pennsylvania Clean Streams Law and the Pennsylvania Dam Safety and Encroachments Act. Companies constructing pipelines must comply with Pennsylvania's water quality standards established in Pennsylvania regulations, and with regulations adopted to implement those standards such as erosion and sediment control, water obstructions and encroachments, and surface water discharges.^{vii} Pipeline companies may be required to obtain individual water quality permits under these regulations or may be able to obtain coverage under general permits issued by DEP. In many counties, DEP has delegated authority to the County Conservation District to administer and enforce certain aspects of the erosion and sediment control program and the water obstructions and encroachments program.

When a pipeline company is required to obtain a federal authorization to construct a pipeline, Section 401 of the federal Clean Water Act requires the company to obtain a state certification that the project will comply with state water quality requirements (referred to as a "state water quality certification"). The Clean Water Act further requires the federal agency issuing the authorization to include any conditions imposed by the state in its state water quality certification in the federal authorization for the project. In Pennsylvania, DEP issues this state water quality certification and it typically relates to and can be satisfied by compliance with State permitting requirements such as those described above.

In general, a proposed pipeline project in Pennsylvania will require a federal authorization that triggers the need for a state water quality certification in two situations. The most common situation is when the pipeline is expected to cross a federally regulated water body and the pipeline company must obtain a federal permit for the discharge of dredged or fill material from the U.S. Army Corps of Engineers (USACE) under Section 404 of the Clean Water Act. If no other federal authorization is required, DEP will typically issue its state water quality certification for this USACE permit when DEP issues its State water obstruction and encroachment permit for the project.

The second less common situation occurs when a state water quality certification is required for a proposed interstate natural gas transmission pipeline that requires a certificate of public convenience and necessity from FERC. These large interstate pipeline projects typically require multiple permits, authorizations or approvals from DEP to protect waters of the Commonwealth. As a result, DEP may issue its state water quality certification for these projects as an independent, stand-alone action, and will typically require the applicant to obtain and comply with State law

water quality permits and other associated requirements as conditions of the state water quality certification.

DEP also has authority to protect air resources in Pennsylvania under the Pennsylvania Air Pollution Control Act. DEP regulates air emissions through the issuance of plan approvals and operating permits.^{viii} Such approvals and permits are typically associated with air emissions from compressor stations constructed to pressurize natural gas pipelines. The emission of air pollutants from other equipment such as dehydrators, tanks, and pipeline valves may also be regulated.

The Pennsylvania Oil and Gas Act, as amended in 2012, includes certain provisions related to the construction, operation and maintenance of oil and gas pipelines. Buried metallic pipelines must be constructed and operated with corrosion control in accordance with certain federal requirements.^{ix} In addition, owners and operators of gathering lines are required to provide certain information about the location of known pipelines when a timely request for such information is received prior to a proposed excavation or demolition activity.^x DEP requires compliance with these provisions when regulating oil and gas activities under the Oil and Gas Act and its implementing regulations.^{xi}

Other State Agency Regulation

In addition to the above environmental requirements administered by DEP, other Commonwealth agencies have certain responsibilities related to oil and gas pipeline siting, construction, operation and maintenance. The Public Utility Commission (PUC) is authorized under the Pennsylvania Gas and Hazardous Liquids Pipelines Act to regulate pipeline operators in Pennsylvania consistent with federal pipeline safety standards. These safety standards apply to the design, installation, operation, inspection, testing, construction, extension, replacement and maintenance of pipeline facilities. The PUC also implements regulations related to gas service and facilities.^{xii}

The Pennsylvania Department of Conservation and Natural Resources (DCNR) manages the location, construction, operation and maintenance of oil and gas pipelines on public lands managed as part of Pennsylvania's state park and forest system. In addition, DCNR administers the Pennsylvania Natural Heritage Program, which includes the Pennsylvania Natural Diversity Inventory and the online environmental review tool used to identify species and other natural resources of special concern that are considered as part of environmental permitting processes. Other resource agencies including the Pennsylvania Fish and Boat Commission, the Pennsylvania Game Commission, and the U.S. Fish and Wildlife Service, partner or cooperate with DCNR in maintaining this inventory and have responsibilities for protecting various fish, wildlife and plant species within Pennsylvania.

The Pennsylvania Historic and Museum Commission is responsible for the protection of significant archeological, cultural, and historic resources in Pennsylvania under the History Code.^{xiii} DEP and other Commonwealth agencies are directed by the History Code to institute procedures and policies to assure that their plans, programs, codes, regulations and activities contribute to the preservation and enhancement of all historic resources in Pennsylvania.

Federal Regulation

Certain federal agencies also have authority to regulate aspects of pipeline development nationwide. The Pipeline and Hazardous Material Safety Administration within the U.S. Department of Transportation implements federal pipeline and hazardous material safety regulations.^{xiv} In addition, as noted previously, FERC has authority to regulate interstate natural gas transmission pipelines under the federal Natural Gas Act. As also mentioned previously, the U.S. Army Corps of Engineers issues permits for the discharge of dredged or fill material that may be associated with pipeline construction under Section 404 of the Clean Water Act.

PITF members have heard several presentations on the complex permitting process.

At the July 22, 2015 meeting, the PITF learned about an internal DEP work group, developed to identify and address programmatic issues related to pipeline development. The objective was to unravel the complicated processes related to federal and state regulation of pipelines to improve process efficiency and environmental protection, implement standard operating procedures to improve the permitting process, and develop guidance documents to assist the regulated community. The long-term objective of the workgroup will be to review and develop an implementation strategy for best practices identified by the taskforce to achieve a world-class pipeline infrastructure system and improve PA's environment.

At the October 28, 2015 meeting, federal and state officials identified and described the regulatory frame work and permitting process.

Colonel Ed Chamberlayne, District Commander, Baltimore District, U.S. Army Corps of Engineers (USACE), presented an overview of the Corps Regulatory Program, including the permitting requirements under Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act, for the construction of pipelines and associated facilities. Colonel Chamberlayne explained that the USACE also is required to comply with the National Environmental Protection Act and the CWA Section 404(b)(1) guidelines, which require impacts to the aquatic environment to be avoided and minimized to the maximum extent practicable; and that for unavoidable impacts to the aquatic environment, compensatory mitigation is required to replace the lost aquatic functions and services.

Lora Zimmerman, Supervisor for the Pennsylvania Field Office of the U. S. Fish & Wildlife Service (USFWS), presented information on the Service's regulatory responsibilities and review protocols. The Service has jurisdictional authority for the Migratory Bird Treaty Act, the Bald and Golden Eagle Protection Act, and the Endangered Species Act. The Service works with Federal agencies and non-Federal entities to help conserve federally-listed species and ensure that unauthorized take of listed species does not occur.

Domenic Rocco, DEP, Southeast Regional Office, presented an overview of the typical state authorizations that may be required for Pipeline Projects. For projects that are FERC-regulated, DEP requires a single State Water Quality Certification that certifies that the construction, operation and maintenance of the project complies with the applicable provisions of the Federal Clean Water Act (Section 401), the Commonwealth's water quality standards, and the criteria and conditions of the necessary DEP authorizations. Mr. Rocco's presentation included information regarding water obstruction and encroachment permits under Chapter 105, erosion and sediment control permits under Chapter 102 and wastewater discharge permits under Chapter 92a of DEP's regulations.

Doug McLearn, Pennsylvania Historical and Museum Commission (PHMC), gave a presentation on the State Historic Preservation Office's (SHPO) role in review of gas pipelines and related activities. Every state has a SHPO and, in Pennsylvania, it is PHMC's Bureau for Historic Preservation. One of the office's mandated tasks is review of state and/or federally assisted or permitted projects for their effects on "historic properties" (archaeological sites or

above ground/historic built environment resources listed on or eligible for the National Register of Historic Places). SHPO reviews federally regulated projects under Section 106 of the National Historic Preservation Act and its implementing regulations.

Heather Smiles, PA Fish and Boat Commission (PFBC), presented an overview on the estimated 86,000 miles of stream miles in PA and the increased demand for pipelines to move natural gas and natural gas liquids, PFBC is actively involved in the review of proposed pipeline projects. It's staff review projects to insure that aquatic resources that live in all of our Commonwealth waters remain protected.

John Taucher, Energy Project Review Coordinator, Pennsylvania Game Commission (PGC), provided an overview of the PGC's involvement with pipeline permitting in Pennsylvania. The PGC utilizes the Pennsylvania Natural Diversity Inventory (PNDI) process for pipeline review to determine impacts for wild bird and mammals. The PGC's PNDI process focuses on state endangered, threatened, and species of concern. The PGC reviews projects to avoid, minimize, and if necessary mitigate for impacts to PGC's species. The PGC recommends early coordination and co-locating whenever possible as Best Management Practices (BMPs).

Dan Devlin, Bureau of Forestry Director, Pennsylvania Department of Conservation and Natural Resources (DCNR), presented an overview of DCNR's role with pipelines in Pennsylvania. DCNR coordinates the PNDI program for the state and provides information on these resources through planning and review tools.

PERMITTING CLARITY

There is a statewide need for clarity in the permitting process and in the role that citizens, non-profits and government officials can play in that process. Officials in Chester County, with a population of half a million (averaging 665 persons per square mile) are as attentive to the increasing expansion of pipelines as are officials in Susquehanna County, with a population of 42,000 (averaging 53 persons per square mile).^{xv}

Officials from both counties presented to the PITF on their roles in educating citizens on the multi-faceted permit review process for pipelines. Chester County Planning Commission^{xvi} explained that although the county has a limited role in providing input in the review process, the county's Pipeline Information Center is an important resource for government officials, residents and other stakeholders.

To explain the permitting process, the [Chester County Pipeline Information Center website](#) reads:

The Federal Energy Regulatory Commission, or FERC, is an independent agency of the United States government that regulates the interstate transmission of electricity, natural gas, and oil. FERC also reviews proposals to build liquefied natural gas (LNG) terminals and interstate natural gas pipelines.

Among its other powers FERC regulates the transmission and sale of natural gas for resale in interstate commerce; regulates the transportation of oil by pipeline in interstate commerce; and approves the siting and abandonment of interstate natural gas pipelines and storage facilities.

In addition, the United States Department of Transportation (USDOT) also oversees the safety of pipelines, which are a form of transportation infrastructure. The Pipeline and Hazardous Material Safety Administration (PHMSA), acting through the Office of Pipeline Safety (OPS), administers the Department's national regulatory program to assure the safe transportation of natural gas, petroleum, and other hazardous materials by pipeline. OPS develops and administers regulations to assure safety in design, construction, testing, operation, maintenance, and emergency response of pipeline facilities.

At the State level, the Public Utility Commission (PUC) is authorized by the General Assembly to adopt and enforce safety standards for pipeline facilities. The PUC also enforces federal safety standards as an agent for the OPS. These safety standards apply to the design, installation, operation, inspection, testing, construction, extension, replacement, and maintenance of pipeline facilities. The PUC may prescribe additional safety standards over and above federal standards, provided they are not in conflict. Pennsylvania, however, is one of two states that do not regulate the siting of intra-state transmission pipelines.

In addition to PUC oversight, the Pennsylvania DEP has regulatory authority over any crossing of a wetland or waterway by a pipeline. Pipeline projects located within Delaware River Basin may be subject to regulatory review by the Delaware River Basin Commission (DRBC) when certain threshold established by the Administrative Manual -- Rules of Practice and Procedure are met.

Municipal governments (cities, boroughs and townships) are authorized by the General Assembly to enact zoning and subdivision regulations which may regulate the siting and environmental impact of pipeline-related surface facilities. Municipalities also have the regulatory responsibility for minimizing conflicts between pipelines and new development on adjacent lands.

Susquehanna County Conservation District ^{xvii} presented a chart of the approval process, which elaborates on the state agencies that can be involved in the process.

Anticipated Permits / Approvals

Permits, Licenses, Approvals, and Certificates Required for Construction, Operation, and Maintenance of the Constitution Pipeline Project	
Federal	
Permit/Approval	Administering Agency
Certificate of Public Convenience and Necessity	Federal Energy Regulatory Commission
PASPGP-4 CWA Section 404 Individual or Nationwide Permits (NY & Buffalo)	Army Corps of Engineers Baltimore District
	Army Corps of Engineers New York District
	Army Corps of Engineers Buffalo District
Consultation	USFWS Pennsylvania Field Office
	USFWS New York Field Office
Surface Water Withdrawal / Consumptive Use Permits	Susquehanna River Basin Commission
Pennsylvania State	
Permit/Approval	Administering Agency
CWA 401 Water Quality Certification	PADEP Northeast Regional Office Bureau of Watershed Management
Chapter 105 Water Obstruction and Encroachment Permits	
CWA Section 402 NPDES – Hydrostatic Test Water Discharge General Permit (PAG 10) or Individual Permit	PADEP Northeast Regional Office Bureau of Water Quality Protection
CWA Section 402 NPDES Chapter 102 Erosion and Sediment Control General Permit (ESCGP-1) for Construction Activities	PADEP Bureau of Watershed Management and Bureau of Oil and Gas Management
Submerged Land License Agreement	PADEP Bureau of Waterways Engineering
Highway Occupancy Permit	PennDOT
Clearance (Rare Species)	PA DCNR
Clearance (Rare Species)	PA Fish and Boat Commission
Clearance (Rare Species)	PA Game Commission
Blasting Permit	PA Fish and Boat Commission
Clearance (Cultural Resources)	PA Historic Museum Commission
Pennsylvania Local and County	
Permit/Approval	Administering Agency
Erosion & Sedimentation Control Plan Review	Susquehanna County Conservation Districts

WORKGROUP RECOMMENDATIONS

The 12 workgroups have provided the following 184 recommendations to the Task Force.

Agriculture

1. Educate Landowners on Pipeline Development Issues
2. Build a GIS Database of PA's Farms

Agriculture and Conservation and Natural Resources

1. Develop Best Management Practices Manual for Pipeline Development on Agricultural Operations

Conservation and Natural Resources

1. Communicate Pipeline Development Conservation Practices to the Public
2. Develop Public Access to Pipeline GIS Information
3. Use a Landscape Approach for Planning and Siting Right-of-Way Corridors
4. Give Special Consideration to Protected / Designated Lands in Pipeline Siting
5. Mitigate the Loss of Public Use of Public Lands Resulting from Pipeline Development
6. Avoid Geological Hazards During Planning
7. Implement Full-Time Environmental Inspections During Pipeline Construction
8. Monitor Water Quality During Construction
9. Implement Post-Construction Monitoring for an Appropriate Period
10. Tie Permitting Standards to the Duration of Impact
11. Implement a Mitigation Bank to Improve Water Quality
12. Reduce Forest Fragmentation in Pipeline Development
13. Promote Biodiversity in Pipeline Development
14. Develop Rare Species Work Windows to Avoid Impacts
15. Minimize Impacts to Riparian Areas at Stream Crossings
16. Promote Wildlife Habitat Opportunities Along Pipeline Corridors
17. Restore and Maintain a Boarder Zone in Forested Areas
18. Minimize Aesthetic Impacts in Pipeline Development
19. Minimize Recreational Impacts in Pipeline Development
20. Provide Recreational Opportunities in Pipeline Development
21. Reseed Right-of-Ways Using Native Plants
22. Use Pennsylvania-Sources Plant and Seed Vendors and Landscape Services
23. Require Performance-Based Metrics for Long Term Maintenance of Right-of-Ways
24. Prevent Invasive Plant Species Establishment
25. Finalize Functional Protocols for Impacts and Offsets
26. DEP Should Follow the 2008 Final Mitigation Rule for all Mitigation Sites

County Government

1. Counties Should Partner in Implementation of Task Force Recommendations
2. Counties Should Include Pipelines Development in County Comprehensive Plans
3. Counties Should Make GIS Mapping Available to Operators and Require Them to Provide Their Mapping to Counties and Municipalities
4. Develop Training Opportunities for County Officials
5. Develop Tools to Educate the Public on Pipeline Development
6. Operators Should Engage in Timely Communications
7. Develop Advisory Standards for Pipeline Setback and Buffers
8. Amend Municipalities Planning Code to Empower County Comprehensive Plan
9. Consider Opportunities for Shared Right-of-Ways
10. Empower GIS Mapping
11. Create a Commonwealth Library of Pipeline Information
12. Require Pipeline Abandonment Plans

Emergency Preparedness

1. Standardize Emergency Response Plans
2. Train Emergency Responders
3. Require Infrastructure Mapping
4. Coordinate Pipeline Mapping Plans
5. PUC Should Develop a Comprehensive List of Pipeline Classifications
6. Enhance Emergency Response Training for Responder Agencies
7. Create County/Regional Safety Task Forces
8. Provide Training to Local Emergency Responders
9. Assess Need for Additional Training for Local Responders
10. Establish Protocol for Emergency Movement of Heavy Equipment during Off-Hours
11. Assigning a 9-1-1 Address to Pipeline-Related Facilities
12. Authorize a Fee for Emergency Response to Pipeline Incidents

Environmental Protection

1. Establish Early of Partnerships and Coordination in Relationships with Regulatory Agencies
2. Establish Early Coordination with Local Non-Governmental Groups
3. Establish Early Coordination with Local Landowners and Lessors
4. Project Sponsors Should Review Pennsylvania Stormwater BMP Manual
5. Sponsors Should Review the Pennsylvania Erosion and Sediment Pollution Control Program Manual
6. Sponsors Should Request Pre-Application Meetings with Regulatory Agencies
7. Sponsors Should Perform Alternative Analysis to Avoid/Minimize Impacts
8. Develop Standard Water Quality Monitoring Practices
9. Develop An Advanced High-Quality Environmental Resources Planning Tool
10. Sponsors Should Use Landscape Level Planning
11. Minimize Water Withdrawals for Testing
12. Do Not Locate Pipelines Parallel to Streams Within its 100-Year Floodway
13. Employ Smart Timing of Construction
14. Assess Potential Subsurface Hazards in Planning

15. Route Pipelines to Minimize Disturbance to Forest Interiors
16. Avoid Steep Slopes and High Erodible Soils
17. Share Rights-of-Ways
18. Identify Barrier to Sharing Rights-of-Ways
19. Evaluate Existing and Needed Setbacks from Wetlands and Watercourses
20. Use Dry Seals for Centrifugal Compressors
21. Minimize Methane Emissions During Compressor State Shutdown Periods
22. Use Pump-Down Techniques Before Maintenance and Repair
23. Develop Plans for Construction, Operation, and Maintenance
24. Implement Directed Inspection and Maintenance Program for Compressor Stations
25. Implement Wetland Banking/Mitigation Measures
26. Use Antidegradation Best Available Combination of Technologies to Protect EV and HQ Waters
27. Avoid Dams and Reservoirs
28. Avoid Water and/or Wastewater Discharge
29. Develop Plans for No Net Loss of Forests in Headwater Watersheds
30. Develop Plans for No Net Loss of Forested Riparian Buffers
31. Develop Plans for No Net Loss of Wetlands
32. Study Long-Term Impacts of Pipeline Infrastructure on Water Resources and Sensitive Landscape
33. Minimize Methane Emissions
34. Minimize Impacts of Stream Crossings
35. Conduct Research to Improve Revegetation BMPs
36. Require ShutOff Valves for Liquid Product Pipelines
37. Use Dust Suppression Controls Near Water Resources
38. Test Efficacy of Silt Fencing
39. Test Soils in Acid Deposition Impaired Watersheds to Identify Need for Additional Liming
40. Sponsors Should Review the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Tool
41. Develop Construction Sequencing Plan
42. Stockpile Topsoil During Construction for Use in Restoration
43. Soften Forest/Right-of-Ways Edges and Promote Canopy Closure
44. Create Onsite Habitat
45. Prevent Invasive Species from Entering Sites
46. Ensure Ecologically Sensitive Revegetation of Right-of-Ways
47. Conduct Quantitative Site Monitoring Where Appropriate
48. Conduct Regular Site Maintenance
49. Properly Use and Maintain Pipeline Components
50. Implement Leak Detection and Repair for all Above-Ground Components of Pipeline Infrastructure
51. Clarify Remediation of Spills Under Shale Regulation
52. Establish Forest Mitigation Program
53. Implement Electronic Permit Submissions for Chapters 102 and 105
54. Establish Electronic Payment for Chapters 102 and 105 Permit Fees

55. Evaluate Need for Hard Copies of Chapter 102 and 105 Permit Submissions
56. Evaluate Erosion and Sediment Control General Permit (ESCGP-2) Expedited Review
57. Ensure Adequate Agency Staffing for Reviewing Pipeline Infrastructure Projects
58. Evaluate DEP Retention and Attrition of Staff and Succession Planning
59. Evaluate the Effectiveness of the Permit Decision Guarantee Policy
60. Evaluate the Permit Decision Guarantee Priority Status Hierarchy
61. Increase DEP Staff Training
62. Eliminate Duplicate Questions in Erosion and Sediment Control General Permit (ESCGP-2) Notice of Intent (NOI)
63. Create Pipeline Erosion and Sediment Control Manual
64. Consider Limited Permit Review Assistance Using Qualified Contractors
65. Convene Annual Regulatory Agency Meetings
66. Re-Assess and Update Standing Memoranda of Understanding (MOUs) between State and Federal Agencies
67. Incorporate Cumulative Impacts into Applications and Review Process
68. Conduct Joint Agency Coordination Meetings During Pre-Application and Planning
69. Assess Oil and Gas Programs Chapter 102 Training

Historical/Cultural/Tribal

1. Improve Communications with Landowners
2. Consult with Federally Recognized Tribes on Section 106-Related Projects
3. Consult with Citizens' Groups, Including Heritage and Historical Organizations and Non-Federally Recognized (NFR) Tribes for Oil and Gas Development
4. Implement Best Practices for Upstream and Midstream Oil and Gas Development that Fall Outside of USACE Permit Areas
5. Conduct Early Outreach with Affected Communities
6. Conduct County-Based Siting and Mitigation Research

Local Government

1. Communicate Early and Often with Local Government Officials
2. Minimize Impact on Local Roads
3. Clarify and Examine Need for Local Regulation of Surface Facilities

Natural Gas End Use

1. Create A State Level Permit Coordinator
2. Create Regional Energy Corridors and Energy Action Teams
3. Create Energy Opportunity Zones
4. Enact Statute to Permit Use of a Charge for New Service (Similar to a Distribution System Improvement Charge (DSIC))
5. Develop Municipal Guidelines for Natural Gas Distribution Lines

Pipeline Safety and Integrity

1. Require Leak Detection Survey Schedules
2. Require Leak Repair Schedules
3. Establish Publicly Available Pipeline Inspection Information
4. Require A Cathodic Protection Program
5. Require An Integrity Management Program (IMP) for Gathering Pipelines
6. Authorize PA Public Utility Commission (PUC) Regulation of Non-Jurisdictional Pipelines
7. Require Best Practices and Standards for Production Lines Located Beyond the Well Pad and Gas Gathering Lines in Class 1 Locations
8. Establish Mapping/GIS for Emergency Response
9. Designate PA PUC As Enforcement Agency for Underground Utility Line Protection Law
10. Enhance Public Awareness via Mapping/GIS
11. Create A Public Education Program on Gathering Systems
12. Enhance Public Awareness of Pipeline Location
13. Develop Public Education Program for Emergencies

Public Participation

1. Establish Statewide Pipeline Information Resource Center
2. Adopt Guidelines for Public Participation
3. Amend General Information Form to Require Information on Public Participation
4. Form Pipeline Advisory Committee
5. Require Publication of Intent to Apply for DEP Permits Association with Pipeline Development
6. Issue Annual Report Implementations on the PITF Recommendations

Siting and Routing

1. Utilize Planning Process Appropriate for the Scale of the Pipeline Project
2. Create an Inter-Agency Coordinating Committee to Resolve Conflicting Construction Requirements
3. Create Statewide Technical Review Committee Within DEP for Multi-Region Pipeline Applications
4. Explore the Creation of a Taskforce of Affected Stakeholders to Study the Creation of a New Regulatory Entity, or Empower Existing Regulatory Entity to Review and Approve the Siting and Routing of Intrastate Gas Transmission Lines
5. Create DEP Plans and Procedures Design Manual for Pipeline Construction
6. Create Third Party Consultant Staffing at DEP
7. Expand PA1Call for All Classes of Pipelines
8. Pipeline Developers Should Engage with Private and Governmental Stakeholders and Educate Landowners
9. Invest in Digital Infrastructure to Improve Data Availability

Workforce and Economic Development

Workforce Development

1. Commission Workforce Assessment and Economic Development Impact Study
2. Enhance STEM Education
3. Promote Apprenticeship and On-the-Job Training
4. Attract Military Veterans to the Energy Workforce
5. Conduct a State Employee Workforce Audit to Identify Training and Other Needs of Pertinent State Agencies
6. Enhance Workforce Training

Economic Development

1. Develop a Pipeline Map
2. Coordinate Project Management for Projects Using Natural Gas in PA
3. Create Last Mile Funding
4. Enact Statute to Permit the Use of a Charge for New Service, to Permit Recovery of Gas Service Advertising by Utilities and to Amortize New Construction Costs Over Longer Time Period for New Customers
5. Encourage Natural Gas Use in Ports
6. Develop Targeted Investment, Business Attraction Effects and Regional Energy Hubs
7. Collaborate to Promote Downstream Shale Manufacturing Opportunity
8. Encourage Virtual Pipeline (Trucking) Delivery Systems
9. Allow Creation of Natural Gas Municipal Authorities
10. Compile Funding and Resource Guidebook
11. Support Natural Gas for Compliance with Pennsylvania's Clean Power Plan (CPP)

For Other Workgroups

1. Assess Requirement of Consulting Services for Permitting
2. Ensure Pipeline Permit Consistency
3. Reform Application of the Pennsylvania Natural Diversity Index (PNDI)

Agriculture Workgroup Recommendation #1

Educate Landowners on Pipeline Development Issues

Full recommendation:

Throughout the process of the Agriculture workgroup's discussions and field visits, when the question was asked how can landowners – farmers, specifically, in our conversations – minimize the impact to themselves and their operations, the answer was consistent: the terms and expectations need to be defined clearly in the right-of-way lease agreement between pipeline developers and landowners. Issues such as topsoil handling, compaction, compensation for crop damages, biosecurity measures, etc. can all be addressed to some extent by negotiating these protections into the easement agreement.

Landowners may enter easement lease negotiations from a disadvantage position, however, as they are likely to be unfamiliar with the process, uncertain of what they are permitted to request in the agreement, or where to go for help and guidance. With that being the case, it is imperative that farmers and landowners have access to training and other educational resources in order for them to be most effective in negotiating pipeline easements with the best possible terms for their operation.

Several agricultural agencies and organizations in Pennsylvania have been educating landowners about pipeline easements on their land. Penn State Extension has developed an educational workshop for farmers and other landowners involved in pipeline easement negotiations. The program was initiated in 2009 and has since been held at 30 locations throughout Pennsylvania reaching nearly 3,000 participants to date. Other agricultural organizations such as the Pennsylvania Farm Bureau, PennAg Industries, county conservation districts, and the Pennsylvania State Grange have been active in educating their members and stakeholders about negotiating rights-of-way and navigating the eminent domain process. The federal government also has developed materials that it disseminates through agencies such as the Federal Energy Regulatory Commission (FERC).

Pennsylvania should develop resources that can help to educate farmers and landowners and answer the most commonly asked questions. The materials should be available in both print and electronic forms, and this information should reflect and report the different resources available in different geographic regions of the commonwealth.

Relevant agencies:

Department of Agriculture (Ag)

Department of Environmental Protection (DEP)

Public Utility Commission (PUC)

State Conservation Commission (SCC)

U.S. Department of Agriculture (USDA) - Natural Resources Conservation Service (NRCS)

Justification:

While a number of different constituency groups and membership-based organizations offer resources to educate farmers and landowners on how to approach and manage easement lease negotiations, not everyone has access to this information. The commonwealth can help to fill this gap by serving as a respected, trusted and impartial resource for information -- a space that few others can occupy.

Further, given its extensive online presence, as well as its physical presence in every region of the state (via regional offices of various state agencies, including the Departments of Ag and DEP), the commonwealth has an effective means of distributing this information, making it readily available to those seeking assistance.

Actions that would be required to achieve recommendation:

Agencies of the commonwealth should collaborate to develop clear answers to the most commonly asked questions about pipeline development projects. This information should be compiled into one frequently asked questions (FAQ) document that will be made available in brochure form and online.

Additionally, the state should work with various associations representing professional in the fields of law, accounting and finance, among others, to compile a list of experts who are available to work with landowners seeking guidance and assistance. This information should be gathered for every county in the commonwealth so as to provide residents of every area of the state with nearby and conveniently accessed support.

Beyond providing written materials, the above referenced agencies and other interested organizations should be encouraged to provide - or continue providing - training and materials for farmers and landowners involved in pipeline easement negotiations. Many of these organizations hold annual meetings or other events where the state's landowner education materials could be presented or made available to attendees.

Looking ahead, as the current massive pipeline infrastructure buildout occurring in Pennsylvania continues to unfold, the Commonwealth should investigate ways to expand and enhance these educational efforts for farmers and other landowners. Additional resources or funding may be needed to ensure all farmers and landowners throughout the state have access to pipeline education opportunities.

Challenges to achieving recommendation:

The only obstacle to overcome in implementing this recommendation is the ability of relevant agencies to coordinate activities and share information to arrive at mutually agreed upon guidance to landowners. This is not expected to be a major challenge.

Additional supporting material:

The following is a sample of materials that have been developed, to date, by organizations in Pennsylvania, as well as samples from FERC and other neighboring states. These materials can serve as a reference and model for the types of information resources recommended here.

- *Negotiating Pipeline Rights-of-Way in Pennsylvania*, Penn State Extension, August 2015
http://extension.psu.edu/natural-resources/natural-gas/issues/leases/negotiating-pipeline-rights-of-way-in-pennsylvania/extension_publication_file
- *Understanding Natural Gas Compressor Stations*, Penn State Extension, March 2015
<http://extension.psu.edu/publications/ee0154>
- *An Interstate Natural Gas Facility on My Land? What do I Need to Know?*, Federal Energy Regulatory Commission, August 2015
<http://www.ferc.gov/resources/guides/gas/gas.pdf>
- *Damage Prevention Guide for Excavators, Homeowners and Farmers*, WVU Extension Service, 2015 <http://anr.ext.wvu.edu/r/download/216589>
- *Oil and Gas Pipeline Easement Checklist*, Ohio State University Extension, 2012
http://serc.osu.edu/sites/d6-serc.web/files/uploads/Pipeline%20Easement%20Check%20List%20Final%20Feb%202013_0.pdf

Issues to address (such as cost, environmental impacts):

There would be nominal costs to develop and compile content for the recommended materials. Any significant cost would likely be associated with the printing and distribution of those materials that are offered in hard copy.

The commonwealth will also need to develop a system by which the resources become “living” documents, constantly evolving to stay current and relevant to those.

Agriculture Workgroup Recommendation #2

Build a GIS Database of PA's Farms

Full recommendation:

Pennsylvania is home to nearly 60,000 farms. They can be found in every county and cover more than 7.7 million acres, or more than a quarter of the state's land area. The number and geographic distribution of farms in the commonwealth have made the intersection of agriculture with infrastructure and energy development a regular occurrence that is sure to continue. In some cases, understanding where those industries intersect can be difficult to determine as property boundaries may be uncertain, particularly with older farms that have not been surveyed in years, decades or longer.

Pennsylvania would benefit from a comprehensive GIS database of existing farms. Not only could this aid in understanding the potential impacts of natural gas pipelines on production agriculture, it could also help local and state governments with land planning, preservation and conservation efforts.

A full GIS database would also benefit the more-than-4,800 farms for which the commonwealth has purchased easement rights through the farmland preservation program. Over the past 25 years, ownership of approximately 1,000 of the state's preserved farms has changed hands. Records of these transactions largely exist in paper form -- if they exist at all. It is anticipated that over half of all preserved farms will change hands within the next decade. A GIS database will allow the commonwealth to track the return to citizens on the \$1.3 billion that has been invested to protect this quality farmland, and it will assure that the Department of Agriculture and 57 participating county programs will not lose sight of where farms are located. In addition to showing where preserved farms are located, a statewide GIS will provide critical information such as current owner, type of farming operation, date of last inspection for compliance with the deed of easement and the types of best management practices installed to assure soil and water conservation. Eventually, the system will be used to also track farms enrolled in the Agricultural Security Area or Clean and Green preferential assessment program.

There is also a need to map the nearly 2,000 applicant farms that remain on backlog lists. An overlay of applicant farms may indicate areas where resource concerns such as wetlands, threatened and endangered species and forested buffers overlap. Partners in other state agencies and non-profit organizations may potentially place easements on certain areas of the farm, further leveraging funds for farmland preservation and accomplishing mutual goals.

Relevant agencies:

Ag

DEP

USDA - NRCS

Department of Conservation and Natural Resources (DCNR)

Department of Community and Economic Development (DCED)

Pennsylvania Emergency Management Agency (PEMA)

Justification:

The mission of the Agriculture workgroup of the Governor's Pipeline Infrastructure Task Force (PITF) is to make recommendations that help with "avoiding, minimizing, and mitigating the impacts of pipeline infrastructure development on the agricultural sector." In order to fulfill that mission, the commonwealth must have a robust repository of data on existing farms and agricultural operations, including a statewide GIS layer. Without such extensive information, the commonwealth cannot adequately identify potential impacts before they occur from a multitude of industries, including natural gas infrastructure build out.

Aside from the need to avoid or minimize impacts from heavy industries, a complete database of Pennsylvania farms with extensive GIS layers of information can help to protect the future of farming in the state. Not only can such a resource help to preserve the public's substantial investment to protect prime farmland from development over the last 25 years (as mentioned earlier), a statewide GIS database of farms offers other tremendous advantages to Pennsylvania.

One of the foremost such advantages is the opportunity to strengthen the state's response capabilities to agricultural emergencies, such as matters threatening animal or public health or food safety. The present threat of Highly Pathogenic Avian Influenza is one such example. It requires that the state possess the ability to identify farms affected by this devastating foreign animal disease and those in close proximity that may be susceptible to the virus. Being able to identify the location, owners, and type of operations – and being able to obtain that information promptly – can be critical as officials attempt to contain and eradicate the disease. When hours count, relying on external agencies whose GIS information is not collected within agricultural interests in mind is a less-than-ideal situation.

Actions that would be required to achieve recommendation:

First, the state must expand its GIS capabilities. Years of underinvestment in the state's technology infrastructure have left deficiencies that preclude the commonwealth from operating at maximum efficiency. And given constraints on personnel complement, it is unlikely additional resources will be available to put on the ground to collect the data necessary to build a statewide GIS database of farms. As such, the state must collaborate with other stakeholders, such as federal, county and local governments, as well as private industry, to acquire and compile data that already exists. The USDA - NRCS, for example, can provide shapefiles of existing federally preserved easements across Pennsylvania. Meeting this goal presents an ideal opportunity for a public-private partnership.

Challenges to achieving recommendation:

PA Ag currently lacks personnel with extensive training on GIS technology, and thus, it has relied on employees of its sister agencies for assistance as their workload allows. Such limited human resources put the department and the prospects for implementing this recommendation at the mercy of others' timetables.

Additionally, there may be objections to sharing existing GIS data on farms, such as concerns over individual privacy or over confidentiality agreements that prevent the owners of data from sharing it with third parties.

Additional supporting material:

Maryland offers a comprehensive and user-friendly online mapping tool, with layers specific to certain industries. The resource, which is publicly accessible, offers a number of different modules based on different issues areas. For instance, the tool identifies preserved farms and areas targeted for preservation with priorities placed on these regions. It also offers separate layers that indicate geographic areas that have been targeted for economic or environmental revitalization, different types of stormwater best management practices, and it reports the health of waterways throughout the state.

The mapping tool can be found by visiting

<http://geodata.md.gov/ssgatlas/index.html?sggWebmap=c2eddd67859248288f8cb15b63dc283d&sggTheme=agPrint&sggdata=%5B%22s4V100%22%2C%22hsV100%22%2C%22qa6V100%22%2C%22w5V100%22%2C%22ovjV100%22%2C%22aycV100%22%5D&extentBBox=-8919591.378794406,4466077.5958568575,-8240219.071395792,4920419.291983922&extentSR=102100>

Issues to address (such as cost, environmental impacts):

The Commonwealth, specifically, PA Ag, would incur some cost to establish its GIS capabilities. This would include license fees for GIS software and personnel costs associated with hiring a new position or training an existing employee on this technology. Additionally, there may be costs associated in obtaining or collecting the information to feed the GIS database. There could also be costs associated with maintaining the database. These costs could, however, be minimized by engaging in partnerships with other private- and public-sector entities that may be able to share existing data sources.

Jointly Developed

Agriculture and Conservation and Natural Resources Workgroup Recommendation

Develop Best Management Practices Manual for Pipeline Development on Agricultural Operations

Full recommendation:

The Task Force's Agriculture and Conservation and Natural Resources Workgroups are tasked with developing best practices related to avoiding, minimizing, and mitigating the impacts of pipeline infrastructure development. During the course of the task force's work, the Agriculture workgroup visited several farms, talked to farmers, and conducted research to learn how pipelines can affect the actual working operations at Ag operations. Similarly, the Conservation and Natural Resources workgroup has given extensive consideration to matters of pipeline developers protecting soil quality.

During landowner/pipeline company easement lease negotiations, landowners need to be strong self-advocates to ensure the unique challenges farm operators face are not made more difficult by the construction of pipelines through their farms. While farmers are keenly aware of their own operations, they need to make sure the pipeline operators are fully aware of those operational considerations, as well. It is recommended that a best management practice (BMPs) manual be developed specifically targeted towards agricultural and pipeline impact. This manual could be used as a guide for what a lease should contain to protect the farm operations to the maximum extent possible.

The following BMPs should apply to the pipeline company obtaining the right-of-way, as well as any construction contractors or subcontractors engaged in the construction process by the pipeline company or its agents. Specifically, this submission – developed jointly by the Agriculture and Conservation and Natural Resources workgroups – puts forth the following recommendations to be included, among others potentially, in the manual:

- Pipeline companies will utilize topsoil segregation techniques on agricultural lands in accordance with Section IV.B of the FERC Upland Erosion Control Revegetation and Maintenance Plan, dated May 2013.
- Pipeline companies will remove and replace all topsoil on the property. If a pipeline company elects to not remove all topsoil, a minimum of 12 inches shall be removed, and the company will pay for an agricultural consultant, to be chosen by the landowner, to conduct soil bore testing to determine the depth of topsoil that will not be removed. The company will compensate any affected landowner for topsoil not removed at its fair market value.
- During the restoration phase, pipeline companies will decompact all soils within the entire Right-of-Way by deep tilling the underlying subsoil prior to replacement of the topsoil and then deep tilling the entirety of both the temporary work space and permanent Right-of-Way following topsoil replacement, with additional tilling if any vehicles or equipment further compact the soil following deep tilling of the topsoil.
- Pipeline companies will reimburse affected landowners for any and all damages incurred

as a result of the negligence, recklessness or willful misconduct of the pipeline company or any agent, employee, contractor or subcontractor, including but not limited to, damages to livestock, surface water, groundwater, or the release of petroleum, regulated substances, or hazardous substances by the pipeline company, or any agent, employee, contractor, or subcontractor thereof during the course of the construction of the pipeline, facilities or improvements authorized under the right-of-way.

- Companies agree to bury the pipeline a minimum of 48” from the top of the pipeline to the soil surface (after construction and settlement) or at such a depth as may be required by any applicable local, state or federal regulation, whichever is greater, so that the pipeline will not interfere with the cultivation of crops (not trees) on the land.
- Companies will pay for any physical damages to fences, growing crops and timber which may arise from laying, constructing, altering, repairing, removing and replacing a pipeline. The term "timber" is defined as trees or the wood grown for commercial sale.
- No above ground appurtenances (other than test posts, vents or location markers) shall be constructed in the easement area.
- All access to other land via lands of the landowner shall be via the right-of-way and temporary work space. No other areas of landowner’s property shall be used for access to other lands without the prior written approval of landowner.
- Pipeline companies shall give landowners a minimum of 30 days written notice prior to the commencement of construction activities on landowner’s property.
- Pipeline companies agree to avoid construction on Grantor's property on Sundays unless necessary to respond to an emergency, such as a spill response, bank stabilization following a storm event that caused failure of stormwater BMPs, etc. The term “emergency” shall not include a pipeline company or any contractor thereof falling behind schedule in the construction of this pipeline, and a pipeline company shall only traverse landowner’s property on a Sunday to perform work on adjacent lands not owned by landowner in the event of an emergency, as defined above.

Relevant agencies:

DEP

Ag

SCC

USDA - NRCS

Pennsylvania Association of Conservation Districts (PACD)

Justification:

There are many unique operations that occur on farms. Placing a pipeline though a working farm has unique challenges that should be addressed in a lease. Leases and plans for pipeline projects on agricultural-related land should include identification of unique features and operations and describe how those features and operations will be avoided, managed or mitigated/restored. A best practice manual will provide farmers and pipeline operators with a guide during lease negotiations. It can also be used as a guide for pipeline companies during the permitting process.

Actions that would be required to achieve recommendation:

Agencies of the Commonwealth should collaborate to develop a best management practice manual specifically targeted towards agricultural and pipeline impacts to agricultural operations.

Additionally, the state should work with various associations and agencies to compile a list of resources for landowners seeking guidance and assistance. This information should be gathered for every county in the commonwealth so as to provide residents of every area of the state with nearby and conveniently accessed support.

Beyond providing written materials, the above referenced agencies and other interested organizations should be encouraged to provide – or continue providing -- training and materials for farmers and landowners involved in pipeline easement negotiations. Many of these organizations hold annual meetings or other events where the state's landowner education materials could be presented or made available to attendees.

Looking ahead, as the current massive pipeline infrastructure buildout occurring in Pennsylvania continues to unfold, the Commonwealth should investigate ways to expand and enhance these educational efforts for farmers and other landowners. Additional resources or funding may be needed to ensure all farmers and landowners throughout the state have access to pipeline education opportunities.

Challenges to achieving recommendation:

Challenges will be to bring the various agencies together. Different agencies have different skill sets and will need to work together to develop a manual.

Additional supporting material:

DEP's has developed several manuals that could be used to develop a stand alone BMP manual for pipelines in Agricultural lands. In addition the SCC could be brought in to add sections on nutrient management. Other states, such as New York, have developed manuals specifically for pipelines in agricultural lands. The Commonwealth should consult those manuals for reference in developing one specific to Pennsylvania.

Issues to address (such as cost, environmental impacts):

Costs will primarily be time for staff to develop the manuals and cost for printing. Also, there may be needs to have training sessions.

Conservation & Natural Resources Workgroup

Introduction

The Conservation & Natural Resources Workgroup was tasked with developing best practices and recommendations related to avoiding, minimizing, and mitigating the impacts of pipeline infrastructure development on, but not limited to, wildlife and plant species, habitats, aesthetics, and recreational values. Comprehensively the practices and recommendations within this document work together to minimize natural, aesthetic and recreational resource impacts.

As with all issues within the Pipeline Infrastructure Task Force (PITF) workgroups, it is important to understand the need to balance the competing societal and natural resource needs associated with pipelines. This is where the mantra of Avoid, Minimize, Mitigate and Monitor/Manage plays an important role in balancing these needs. Avoid the most sensitive/important areas. Minimize the footprint/impact to the greatest extent possible. Mitigate the impacts that do occur. And monitor and manage, for the long-term, the project area once the pipeline is implemented.

Many of the practices or recommendations below are a change from current practices and may be perceived to be more costly or cumbersome. However, the workgroup believes that many recommendations and practices may actually provide a decrease in costs and provide an increase in efficiency. It would be beneficial to plan and develop pilot projects to track the cost benefit analysis of implementing conservation-based recommended practices in pipeline development. These pilot projects may allay the concerns associated with costs.

Proper planning is key in natural resource conservation. Pennsylvania lacks statewide planning and oversight regarding right-of-way (ROW) siting. Independently, we are all very good at reviewing, critiquing and modifying segments of proposals. However, there is a lack of comprehensive planning occurring at the statewide level. From a statewide perspective, we need to ensure the backbone of this infrastructure is built right the first time and that it accommodates anticipated need while also considering distribution to end consumers. Collectively, the Task Force should address this concern.

The following recommendations and practices are intended to minimize impacts to natural resources and provide a benefit to conservation. Not all recommendations will apply in all situations. It will depend on the position of the pipeline on the landscape and/or the objectives of the landowner(s) or manager(s).

The Workgroup made no attempt to assign or apply the recommendations to the various categories of pipelines; gathering lines (including midstream lines), transmission lines, or distribution lines. Some Best Management Practices (BMPs)/Recommendations may be more applicable to gathering lines, others to transmission lines, and still others to distribution lines. However, most of the BMPs/Recommendations could be applied to all pipeline categories.

Several of the recommendations below may overlap with other Committees, including Siting and Routing, Environmental Protection or Pipeline Safety and Integrity. However, our Committee

did coordinate with the Agriculture committee and have developed a shared recommendation. It will be beneficial to reconcile any differences in overlapping recommendations from the Committees.

Conservation & Natural Resources Recommendation #1

Communicate Pipeline Development Conservation Practices to the Public

Full recommendation:

Thoughtful communication should serve to inform the public about the work being done to safeguard the environment and limit impacts of pipeline infrastructure.

Relevant agencies:

Department of Conservation and Natural Resources (DCNR)

Department of Environmental Protection (DEP)

Pennsylvania Game Commission (PGC)

Pennsylvania Fish and Boat Commission (PFBC)

Various stakeholders and partners

Justification:

Many are currently unaware of conservation opportunities or measures put in place to minimize environmental impacts and provide conservation benefits during pipeline placement and construction. Many pipeline rights-of-way are proposed within areas of high recreational use and scenic beauty or may not use the most up-to-date conservation practices to restore rights-of-ways.

Actions that would be required to achieve recommendation:

1. Develop an online central repository that maintains information on pipelines in Pennsylvania. This website could hold information about current pipelines, proposed pipelines, conservation practices to minimize impacts, information for private landowners on things like plantings, invasive plant management or wildlife habitat creation. Links to the many applicable agency and conservation partner web pages could be included to provide access to implemented practices and conservation information.
2. Utilize the various media outlets to help advertise access to new and existing information and the online website. The more informed the public, consultants, companies and interest groups are, the more effective pipeline planning and management could be.
3. Consider appropriate signage measures and interpretive panels when construction occurs in or near areas of heavy visitation.
4. Communicate potential impacts from construction activities and proposed conservation practices to local municipalities or stakeholder groups to provide open communication and discussion as needed.

Challenges to achieving recommendation:

1. Time constraints on staff.
2. Developing a centralized point of contact and method for providing information to the public and pipeline industry.

Additional supporting material:

DCNR Bureau of Forestry (BOF) Oil and Gas Guidelines, Statewide Comprehensive Outdoor Recreation Plan (SCORP), State Forest Resource Management Plan

Issues to address:

1. Identify additional key messages that should be communicated.
2. Identify educational opportunities for pipeline operators to consider.

Conservation & Natural Resources Recommendation #2

Develop Public Access to Pipeline GIS Information

Full recommendation:

The GIS data for pipeline locations is essential to the public, as well as governmental activities in understanding current and proposed pipeline locations, as well as for planning purposes. It should be required of all pipeline companies that they make public digital GIS files delineating pipeline locations.

Justification:

In the past it has been asserted that this information constitutes a security risk. However, prior to 2001 Pipelines were routinely found on U.S. Geological Survey (USGS) topographic maps, still in the public domain. The pipelines have not moved since publication and the maps are readily available online. Likewise a 1984 publication by DCNR Bureau of Topographic and Geologic Survey (BTGS) shows all major pipelines in the state and is readily available on line. The pipeline paths are readily seen in aerial imagery which is available on Google Maps or other public venues. Finally, pipelines are marked at road crossings with brightly painted signs noting their location.

This would save the government resources in recreating such a map and make it easier for the public to know where a pipeline may be located in their community.

Conservation & Natural Resources Recommendation #3

Use a Landscape Approach for Planning and Siting Rights-of-Way Corridors

Full recommendation:

A landscape approach is necessary to consider, plan and evaluate potential routes for rights-of-way (ROW) corridors. The location of rights-of-way should be compatible with current land use, strive to minimize adverse impacts, avoid duplication of infrastructure and accommodate operational needs. Discrete planning efforts must also extend to construction and infrastructure placement within the corridor.

Relevant agencies:

DCNR

PGC

PFBC

County and Municipal Governments

private landowners

Justification:

Comprehensive landscape planning considers land management techniques and site specific needs that promote and balance social, economic and environmental objectives amongst competing land uses.

Actions that would be required to achieve recommendation:

- Identify areas that are incompatible with ROW development and preclude development
- Identify areas that don't preclude development, but require additional consideration due to significant ecological, cultural and recreational resources.
- Establish a clear need for the ROW and investigate alternative routes. The location of the preferred route should be justified.
- Work within the constraints of existing corridors to maximize capacity. "Lift and lay" replacement of pipelines that increase capacity are preferred over the addition of a new line.
- Employ long term planning and consider infrastructure capacity that accommodates current and future needs.
- Avoid the creation of new corridors when opportunities exist for incorporating ROWs into existing disturbances.
- Minimize fragmentation by co-locating infrastructure with existing disturbances such as roads and other ROW corridors.
- Minimize permanent and temporary ROW widths and maximize infrastructure capacity within the corridor to the extent that workability and safety are not jeopardized.
- Consider alternative construction techniques that minimize the construction footprint (i.e. trenchers).
- Utilize roads or adjacent ROWs for temporary workspace in order to reduce the construction footprint.
- Consider burying pipelines within the road footprint when maintenance needs and safety can be maintained.

- Consider pipeline materials with coatings that are consistent with the re-establishment of vegetative habitat, tolerant of woody roots and maintain pipeline integrity.
- Consider pipeline materials that promote the minimization of necessary safety offsets (i.e. Flexsteel versus steel).
- Encourage companies with adjacent ROW interests to work cooperatively in the use, management and siting of infrastructure.
- Encourage proposals that accommodate the needs of multiple operators and avoid duplication of infrastructure on the landscape.
- Bury pipelines deep enough to accommodate anticipated surface activities.
- Work within topographical constraints to minimize aesthetic impacts. Use the lay of the land to ‘hide’ infrastructure. Use ‘dog-legs’ to break up the visual effects of long linear corridors.
- Retain vegetative cover associated with riparian and wetlands crossing by using boring or directional drilling techniques.
- Consider potential recreation opportunities and promote potential benefits during pipeline planning.
- Address soil productivity during construction and mitigate compaction upon completion.

Challenges to achieving recommendation:

- Resistance of operators to cooperate with competing interests in ROW planning and siting to minimize footprints, manage corridors in a consistent manner and eliminate duplication of infrastructure.
- Defining pipeline offsets that promote safety, workability and pipeline integrity
- Limitations due to operability of equipment and topography.
- Diameter/Capacity limitations with pipeline materials such as Flexsteel.

Additional supporting material:

BOF Oil and Gas Guidelines, FERC Upland Erosion Control, Revegetation and Maintenance Plan, and FERC Wetland and Waterbody Construction and Mitigation Procedures.

Issues to address (such as cost, environmental impacts):

- Current FERC regulations mandate companies build to subscribed capacities versus anticipated capacities. This approach may lead to the development of additional corridors.
- FERC looping projects currently evaluate the merits of individual offset segments instead of the cumulative impact of the entire corridor. This allows companies to submit limited proposals and request additional segments as needed, which eliminates the opportunity to evaluate the entire corridor using a landscape approach.
- Co-location of infrastructure is strongly encouraged, yet one of the long term ramifications of this approach is ever increasing ROW corridors widths that may be socially and environmentally unacceptable.

Conservation & Natural Resources Recommendation #4

Give Special Consideration to Protected / Designated Lands in Pipeline Siting

Full Recommendation:

Many lands within the Commonwealth may have achieved a special designation and some lands have a certain level of protection afforded to them. These lands could be public lands such as State Parks, Forests or Game lands; County or local parks, lands with conservation easements, or certified lands such as Pennsylvania Certified Organic or American Tree Farm certification. These lands have gone through a rigorous process to obtain and maintain those protected statuses. Therefore, prior to siting infrastructure on these lands, their certification or protected status should be considered during the siting process.

Protected lands should be avoided if possible or special consideration should be applied based on the land's certification requirements. However, if avoidance is not possible the landowner should be compensated for the loss of value associated with the certification. BMPs should be implemented in accordance with the protected or certification standards of those lands.

Actions that would be required to achieve this recommendation:

- These lands can best be protected or managed if the pipeline companies are aware of the presence and requirements. A centralized repository of the location of protected lands and also the types of protections or requirements afforded to those lands would be beneficial to aid companies in planning and increase the ability to consider impacts to these lands.
- Pipeline companies should be required to consider lands with protected statuses and avoid or limit impacting their certification or protected status.
- If avoidance is not possible, landowners should be compensated for any losses afforded to them through the development of the pipeline right-of-way.
- If avoidance is not possible, BMPs should be implemented based on the needs and standards of the land's certification or protection.
- Construction, operation and maintenance of pipelines on third party certified lands (i.e. Forest Stewardship Council certification, Pennsylvania Certified Organic, etc) should require a special plan, following guidelines and bmp's applicable and in accordance with all conservation, farmland, forest, or wildlife management plans and certification requirements in effect on those lands.

Challenges to achieving this recommendation:

Education concerning the concept and the certification of the land.

Issues to be addressed:

The cost should be borne by the proponent of the proposal as should all costs of the project. The use of mitigation funds should be established in general terms in the permit issuing the right of

way. Project proponents should receive due credit for their efforts to offset any impacts to the environment from the competing but legitimate societal needs of energy and conservation.

Conservation & Natural Resources Recommendation #5

Mitigate the Loss of Public Use of Public Lands Resulting from Pipeline Development

Full Recommendation:

Agencies involved in regulation of and oversight of infrastructure that affects public lands need to be constantly conscious of the ultimate ownership of those lands by the public. The wide range of impacts that are addressed in the: avoid, minimize and mitigate strategy, that regulatory agencies normally follow in the permitting process will account for mitigation required to address direct impacts to specific resources. These normal analyses can be completely accurate regarding the numbers of acres of forest or wetland that are impacted, and the quality and quantity of mitigation the permit requires is most often very accurate and appropriate. However, this strategy often misses the most important impact to publicly owned lands and waters. The impacts to the citizens from irretrievable losses in perpetuity resulting directly from the development of infrastructure on public lands and waters need to be accounted for in the mitigation strategy. The fact that no one will ever use a particular trail, area, or enjoy a specific visitor experience in the same manner as we use it today because of permanent changes to the landscape is a loss to every individual who will never have that experience. There are methods to account for this loss that have been in use successfully for decades. The concept of Lost Use is commonly used to determine damages in oil and hazardous material spills, for example, is an accepted method of capturing the impact on the public. Recently it was used as a critical element to determine mitigation for the Susquehanna to Roseland (S-R) transmission line project. While the mitigation for elements such as wetlands is straight forward, the loss to the public resulting from a series of 200 foot towers crossing the recreation area, the scenic and recreational river and the Appalachian trail, cannot be measured in linear feet, square yards or timber loss alone. The lost experience that every hiker from now into perpetuity will feel when they cross the line and see the impacted view-shed forever altered is the “lost use,” to the public. This measure can account for much larger mitigation requirements than other resources that can simply be replaced. One strategy for mitigation for the public for the losses they will encounter in order to provide the utility rights-of-way that are needed is the establishment of a land acquisition and stewardship fund that can enhance connectivity of lands being fragmented and provide for better and safer use opportunities for the public on existing lands.

Relevant agencies:

All permitting agencies

Justification:

Documented case history.

Actions that would be required to achieve this recommendation:

Policy and possibly regulatory changes.

Challenges to achieving this recommendation:

Education concerning the concept and the history of use.

Additional supporting material:

Long history of case law and settlements on resource damage cases. A recent example of the S-R line Environmental Impact Study/Record of Decision (EIS/ROD) can be provided

Issues to be addressed:

The cost should be borne by the proponent of the proposal as should all costs of the project. The use of mitigation funds should be established in general terms in the permit issuing the right-of-way. Project proponents should receive due credit for their efforts to offset any impacts to the environment from the competing but legitimate societal needs of energy and conservation.

Conservation & Natural Resources Recommendation #6

Avoid Geologic Hazards During Planning

Full recommendation:

When constructing the pipeline, efforts should be made to avoid areas of recorded seismicity. While earthquakes in Pennsylvania are generally small, there have been some in the 3-5 range. The regions of seismic activity are relatively small so they should be easy to avoid and thus negate even a small risk.

Relevant agencies:

DCNR BTGS

Pennsylvania Emergency Management Agency (PEMA)

Justification:

To knowingly place a pipeline in even a low seismicity zone when a lower risk zone is available would be irresponsible.

Actions that would be required to achieve recommendation:

Companies should examine seismic data for Pennsylvania prior to siting their pipelines to avoid the potential for earthquakes.

Additional supporting material:

Information provided by DCNR's BTGS can be found at

<http://www.dcnr.state.pa.us/topogeo/hazards/earthquakes/index.htm>.

Challenges to achieving recommendation:

Overcoming the assumption that there is zero risk.

Conservation & Natural Resources Recommendation #7

Implement Full-Time Environmental Inspections During Pipeline Construction

Full recommendation:

During construction activity at gas pipeline sites an environmental inspector should be on site for every 5 miles of active construction. The inspectors should be familiar with the construction plans and all applicable permits.

Inspectors should have complete access to the entire site and have the authority to call for a work stoppage until a violation is rectified.

Relevant agencies:

DEP

Justification:

There have been several pipeline related incidents in northeast Pennsylvania where there was delay (or in some cases no action) in notifying the appropriate agencies. Some implications could be that:

- Pipeline contractors may not be knowledgeable on environmental regulation.
- DEP is inadequately staffed to provide the oversight required to insure that environmental regulations are complied with.

Full time, onsite inspectors is common practice in the construction industry and should be implemented for gas pipeline construction.

Actions that would be required to achieve recommendation:

DEP will require an increase in staff and training in order to provide the required inspectors.

Challenges to achieving recommendation:

It may be difficult for DEP to staff up for full time onsite inspectors.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

The cost of inspectors should be borne the pipeline industry. It is part of the cost of environmental protection.

Conservation & Natural Resources Recommendation #8

Monitor Water Quality During Construction

Full recommendation:

During construction and until vegetation establishment has occurred, water monitoring should be conducted on flowing streams in the project vicinity that may be impacted by construction. The parameters to be measured are: turbidity, pH, temperature, specific conductivity and flow. Whenever a surface water contamination incident is suspected to have occurred, samples will be collected and prepared for laboratory analysis.

Relevant agencies:

DEP

Justification:

During pipeline construction there is a great potential for surface water contamination. Incidents result from poorly deployed and failed erosion control measures, unanticipated movement of earth, and sudden weather events. Incidents arise rapidly and are often not noted until well underway. Little time is available to implement sample collection. Emergency response and inspection agencies are typically not equipped or knowledgeable about the site to collect samples.

Continuous monitoring is needed to determine the time, duration, and intensity of surface water contamination incidents. Laboratory analysis of collected samples will be used to verify data collected by sensors.

There is a general lack of information regarding the effectiveness of BMPs that are currently implemented during pipeline construction.

Actions that would be required to achieve recommendation:

Regulations regarding the erosion and sedimentation (E&S) Plans (25 PA Code Chapter 102) need to be updated. Permit writers need to be train on sensor technology for continuous water quality and flow monitoring.

The details of the water quality program should be described in the appropriate permit application. Upon review and approval the plan will be implemented by the permittee.

Challenges to achieving recommendation:

Additional supporting material:

Issues to address (such as cost, environmental impacts):

This recommendation will result in pipeline construction companies exercising greater caution and care during and post construction. It will also provide regulators and scientist with more information on how construction practices impact water quality. Ultimately this will lead to improvement and design of pipeline construction best management practices.

The cost of monitoring should be borne by the pipeline companies. Monitoring is considered as part of environmental protection.

Conservation & Natural Resources Recommendation #9

Implement Post-Construction Monitoring for an Appropriate Period

Full Recommendation:

Infrastructure projects are large and ground disturbing by definition. In order to provide the protection to the potentially impacted resources, it is necessary to establish a required time period for post construction monitoring to be conducted by the project proponent or by the agency and funded by the project initiator. A standard period for post construction monitoring is five years from the established completion of the project. For some resources the results of any impact could be obvious much sooner and specific time periods can be established. There may also be other resources that are not obviously impacted for a longer period than five years and those can be addressed individually in the post construction agreement. The responsible agency must be funded by the project in order to ensure that the monitoring is able to be completed. In most cases, a very accurate estimate of the monitoring cost can be projected, however, it should be understood that the cost will be borne by the infrastructure owner regardless of the final amount.

Relevant Agencies:

All agencies with mitigation or monitoring responsibilities.

Justification:

Regulatory agencies are generally operating at their maximum capability for the available funding and planned project work. Large infrastructure projects proposed by outside entities for profit can require large amounts of resources and staff time that is already committed to existing projects. It is incumbent upon the project proponent to offset the cost to tax payers and to ensure the agency personnel are able to operate on a schedule that is commensurate with their expectations.

Actions that would be required to achieve this recommendation:

Policy approving action and reimbursable agreement outlining requirements included in permit that is issued.

Challenges to achieving this recommendation:

Additional costs make marginal projects infeasible. Private property may need to be treated separately from public lands.

Additional Supporting material:

History of permitting with reimbursable agreements for monitoring in federally approved projects initiated by private entities.

Issues to be addressed:

The complexity and magnitude of resources that are potentially impacted must be established before the permitting is completed. There may be reluctance to establish the funding by the project proponents, but there are thousands of examples of legally approved resource extraction

projects that have resulted in taxpayer costs of billions of dollars for negative results discovered at a much later date.

Conservation & Natural Resources Recommendation #10

Tie Permitting Standards to the Duration of Impact

Full recommendation:

Pipelines do impact our waterways and wetlands and how those impacts are characterized and regulated will have a major bearing on avoidance, minimization and mitigation requirements. Perhaps permitting standards could be tied to the duration of the disturbance.

Relevant agencies:

DEP

United States Army Corps of Engineers (USACE)

Justification:

Pipelines do have impacts to our waterways and wetlands.

Actions that would be required to achieve recommendation:

Clear, well vetted definitions created and implemented through a policy change.

Challenges to achieving recommendation:

Defining these terms and policy change.

Additional supporting material:

Perhaps we could find examples from other states.

Issues to address (such as cost, environmental impacts):

Defining “permanent impact” and “temporary impact.”

The Joint Permit Application Instructions for a Water Obstruction and Encroachment Permit Application (3150-PM-BWE0036) define permanent and temporary impacts as follows: Permanent impacts are those areas affected by a water obstruction or encroachment that consist of both direct and indirect impacts that result from the placement or construction of a water obstruction or encroachment and include areas necessary for the operation and maintenance of the water obstruction or encroachment located in, along or across, or projecting into a watercourse, floodway or body of water.

Temporary Impacts are those areas affected during the construction of a water obstruction or encroachment that consists of both direct and indirect impacts located in, along or across, or projecting into a watercourse, floodway, or body of water that are restored upon completion of construction. This does not include areas that will be maintained as a result of the operation and maintenance of the water obstruction or encroachment located in, along or across, or projecting into a watercourse, floodway, or body of water (these are considered permanent impacts).

Conservation & Natural Resources Recommendation #11

Implement a Mitigation Bank to Improve Water Quality

Full recommendation:

Implementation of offsets and/or offset banks within a pipeline right-of-way provides a tool to state and local government agencies for meeting water quality-based rules and regulations, such as the Clean Water Act (CWA), and corresponding corollary requirements/mechanisms (Municipal Separate Storm Sewer System (MS4) Permits, Total Maximum Daily Loads (TMDLs), new development or redevelopment, etc.). This is especially true where pipelines cross bodies of water or can reasonably be deemed within the immediate drainage of a body of water.

An offset bank is when mitigation for a given impact occurs at a geographically separate region. The mitigation or offset banks provides one central location for mitigation from multiple small impacts within a given service area. This centralization of multiple small impacts into a single large mitigation site allows for more holistic, environmentally beneficial, and ultimately sustainable environmental mitigation.

Relevant agencies:

DEP

USACE

United States Environmental Protection Agency (EPA)

Pennsylvania Public Utility Commission (PUC)

Federal Energy Regulatory Commission (FERC)

Local government(s)

Justification:

Environmental offsets are an appropriate mechanism to counterbalance environmental impacts with environmental gains where social and economic development is highly desired. The need to offset impacts is inherently grounded within requirements and regulations associated with water quality protection.

The establishment of an offset bank at a location that is the focal point of the CWA (streams and bodies of water) can provide an immediate improvement to the water quality, along with establishing long-term protection of the quality of the stream. The additional water quality benefits above and beyond the needed improvements would be established in the form of offsets. This approach would support the anti-degradation policy the most appropriately, and the approach can be used for both impaired streams and “healthy” streams.

Pipeline companies are required to have permanent easements on all of their pipeline ROWs; these easements do not need to be in conflict with the goals of an offset bank. The goals of the offset project and the pipeline project can be mutually beneficial. Offset projects can help stabilize pipeline resource crossings, reducing future risk for pipeline operators, and the management of these areas that would be done under an offset project would help ensure the optimization of the restoration and maintenance of the pipeline ROW.

The establishment of offsets and/or offset banks within a pipeline ROW can help further the social and economic goals of a municipality while assisting with meeting regulatory responsibilities (such as Impaired Waters Plans or TMDL Plans required by an MS4 Permit).

DEP Form 3800-PM-BPNPSM0100I is the model “MS4 Stormwater Management Ordinance” that MS4 permitted municipalities are/were required to adopt (or variation of the model ordinance). One aspect of the model ordinance results in the requirement a Stormwater Management Plan (SWM Plan) if a homeowner adds impervious areas on their property (e.g. home addition, new garage, etc.). Essentially (and as an example), the homeowner is required to mitigate the stormwater runoff due to the additional impervious areas on their property. This requirement can add to the overall costs of a home addition or similar project. This approach will provide minimal (if any) benefits to receiving streams, which are the focus of the purpose and goals of the CWA. In lieu of requiring a homeowner to mitigate additional impervious areas on their property, the required water quality treatment could be deducted from an offset bank located in the same watershed.

Actions that would be required to achieve recommendation:

Establish current pollutant loading conditions against desired limits (including non-TMDL stream reaches) to define offset bank caps.

Challenges to achieving recommendation:

- Defining the delineation between cleared areas (for access and inspection procedures) and the vegetation necessary for an offset and/or offset bank within the ROW.
- Appropriate watershed level (size) where offsets can apply.
- Point-source limited? Or expanded to include non-point source?
- Habitat and/or endangered species limitations.

Additional supporting material:

The purpose of the CWA is the protection of the beneficial uses of surface waters (drinking supply, agricultural supply, recreation, and so on). A set of mechanisms—primarily through the National Pollutant Discharge Elimination System (NPDES)—has been implemented to meet the requirements of the CWA. Such mechanisms include MS4 Permits and permits associated with new development and/or redevelopment. In turn, it can be reasonably stated that the CWA is concerned about the water quality of a given stream or body of water. These streams and bodies of water are further delineated by drainage areas (or watersheds). A set of offsets (or available offsets within an offset bank) will assist local governments, developers, and home owners with meeting water quality requirements within given watersheds facing water quality impairments or assist with anti-degradation policy efforts.

Issues to address (such as cost, environmental impacts):

- Maintenance requirements of offset banks.
- Administrative requirements to support offsets and/or an offset bank.

Conservation & Natural Resources Recommendation #12

Reduce Forest Fragmentation in Pipeline Development

Full recommendation:

Forest fragmentation should be considered when planning and evaluating potential routes for rights-of-ways. Comprehensive landscape planning should include efforts to avoid and reduce forest fragmentation and when unavoidable, techniques should be implemented to reduce the effects from fragmentation.

Relevant agencies:

DCNR

PGC

PFBC

County and Municipal Governments

Private landowners

Justification:

Forest fragmentation due to forest loss can significantly alter a landscape and further degrade remaining forests. Due to the abrupt change in land use, the loss of nearly all habitat functions is often permanent, disrupting wildlife populations and native plant communities. Edge effects due to fragmentation often create conditions that can become unsuitable for species that once utilized the interior forest habitat. Practices should be put in place to reduce fragmentation of forests and also minimize the effects of fragmentation.

Actions that would be required to achieve recommendation:

Avoid or Minimize Impacts

- Identify core forest areas that are incompatible with ROW development and preclude development.
- Establish a clear need for the ROW through core forest areas and investigate alternative routes. The location of the preferred route should be justified.
- Work within the constraints of existing corridors to maximize capacity. “Lift and lay” replacement of pipelines that increase capacity are preferred over the addition of a new line.
- Avoid the creation of new corridors when opportunities exist for incorporating ROWs into existing disturbances.
- Minimize fragmentation by co-locating infrastructure with existing disturbances such as roads and other ROW corridors. Encourage companies with adjacent ROW interests to work cooperatively in the use, management and siting of infrastructure.
- Minimize permanent and temporary ROW widths and maximize infrastructure capacity within the corridor to the extent that workability and safety are not jeopardized.
- Minimize construction footprint by considering alternative construction techniques (i.e. using trenchers) and utilize roads or adjacent ROWs for temporary workspace.

Alleviate the Effects of Fragmentation

- Minimize the aesthetic impact of fragmenting the forest by working within topographical constraints. Use the lay of the land to ‘hide’ infrastructure. Use ‘dog-legs’ to break up the visual effects of long linear corridors.
- Retain vegetative cover associated with riparian and wetlands crossing by using boring or directional drilling techniques.
- Restore the site as quickly as possible, to reduce duration of impact by planting disturbed areas with native plants.
- Tree and shrub planting can accelerate reforestation of temporary work spaces.
- Planting conifers along corridor edges can reduce edge effects into the forest.
- Manage the ROW for scrub-shrub habitat; this will reduce contrast between forest habitats and the fragmenting feature, as well as reducing the impact as a wildlife barrier.

Challenges to achieving recommendation:

- Resistance of operators to cooperate with competing interests in ROW planning and siting to minimize footprints, manage corridors.
- Limitations due to operability of equipment and topography.

Additional supporting material:

BOF Oil and Gas Guidelines; FERC Upland Erosion Control, Revegetation and Maintenance Plan; FERC Wetland and Waterbody Construction and Mitigation Procedures.

Issues to address (such as cost, environmental impacts):

- Co-location of infrastructure is strongly encouraged, yet one of the long term ramifications of this approach is ever increasing ROW corridors widths that may be socially and environmentally unacceptable.
- Increased cost in restoring edges with shrub and tree species.

Conservation & Natural Resources Recommendation #13

Promote Biodiversity in Pipeline Development

Full recommendation:

Promote the diversity of plant, wildlife and natural community diversity by taking into consideration siting of the pipeline and restoration practices to benefit threatened and endangered species, pollinators, small mammals, songbirds, game species, reptiles, amphibians and natural plant communities.

Relevant agencies:

DCNR
PGC
PFBC

Justification:

Pipeline ROW impacts to resources can result in habitat loss, habitat and population fragmentation, wildlife displacement, and the disruption of rare, threatened, and endangered species. However, pipeline ROWs can be restored to not only provide valuable habitat for game, non-game or threatened and endangered species but also enhance opportunities for some species where their habitat may be lacking and appropriate habitat opportunities exist. Threatened and endangered species impacts can be minimized or avoided through conservation planning efforts.

Actions that would be required to achieve recommendation:

- Follow appropriate planning techniques to avoid impacts to threatened, endangered or rare species or community habitats by using the PA Conservation Explorer (formerly Pennsylvania Natural Diversity Inventory (PNDI)) and avoid areas showing biodiversity such as Important Bird or Mammal Areas).
- Attract and support pollinator habitat by planting a mix of native wildflowers and grasses.
- Develop techniques to improve wildlife habitat along the ROW by feathering the pipeline edges with shrub plantings.
- Minimize impacts to streams, wetlands and riparian areas by avoidance or minimizing the width of the ROW. Vegetated buffers should be planted along the riparian area consisting of a combination of native grasses, forbs, shrubs and trees. Tree stumps should be kept in place to sprout where riparian vegetation was removed, reducing planting costs.
- Revegetate and restore the pipeline with native plantings, which provide appropriate habitat for Pennsylvania's plants and animals while also decreasing the possibility of introduction of non-native invasive plants.
- Improve habitat for threatened and endangered species near confirmed locations. Depending on species' needs, activities could include rock piling, shrub planting or providing crossing opportunities.
- Investigate opportunities to plant with seed from Pennsylvania to promote Pennsylvania companies, as well as genetic diversity and local seed sourcing.

Challenges to achieving recommendation:

- Operators and contractors should be educated on the opportunities for biodiversity enhancements and management opportunities.
- Operators and contractors should be educated on the protocol for maintaining habitat areas during maintenance activities.

Additional supporting material:

BOF Oil and Gas Guidelines; FERC Upland Erosion Control, Revegetation, and Maintenance Plan.

Issues to address (such as cost, environmental impacts):

- Potential additional cost of plantings or other wildlife enhancement opportunities.

Conservation & Natural Resources Recommendation #14

Develop Rare Species Work Windows to Avoid Impacts

Full recommendation:

Develop and provide work windows for pipeline ROW activities during the planning process that will avoid and minimize disturbances to species of concern. Many of these species are rare, threatened, or endangered and conducting the work at times when these species are less susceptible to impacts is recommended by regulatory agencies. The work windows can be divided into two different matrixes, one for construction activities and one for maintenance activities. The work windows should be broken down by activity type and species of concern.

Relevant agencies:

All agencies

Justification:

Impacts to species of special concern can be minimized if proper work windows for various pipeline ROW activities is provided and upheld. The work window matrix can be a quick easy guide for operators and contractors to reference when wanting to conduct a certain activity within the ROW.

Actions that would be required to achieve recommendation:

- Compile activity types and timing restrictions for special species in one work window matrix.
- Make operators and contractors aware of timing restrictions.

Challenges to achieving recommendation:

- Keeping timing restrictions up to date.
- Operators and contractors should be educated on timing restrictions.
- Enforcement of timing restrictions.

Additional supporting material:

An example of a timing restrictions work window matrix used for a transmission line maintenance is provided below.

ROW Species Work Window Matrix

Species	Mowing Work Window <i>Use caution on roads and avoid mowing on roads.</i>	ROW Floor Cutting by Hand, Tree Trimming/Topping By Hand Work Window	Tree Cutting/Removal By Hand Work Window	Selective Foliar Herbicide Application by Hand Work Window
Indiana Bat / Northern Long Eared Bat Potential Occurrence	No Seasonal Restrictions	No Seasonal Restrictions	October 1 to March 31	No Seasonal Restrictions
Bald Eagle (Wintering - within 1/2 mile)	April 1 to December 14	April 1 to December 14	April 1 to December 14	April 1 to December 14
Red-Shouldered Hawk (Nest)	July 1 to February 28	July 1 to February 28	July 1 to February 28	No Seasonal Restrictions
Red-Headed Woodpecker	August 16 to March 31	August 16 to March 31	August 16 to March 31	No Seasonal Restrictions
Barred Owl	July 1 to February 28	July 1 to February 28	July 1 to February 28	No Seasonal Restrictions
Grassland Birds (Bobolink, Eastern Meadowlark, Grasshopper Sparrow, Henslow's Sparrow, Savannah Sparrow, Vesper Sparrow, Horned Lark, Upland Sandpiper)	September 1 to March 14 (raise mower blades as high as possible)	No Seasonal Restrictions	No Seasonal Restrictions	No Seasonal Restrictions
Shrub Birds (Golden-winged Warbler, Black-Billed Cuckoo, Brown Thrasher, Canada Warbler, Least Flycatcher, Nashville Warbler, Winter Wren, Yellow-Breasted Chat)	September 1 to March 31 (raise mower blades as high as possible and retain shrubs/small trees)	September 1 to March 31 (cut as high as possible and retain shrubs/small trees where feasible)	September 1 to March 31	July 16 to April 14
Wood Turtle	December 1 to February 28 (when less than 150' from stream) or November 16 to March 14 (when greater than 150' from stream)	No Seasonal Restrictions or November 16 - March 14 (Spans Old Mine Road to Tower 40/3)	No Seasonal Restrictions or November 16 to March 14 (Spans Old Mine Road to Tower 40/3)	No Seasonal Restrictions (Monitor required March 15 - November 15 Old Mine Rd - 40/3)
Timber Rattlesnake	November 1 to March 31	No Seasonal Restrictions (Use caution driving on roads to avoid hitting snakes) or November 1 to March 31 (Old Mine Rd east to NPS boundary)	No Seasonal Restrictions (Use caution driving on roads to avoid hitting snakes) or November 1 to March 31 (Old Mine Rd east to NPS boundary)	No Seasonal Restrictions (Monitor required April 1 - October 30 Old Mine Rd east to NPS Boundary)
Longtail Salamander	October 1 to March 31 (within 300 feet of wetlands, vernal pool, pond, stream)	No Seasonal Restrictions	No Seasonal Restrictions	October 1 to March 31 (within 300 feet of wetlands, vernal pool, pond, stream)
Silver-Bordered Firillary	September 1 to March 31 (maintain any Sweet Pepper Bushes)	September 1 to March 31 (maintain any Sweet Pepper Bushes)	September 1 to March 31 (maintain any Sweet Pepper Bushes)	Received NJDEP approval to spray in potential habitat spans per absence species surveys. No timing restriction.
Mussels (Creeping Dwarf Wedgemussel, Eastern Lampmussel, Eastern Pondmussel, Green Floater, Tidewater Mucket, Triangle Floater, Yellow Lampmussel)	No Seasonal Restrictions (no mowing w/ 300 feet of stream)	No Seasonal Restrictions	No Seasonal Restrictions	December 1 to March 31 & July 1 to July 31 (no spraying w/ 300 feet of stream)

Conservation & Natural Resources Recommendation #15

Minimize Impacts to Riparian Areas at Stream Crossings

Full recommendation:

Specific techniques should be employed within the riparian zone to avoid or minimize impacts to streams and rivers. The ROW corridor width and disturbance should be minimized and native riparian vegetation should be planted within the riparian zone. Riparian buffers should consist of a combination of vegetation types to include grasses, forbs, shrubs and trees.

Relevant agencies:

DCNR
PGC
PFBC
DEP

Justification:

Riparian areas are sensitive habitats that must be protected and restored. Pollution or sedimentation from construction can silt in stream beds to the detriment of aquatic ecosystems. The appropriate management of riparian areas is crucial in the protection and enhancement of Pennsylvania's water resources. Riparian buffers are complex ecosystems that help provide optimum food and habitat for stream communities, as well as being useful in mitigating or controlling point and nonpoint source pollution by both keeping the pollutants out and increasing the level of instream pollution processing. Riparian buffers serve as a barrier to prevent: most pollutants from entering aquatic environments and minimize erosion and sedimentation, any altering of the temperature regime or the aquatic ecosystem as a whole.

Actions that would be required to achieve recommendation:

- Minimize ROW width in riparian zones as much as possible.
- Cross streams at a perpendicular angle.
- Vegetated buffers should be planted along the riparian area consisting of a combination of native grasses, forbs, shrubs and trees. Tree stumps should be kept in place to sprout where riparian vegetation was removed, reducing planting costs.
- Stream crossing methods should be explored on a case-by-case basis to plan for special resource needs per crossing.
- Horizontal Directional Drilling (HDD) may be used where appropriate to avoid or minimize direct impacts to the stream or riparian area.

Challenges to achieving recommendation:

- Potential limitations with HDD due to engineering constraints and possibly the need for a larger footprint, but it may be sited farther away from the riparian zone.
- Operability and safety in a minimized corridor width.
- Operability of equipment on existing cut stumps.

Additional supporting material:

FERC Wetland and Waterbody Construction and Mitigation Procedures, DEP Riparian Forest Buffer Guidance, BOF Oil and Gas Guidelines, BOF Planting and Seeding Guidelines.

Issues to address (such as cost, environmental impacts):

This BMP will minimize environmental impacts to the riparian area and stream or wetland. HDD may increase the cost of pipeline construction and has the potential to increase the footprint.

Conservation & Natural Resources Recommendation #16

Promote Wildlife Habitat Opportunities Along Pipeline Corridors

Full recommendation:

Promote wildlife habitat features along pipeline corridors that will benefit species of special concern, small mammals, songbirds, game species, reptiles, and amphibians.

Relevant agencies:

DCNR

PGC

PFBC

Justification:

Impacts to wildlife resources from pipeline ROW activities can result in habitat loss, habitat and population fragmentation, wildlife displacement, and the disruption of rare, threatened, and endangered species. However, pipeline ROW's can provide valuable habitat for game, non-game or threatened and endangered wildlife if properly managed and maintained. Established goals for managing for wildlife within the ROW determines what vegetation planting or control method may best be utilized.

Sensitive species must be addressed during pipeline construction and maintenance. Not providing habitat features will result in low quality habitat for a wide variety of wildlife.

Actions that would be required to achieve recommendation:

- Avoid areas with locations of threatened and endangered species.
- Improve habitat for threatened and endangered species near confirmed locations. Activities could include rock piling, shrub planting or providing crossing opportunities.
- For above-ground temporary pipelines, crossings should be created to allow for the movement of wildlife across the pipeline ROW.
- Provide offsets where habitat is created or improved to compensate for impacted habitat.

Challenges to achieving recommendation:

- Operators and contractors should be educated on the opportunities for wildlife enhancements and management opportunities.
- Operators and contractors should be educated on the protocol for maintaining wildlife areas during maintenance activities.

Additional supporting material:

BOF Oil and Gas Guidelines, FERC Upland Erosion Control, Revegetation, and Maintenance Plan.

Issues to address (such as cost, environmental impacts):

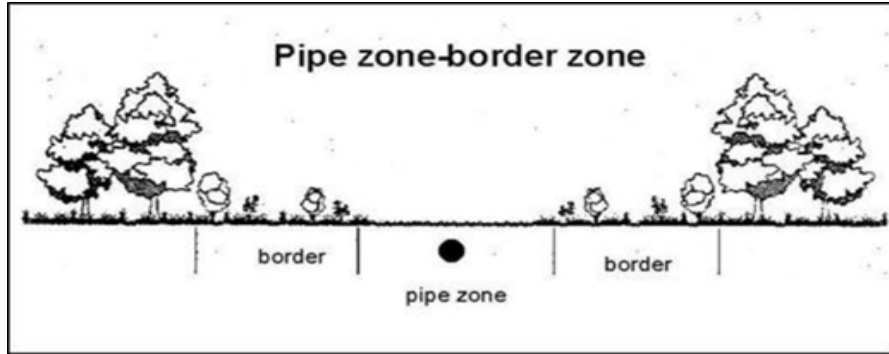
- Reduced costs in maintenance from a decrease in mowing in non-herbaceous areas.
- Additional cost of plantings or other wildlife enhancement opportunities.

Conservation & Natural Resources Recommendation #17

Restore and Maintain a Border Zone in Forested Areas

Full recommendation:

Maintain the permanent ROW as pipeline-compatible shrub habitat within the border zone, while still allowing for the 10' herbaceous pipe zone corridor. The border zone plants must not compromise pipeline integrity and should be native species. The pipe zone should also be a native mix of herbaceous species.



Relevant agencies:

DCNR
PGC
PFBC

Justification:

Maintaining the border zone of the permanent pipeline corridor as shrub and herbaceous habitat will provide additional wildlife habitat opportunities, minimize impacts to certain wildlife species and reduce the maintenance costs of mowing.

Actions that would be required to achieve recommendation:

- An Integrated Vegetation Management (IVM) approach should be taken in determining the restoration and maintenance of the pipeline ROW. IVM is used to assess, plan, choose among, selectively apply, and monitor different types of treatments, based on site-specific needs within the ecosystem to minimize environmental impacts, as well as other economic, social or safety goals and objectives.
- Deep rip compacted soil prior to planting.
- Maintain the pipe zone in an herbaceous state using native plant species, which may require mowing every 3-5 years.
- Plant a variety of native shrubs, grasses and forbs in border zone to create vertical and structural diversity. For existing pipeline ROW's, native shrubs can be added to the current plantings in the border zone.
- Only treat vegetation that has the potential to compromise the pipeline integrity or that encroaches on the pipe zone.
- Tree and Shrub Planting can accelerate reforestation of the temporary workspace.

Challenges to achieving recommendation:

- Operators and contractors should be educated on the benefits of providing border zones, as well as the appropriate planting and maintenance techniques until use of this technique becomes routine.

Additional supporting material:

IVM guidance; FERC Upland Erosion Control, Revegetation, and Maintenance Plan; BOF Planting and Seeding Guidelines; BOF Pipeline ROW Wildlife Habitat Guidelines.

Issues to address (such as cost, environmental impacts):

- Reduced costs of mowing by allowing scrub-shrub habitat to develop.
- Additional cost of planting the border zone with shrubs.

Conservation & Natural Resources Recommendation #18

Minimize Aesthetic Impacts in Pipeline Development

Full recommendation:

Careful planning and thoughtful construction design can minimize the negative aesthetic impacts that can be associated with pipeline installation.

Relevant agencies:

DCNR

County and Township Governments

Justification:

Pipeline rights-of way can have unappealing or intrusive visual effects on the landscape, particularly along roadways, vistas, or trails. While not entirely preventable, these effects can be ameliorated for the benefit of the public that travel or recreate near pipeline corridors.

Actions that would be required to achieve recommendation:

- Design pipeline corridors to follow topographic contour lines, allowing remaining vegetation to help block views of the rights-of way.
- Include dog-legs or bends in the pipeline route, particularly near highly-visible portions, to help limit the line-of-sight along the corridor.
- Co-locate new pipelines along existing rights-of-way to minimize the creation of new, separate clearings.
- Utilize existing edges or disturbed areas to minimize fragmentation of the landscape.
- Feather vegetation along the edges of rights-of-way by leaving vertical structure between the pipeline and the undisturbed forest.
- Leave buffers of trees or shrubs between the pipeline corridor and an adjacent road or trail to serve as a visual screen.
- Consider appropriate measures to conceal associated pipeline infrastructure within the surrounding landscape.

Challenges to achieving recommendation:

- Additional route planning and design considerations necessary prior to construction.
- Differences in desires and recommendations from different landowners along the pipeline route.
- Balancing measures to minimize aesthetic impacts with environmental constraints and construction safety requirements.

Issues to address (such as cost, environmental impacts):

Lack of knowledge about ways to address aesthetic impacts with private landowners and planning agencies.

Conservation & Natural Resources Recommendation #19

Minimize Recreational Impacts in Pipeline Development

Full recommendation:

Careful planning and thoughtful construction design can both minimize recreational impact that can be associated with pipeline installation.

Relevant agencies:

DCNR

County and Township Governments

Justification:

Many pipelines rights-of-way are proposed within areas of high recreation use; these activities may include hiking, wildlife viewing, hunting and snowmobiling. Pipeline rights-of-way can disrupt the landscape connectivity and aesthetics, construction activities can disrupt areas or seasons of high recreational use, and newly created rights-of-way can promote unauthorized access or land use. These potential impacts can be minimized with careful planning.

Actions that would be required to achieve recommendation:

- Consider the full extent of recreational activities desired, atmosphere, conditions and the seasons in which they occur when planning pipeline rights-of-way and develop alternatives as applicable. ROW adjustments may be necessary to avoid impacting recreation activities.
- Coordinate the timing of pipeline installation and construction activities to avoid conflict with recreation during periods of heavy use. Consider restricting operator activity during high conflict dates.
- Apply setbacks where forest connectivity and aesthetics are the primary values associated with the recreation.
- Minimize probable conflict with the unauthorized use of rights-of-way corridors by off road vehicles.
- Consider appropriate signage measures.
- Communicate temporary impacts from construction activities to stakeholder groups.

Challenges to achieving recommendation:

- Additional route planning and design considerations necessary prior to construction.
- Differences in desires and recommendations from different landowners and user groups.

Additional supporting material:

BOF Oil and Gas Guidelines, SCORP.

Issues to address (such as cost, environmental impacts):

- Identify educational opportunities for private landowners and planning agencies concerning recreation planning and ways to address potential impact.
- Identify educational opportunities for pipeline operators to consider impacts to recreation.

Conservation & Natural Resources Recommendation #20

Provide Recreational Opportunities in Pipeline Development

Full recommendation:

Careful planning and thoughtful construction design can promote opportunities for healthful outdoor recreation on pipeline rights-of-way.

Relevant agencies:

DCNR

County and Township Governments

Justification:

Many pipelines rights-of-way are proposed within areas of high recreation use; these activities may include hiking, wildlife viewing, hunting and snowmobiling. Pipeline rights-of-way provide opportunities for passive and active recreation with careful planning.

Actions that would be required to achieve recommendation:

- Consider opportunities for enhancement of existing recreation opportunities when planning pipeline locations (i.e. is the pipeline going through or paralleling existing parks or recreation areas; what types of recreation would be compatible within the pipeline and the local area).
- Co-locate low impact recreational trails within rights-of-way corridors where appropriate.
- Co-locate snowmobile trails onto rights-of-way corridors where appropriate. Where co-locating, avoid using water bars, instead utilize shallow broad based dips or stone lined channels for motorized trails.
- Where shared-use is occurring, consider appropriate signage to show both the positive aspects of sharing the use, as well as safety measures as needed.
- Conduct information sessions with the responsible engineers, construction companies or user groups for appropriate design and layout.

Challenges to achieving recommendation:

- Additional route planning and design considerations necessary prior to construction.
- Differences in desires and recommendations from different landowners and user groups.

Additional supporting material:

BOF Oil and Gas Guidelines, SCORP.

Issues to address (such as cost, environmental impacts):

- Identify educational opportunities for private landowners and planning agencies concerning recreation planning and potential opportunities.
- Identify educational opportunities for pipeline operators to consider impacts to recreation.

Conservation & Natural Resources Recommendation #21

Reseed Right-of-Ways Using Native Plants

Full recommendation:

Reseeding a right-of-way (ROWS) corridor with native grasses, legumes, and wildflowers can provide a native meadow habitat that encourages native pollinators, provides wildlife habitat, slows the spread of invasive plants, allows for natural succession of the corridor to native shrubs, and restores ecosystem functions to the disturbed site.

Relevant agencies:

DCNR

DEP

NRCS

PA Dept. of Agriculture (Ag)

County Conservation Districts

Justification:

Many right-of-ways are reseeded with grass seed mixes that are entirely non-native species, such as fescue, timothy, or orchard-grass. Non-native seed mixes may provide quick greening and establishment, but provide only a fraction of the functions that native mixes provide in natural ecosystems. Native seed mixes rarely require expensive additions of fertilizer and lime to the soils on site, which are required for non-native grasses and clover. Native grasses only require mowing every 3-5 years, reducing the costs of annual maintenance.

Actions that would be required to achieve recommendation:

- Operators and contractors should be educated on the values and uses of native grasses, legumes, and wildflowers in providing ecosystem services.
- Operators and contractors should be trained on the different site preparation needs between non-native and native plantings that are necessary to achieve success.
- Ideally, planting of native grasses takes place in the spring. If construction is completed during other times of the year, a cover crop should be used and then full re-seeding of the corridor should be performed the following spring.
- Native grasses require mowing only once every 3-5 years. Care would need to be taken to ensure that areas outside the immediate pipe zone were not mowed too frequently.

Challenges to achieving recommendation:

- Additional pre-construction planning may be required prior to commencement of earth disturbance activities, until the use of native plants in pipeline seeding becomes routine.
- Ensuring that the enhanced root growth, rather than above-ground growth, of native grasses is recognized to be effective E&S control on a reseeded corridor.
- Native grass seed can be more expensive than non-native seed and sometimes difficult to obtain if not ordered ahead of time.
- Collaboration between DCNR botanists, DEP regulators, and NRCS inspectors may be needed to allow for the slower-growing native species to meet current E&S regulations and the expectations of the inspectors.

Additional supporting material:

- Below are examples of seed mixes used on State Forest land for restoring pipeline and gas infrastructure sites.
- PA Bureau of Forestry Planting and Seeding Guidelines (excerpts included in this document), DCNR Website.
- “Sustainable Landscapes, Certification Manual” PA Landscape & Nursery Association; http://www.plna.com/?page=Sust_Land_Cert

Issues to address (such as cost, environmental impacts):

- Lack of knowledge about the ecological benefits of native warm season grasses, legumes, and wildflowers and ways in which these meadow habitats improve overall ecosystem health.
- Native grass, legume, and wildflower seed can be more expensive than non-native seed mixes; however, since fertilizer and lime are not required with native mixes, the costs between the two strategies are likely to be close to equal.

Basic Native Seed Mix and Potential Additions

BOF General Native Seed Mix	
Cover Crop: 30 lbs/ac Oats (<i>Avena fatua</i>)	
3 lb PLS	Big bluestem (<i>Andropogon gerardii</i>)
3 lb PLS	Little bluestem (<i>Schizachyrium scoparium</i>)
2 lb PLS	Indiangrass (<i>Sorghastrum nutans</i>)
2 lb PLS	Switchgrass (<i>Panicum virgatum</i>)
2 lb PLS	Deertongue (<i>Dicanthelium clandestinum</i>)
6 lb PLS	Virginia wildrye (<i>Elymus virginicus</i>)
3 lb	Partridge pea (<i>Chamaecrista fasciculata</i>)
Total: 21 lbs/acre	

Below are some additions or alterations to the native seed mix for unique situations or management goals.

To attract pollinators, consider adding a combination of these native wildflowers...

- 0.5-2 lb Showy tick-trefoil (*Desmodium canadense*)
- 0.5-1 lb Tall white beardtongue (*Penstemon digitalis*)
- 0.5-2 lb Grey goldenrod (*Solidago nemoralis*)
- 0.5-2 lb Common milkweed (*Alclepias syriaca*)
- 0.5-2 lb Butterfly milkweed (*Alclepias tuberosa*)
- 0.5-2 lb Wild bergamot (*Monarda fistulosa*)
- 0.5-1 lb Black-eyed susan (*Rudbeckia hirta*)
- 0.5-1 lb Ox-eye sunflower (*Heliopsis helianthoides*)
- 0.5-1 lb New England aster (*Symphiotrichum novae-angliae*)
- 0.5-1 lb Mountainmints (*Pycnathemum incanum* or *P. tenuifolium*)

Typically 0.5 lbs per acre is sufficient when added to the above Native mix. If the expressed goals of the site is to attract pollinators, consider adding more seed per acre. The best wildflower plantings include enough species to have at least one species blooming during all three growing seasons.

In shaded sites reduce the mix to...

3 lb PLS	Virginia wildrye (<i>Elymus virginicus</i>)
3 lb PLS	Canada wildrye (<i>Elymus canadensis</i>)
5 lb	Autumn bentgrass (<i>Agrostis perennans</i>)
2 lb PLS	Deer tongue (<i>Dicanthelium clandestinum</i>)
30 lb	Cover Crop

Total: 43 lb/acre

This is a short-lived perennial mix that will allow for natural herbaceous and woody succession following timber sale retirement.

To simply control erosion and sedimentation reduce the mix to...

10 lb PLS	Deertongue (<i>Dicanthelium clandestinum</i>) or Switchgrass (<i>Panicum virgatum</i>)
5 lb PLS	Virginia wildrye (<i>Elymus virginicus</i>)
5 lb	Autumn bentgrass (<i>Agrostis perennans</i>)
2 lb	Partridge pea (<i>Chamaecrista fasciculata</i>)
30 lb	Cover Crop

Total: 52 lb/acre

Basic Native/Non-Native Seed Mix

BOF General Native/Non-native Seed Mix

Areas with slopes less than 15%

2 lb	Timothy (<i>Phleum pretense</i>)
6 lb	Perennial ryegrass (<i>Lolium perenne</i>)
6 lb PLS	Virginia wildrye (<i>Elymus virginiana</i>)
2 lb PLS	Little bluestem (<i>Schizachyrium scoparium</i>)
2 lb PLS	Big bluestem (<i>Andropogon gerardii</i>)
6 lb	White clover (<i>Trifolium repens</i>)
4 lb	Partridge pea (<i>Chamaecrista fasciculata</i>)
0.5 lb	Black-eyed susan (<i>Rudbeckia hirta</i>)

TOTAL: 28.5 lb/acre

Areas with slopes greater than 15%

6 lb	Timothy (<i>Phleum pretense</i>)
4 lb	Perennial ryegrass (<i>Lolium perenne</i>)
4 lb PLS	Virginia wildrye (<i>Elymus virginiana</i>)
3 lb PLS	Little bluestem (<i>Schizachyrium scoparium</i>)
3 lb PLS	Big bluestem (<i>Andropogon gerardii</i>)
3 lb PLS	Indiangrass (<i>Sorghastrum nutans</i>)
6 lb	White clover (<i>Trifolium repens</i>)
4 lb PLS	Deertongue (<i>Dicanthelium clandestinum</i>)
2 lb	Partridge pea (<i>Chamaecrista fasciculata</i>)
0.5 lb	Black-eyed susan (<i>Rudbeckia hirta</i>)

TOTAL: 35.5 lb/ac

All attempts should be made to use all native seed mixes. At sites with many acres that need planted, in areas with severely steep slopes, or for projects where funds available for purchasing seed may be limited, this mix of native and non-native species may be more applicable. All additions discussed on the previous page can also be applied to this seed mix.

Conservation & Natural Resources Recommendation #22

Use Pennsylvania-Sourced Plant and Seed Vendors and Landscape Services

Full recommendation:

Revegetation and/or restoration should be a priority when planning a pipeline ROW. These activities require the procurement of plants and seed that complement and enhance the regional native biodiversity of the impacted ecosystem. Pennsylvania is home to nurseries and seed companies that specialize in producing Pennsylvania native plants specifically for restoration and conservation projects. Additionally, the Pennsylvania Department of Agriculture's "PA Preferred" program promotes Pennsylvania agricultural producers where the majority of the crop is "grown, harvested and processed in Pennsylvania." These producers produce many of the plants recommended in the "White House Pollinator Initiative" of 2014 with the goal of reducing the loss of important pollinator species.

In addition, specialized landscape restoration services is required for pipeline ROW projects. A minimum of 5 years of demonstrated experience in environmental restoration construction and/or reforestation should be required by all vendors to participate in the contract process. The Pennsylvania Landscape and Nursery Association as part of its Pennsylvania Certified Horticulturalist (PCH) Program offers a "Sustainable Landscapes Certificate (SLC) program" for members that specialize in plants and ecosystem services. A contractor that holds this certificate could also be prequalified to participate in the contract process.

The Department of Community and Economic Development (DCED) mission is to "foster opportunities for Pennsylvania business to thrive" Pipeline ROW Restoration represents a unique opportunity to foster a strong Public/Private partnership with the nursery and landscape industry. All efforts should be made to utilize Pennsylvania businesses and their unique products and services in the selection and procurement process for pipeline ROW restoration.

Relevant agencies, organizations and initiatives:

Ag

DCED

DCNR

DEP

Pennsylvania Department of Forestry

Pennsylvania Landscape and Nursery Association

United States White House Pollinator Initiative

Justification:

Enhance public/private partnerships with Pennsylvania agencies and private sector companies. Create important "green jobs" for Pennsylvanian's. Pennsylvania businesses working to restore Pennsylvania ecosystems. Investment in Pennsylvania's "Green Industry" companies and their employees.

Actions that would be required to achieve recommendation:

Creation of contractual language in standardized procurement or Request for Proposal (RFP) documents.

Challenges to achieving recommendation:

- The “Sustainable Landscapes Certificate” through the Pennsylvania Landscape and Nursery Association is a relatively new program and has limited number of participants at this time. Selection of landscape contractors will need to rely more heavily on experience history until more providers complete the program.
- Pipelines cross state boundaries – explore if conflicts with interstate commerce clauses requiring PA companies to be considered first as suppliers and/or contractors
- Consideration if availability issues of plants, seed species and/or quantities for specifications if unable to be met by Pennsylvania businesses.

Additional supporting material:

- White House Pollinator Initiative
- PCH / SLC Handbook
- Ag PA Preferred program fact sheet

Conservation & Natural Resources Recommendation #23

Require Performance-Based Metrics for Long-Term Maintenance of Right-of-Ways

Full recommendation:

Long Term Maintenance associated with restoration projects should require performance-based metrics to evaluate success.

Relevant agencies:

DCNR

DEP

Justification:

Effort and performance are measured differently; one is subjective or qualitative and the other is objective or quantitative. Performance-based activities associated with landscape restoration require implementation of management strategies to meet measurements goals. Such strategies span the life of a project from start (planning) to finish (maintenance\monitoring).

Ecosystems associated with reforestation\afforestation, riparian buffer establishment, wetland\stream\floodplain restoration, meadows, and other habitats are often on a stability continuum. The first several years of a project are considered the establishment period, which typically take 1-3 years but could take up to 5 years depending on the level of maintenance. Green Infrastructure projects like other infrastructure require mid and long term maintenance, in addition to the establishment period, to assure success.

Maintenance strategies include but are not limited to hydrologic modification, Integrated Pest Management (IPM), (chemical\mechanical), soil health, sediment transport\erosion management, flooding, plant health, ecosystem balance, nutrient loading, aesthetics, anthropogenic modifications, etc.

Actions that would be required to achieve recommendation:

- Maintenance needs to be recognized as a necessity not an option.
- Maintenance should be addressed in the planning and design phases of a project.
- Adequate funding and\or job costing should identify and specify actions within the establishment period and mid to long term project life span.

Challenges to achieving recommendation:

The act of planting a tree does not constitute success or management. The knowledge, importance and understanding of mid and long-term maintenance associated with a successful restoration project is misunderstood or may not exist. As a result, policy and processes for funding has been limited, reduced or eliminated for ongoing maintenance for public, private, and non-profit restoration projects. This has significant implications to long term projects success.

An example of this is the Conservation Reserve Enhancement Program (CREP) administered by state and federal agencies within Pennsylvania. Although maintenance is a requirement to the program there is little oversight to ensure it is being performed and funding provided to this is not

sufficient to achieve success. As a result, performance expectations have not been realized at the state level.

If recognized performance metrics for management can be established, it will pave the way for funding groups to recognize long term maintenance in the same light as the actual implementation of the project that will require the maintenance.

Conservation & Natural Resources Recommendation #24

Prevent Invasive Plant Species Establishment

Full recommendation:

A number of prevention techniques can be utilized to limit the spread and establishment of invasive plants within pipeline construction areas. It is more efficient and cost-effective to prevent invasive plants from becoming established than to eradicate them once established. Smaller or novel infestations of invasive plants are much easier to eradicate than well-established, larger populations.

Relevant agencies:

DCNR

Ag

DEP

Justification:

Non-native, invasive plant species can be ecologically devastating to a landscape. Invasive plants have been found to inhibit native tree regeneration, exclude native wild plants, disrupt wetland communities, do not provide wildlife with the appropriate food due to their non-native nature, and result in the slowing of natural ecological processes. Disturbed, maintained areas, such as pipeline corridors, can provide ideal habitat for the colonization and spread of invasive plant species across a landscape. Pipelines may be an inadvertent conduit for spreading invasive plants to neighboring properties and affecting those landowners. Invasive plant species including noxious weeds can also cause economic impact to agricultural areas and other property owners.

Actions that would be required to achieve recommendation:

- Clean all vehicles, construction, mowing or seeding equipment thoroughly when moving site to site.
- Whenever possible, utilize on-site mulch materials (such as mulching trees marked for removal), rather than bringing in mulch from other sites.
- Examine sources of fill and quarry material for invasive plant material.
- Move equipment from uninvaded areas to areas of high invasion.
- Conduct a pre-construction inventory to establish the presence or absence of invasive plants at the site prior to earth disturbance, then develop a plan for treatment, removal, planting or monitoring based on number of infestations, their locations and population size.
- Use straw not hay following seeding (straw does not have seeds, therefore has less invasive material in it).
- Re-vegetate disturbed areas with a more aggressive native species or seed at higher rates in areas of known infestations to out-compete invasive species.
- Monitor for novel populations of invasive plants after construction is complete and remove or treat promptly.

Challenges to achieving recommendation:

- Additional pre-construction planning prior to commencement of earth disturbance activities.
- Availability/cost of equipment-cleaning devices.
- The lack of regulation that requires invasive plant management prior to and following pipeline construction.
- Breakdown of communication between landowners or regulators, the pipeline operator, and their construction contractors.
- Additional cost of surveying, monitoring and treatment of invasive species.

Additional supporting material:

DCNR Oil and Gas Guidelines (Appendix D 2015), DCNR Website, Ag Noxious Weed Law, Bartlett Tree Lab Technical Reports.

Issues to address (such as cost, environmental impacts):

- Lack of knowledge about invasive species ecological impacts among operators and the public.
- Lack of regulation regarding the responsibility of pipeline operators to monitor for and control or eradicate PITF.

Conservation & Natural Resources Recommendation #25

Finalize Functional Protocols for Impacts and Offsets

Full recommendation:

The DEP should finalize the Functional Protocol for debiting impacts and crediting offsets. This provides certainty to permit applicants.

Relevant agencies:

DEP

DCNR

USACE

Pennsylvania Department of Transportation (PennDOT)

Justification:

Under current regulations different requirements within different regions or USACE districts can lead to different mitigation requirements for similar impacts. Providing a statewide Protocol will help maintain more consistency with mitigation requirements across the state.

Actions that would be required to achieve recommendation:

Complete the policy, implement by providing training and a person(s) to answer questions and add staff to support continued permitting.

Challenges to achieving recommendation:

Policy needs to be completed, then training provided, and additional staff needed at DEP Central Office, 105 Program to implement. Training needs to occur with both the USACE, the DEP regional offices, and the consulting community. Requirements for projects that are in the permitting process when the protocol is approved need to be clarified, and those projects should not need to recalculate mitigation requirements.

Additional supporting material:

The Pennsylvania Function Based Aquatic Resource Compensation Protocol (DEP Document Number 310-2137—001) is attached. The purpose of the functional protocol is to provide standard guidelines for evaluating the need for aquatic resource mitigation for the purposes of meeting application requirements contained in Chapter 105. The guidance outlines how to conduct evaluations, describes factors that should be considered in performing these evaluations, and establishes a system for quantifying mitigation requirements and proposals to meet those requirements. This guidance has been developed for use with the three Level 2 Resource Condition Assessment Protocols (310-2137-002, 310-2137-003 and 310-2137-004).

The functional protocol establishes a standardized functional approach for assessing all aquatic resource types according to five functional subgroups: hydrogeologic (hydrodynamics, storage, baseflow), biogeochemical (vegetation, soils and hydrology), habitat (community and species level), recreation (public recreational opportunities), and resource support (role in maintaining water quality). Impacts are categorized as either direct (loss of resource area and function), or indirect (loss of resource function only). These factors are incorporated into a standard

compensation equation, which determines the compensation requirement for the impacted aquatic resource.

Issues to address (such as cost, environmental impacts):

Cost for staff and training, training time frames, transition issues with projects in-permit.

Conservation & Natural Resources Recommendation #26

DEP Should Follow the 2008 Final Mitigation Rule for All Mitigation Sites

Full recommendation:

There exist questions on whether long term restrictions and encumbrances are being required consistent with the 2008 Final Mitigation Rule on public lands or on permittee responsible mitigation projects. Moreover, to the extent public lands are subsidized and planned for protection, they should not necessarily be eligible for mitigation purposes.

Relevant agencies:

DEP
DCNR
USACE
PGC
PFBC
U.S. Forest Service (UFS)
U.S. Department of Agriculture (USDA)

Justification:

The DEP needs to show consistency in applying mitigation standards to public and private lands. The 2008 Final Mitigation Rule sets forth the standards that should be followed.

Actions that would be required to achieve recommendation:

Adherence to existing Federal Rule - state policy support.

Challenges to achieving recommendation:

Agreeing and implementing this policy change.

Additional supporting material:

Provisions §332.3 (a) (3);

Credits for compensatory mitigation projects on public land must be based solely on aquatic resource functions provided by the compensatory mitigation project, over and above those provided by public programs already planned or in place. All compensatory mitigation projects must comply with the standards of Section 332, if they are to be used to provide compensatory mitigation for activities authorized by Department of the Army (DA) permits, regardless of whether they are sited on public or private lands and whether the sponsor is a governmental or private entity.

§332.7(a)(4)[§230.97(a)(4)] of the 2008 Final Rule also addresses potential alterations to compensatory mitigation projects on public lands that may result from changes in statutes, regulations, or agency needs or mission. This provision requires the public agency authorizing the incompatible use to provide alternative compensatory mitigation acceptable to the district engineer for any loss in functions resulting from the incompatible use.

For permittee-responsible mitigation projects, §332.7(d) (4) [§230.97(d) (4)] requires approval of any long-term financing mechanisms before the activity authorized by the DA permit is initiated. For third-party mitigation, provisions necessary for long-term management must be addressed in the instrument §332.8(u) [§230.98(u)]. For mitigation banks, long-term management is also addressed in §332.7(d) (3) [§230.97(d)(3)]. these provisions should apply both to mitigation projects on private and public lands.

Issues to address (such as cost, environmental impacts):

Adding the public sector to this Rule Making.

County Government Workgroup

Introduction

The County Government Workgroup has prepared 12 recommendations which largely center on communication and cooperation with and between County Government, Municipalities, Citizens and Pipeline Operators. Through their Planning departments, Geographic Information System (GIS) resources and environmental authorities, Counties can play a vital role in the pipeline development process provided they are included in the process. The majority of our group believes that our recommendations will assist not only County and Local Governments and our constituents, but the operators as well.

Counties can often provide mapping and GIS data to operators. Information provided to counties by operators and Federal and State Governments can be shared with our municipalities and citizens. Counties want, and should have more communication with operators and a bigger role in planning how pipelines affect our communities.

Our first recommendation is that Counties continue to be engaged in the implementation of recommendations of the Task Force so that we can provide important resources and be able to respond to our constituents.

The remaining recommendations fall into the categories of Education and Shared Resources, Communication and Transparency, and Safety and Protection. It is likely that some of our recommendations may mirror, or perhaps conflict with, recommendations of other Workgroups: i.e. Siting and Routing, Local Government Group, etc. We would welcome the opportunity to work with those groups to finalize recommendations that make sense for all of the groups.

Some of the challenges in implementing some of our recommendations will be limited resources (personnel and funding), and legislative and/or regulatory action. We also recognize the importance of developing ongoing relationships with pipeline operators which will be needed to achieve many of our recommendations.

While the group believes that we have taken into account the concerns of the industry, our industry member disapproved of the majority of our recommendations. A follow-up e-mail was sent to that member further explaining our commitment to work with the industry to achieve our goals.

County Government Workgroup Recommendation #1

Counties Should Partner in Implementation of Task Force Recommendations

Full recommendation:

Counties must continue to be engaged with the state and the pipeline industry in the implementation of all recommendations pursuant to the release of the Task Force's report.

Relevant agencies:

County elected officials
County planning agencies
Emergency services agencies
Conservation districts
Other county agencies

Justification:

Counties want to be an ongoing partner as the oil and gas industry evolves, to assure they are able to offer input and resources as appropriate during the development process and able to best provide accurate and timely information to the communities they represent.

Actions that would be required to achieve recommendation:

Ongoing outreach from state agencies and the pipeline industry to counties.

Challenges to achieving recommendation:

None.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

County Government Workgroup Recommendation #2

Counties Should Include Pipelines Development in County Comprehensive Plans

Counties should include information about pipelines and pipeline corridors within their comprehensive plans, and should strongly encourage operators to use best practices, e.g., those provided by Pipelines and Informed Planning Alliance (PIPA).

Full recommendation:

1. Counties should have information about pipelines within their comprehensive plans.
 - a. Where pipelines are in the community - mapping of all pipeline corridors and location of gathering lines as available - and types of pipelines should be included.
 - b. Counties should implement best practices in communication and safety, such as those provided by PIPA.
 - c. Counties should recommend best practices regarding well pad and pipeline siting as it relates to future land use to share with landowners and municipalities – i.e., counties' concerns relative to preserved land, the environment, future growth and development, impacts to agriculture, etc.
 - d. Counties should be able to review and make recommendations in accordance with comprehensive plans similar to other types of development.
2. Develop a model ordinance/guidelines/considerations for municipalities to reference regarding setbacks, standards, environmental considerations (habitats, conservation easements/preserved land) as appropriate.

Relevant agencies:

County planning agencies

Emergency services agencies

Conservation districts

Water resources authorities

Health departments

Department of Community and Economic Development (DCED)

Justification:

Counties want, and should have, more communication with operators, and a bigger role in planning how pipelines affect their communities.

Actions that would be required to achieve recommendation:

Addendum to comprehensive plans in the intervening years, and incorporated into the comprehensive plans at the next update.

Challenges to achieving recommendation:

Acceptance by all counties, particularly those currently not impacted by pipeline infrastructure and development.

Additional supporting material:

PIPA – Partnering to Further Enhance Pipeline Safety In Communities Through Risk-Informed Land Planning

Pipeline Safety Trust – Landowner’s Guide to Pipelines
Chester County Pipeline Notification Protocol

Issues to address (such as cost, environmental impacts):

County Government Workgroup Recommendation #3

Counties Should Make GIS Mapping Available to Operators and Require Them to Provide Their Mapping to Counties and Municipalities

Full recommendation:

1. Make county GIS mapping available to operators and require operators provide their mapping to counties and municipalities.
2. Counties with GIS expertise should be sharing their information with commonwealth agencies that have a role or regulatory oversight in pipeline development, e.g., DEP, PUC and DCNR (Department of Environmental Protection, Public Utility Commission, and Department of Conservation and Natural Resources).

Relevant agencies:

County planning agencies
GIS departments/staff
Conservation districts

Justification:

Counties and municipalities want to make sure operators are using accurate maps, and that state and local governments are using a common mapping picture.

Actions that would be required to achieve recommendation:

Develop data sharing tools (e.g., a tool that provides a common platform) and license agreement templates that could make it easier to exchange the needed data.

Challenges to achieving recommendation:

- Some counties might require funding to generate up-to-date maps.
- A requirement for operators to provide mapping would need state and/or federal legislation.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

County Government Workgroup Recommendation #4

Develop Training Opportunities for County Officials

Full recommendation:

Training is needed for county planning departments, conservation districts, water resources authorities, solicitors, elected officials, and recorder of deeds to provide an understanding of the pipeline development process from start to finish and what they can do to be part of the process.

Relevant agencies:

DEP

DCNR

PUC

DCED

Federal Energy Regulatory Commission (FERC)

United States Army Corps of Engineers (USACE)

Justification:

Assure that counties have the information they need to be involved in the development process, and when they can participate.

Actions that would be required to achieve recommendation:

- Have the state identify subject matter experts (local groups, state agencies, federal partners, consulting firms, etc.) and create a central repository of these resources that counties and others can access.
- Have the state create a template for training (who should be invited, issues to cover, etc.).

Challenges to achieving recommendation:

- Mapping the pipeline development process and identifying subject matter experts.
- Cost to counties to have access to training opportunities.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

County Government Workgroup Recommendation #5

Develop Tools to Educate the Public on Pipeline Development

Full recommendation:

1. The state should develop and provide resources and templates that counties can utilize on the local basis with municipalities and the public, including landowners and surrounding communities, to provide an understanding of the pipeline development process from start to finish and what they can do to be part of the process.
2. Counties could consider providing neutral, non-legal information and/or web links specifically for affected landowners, such as questions to ask before entering into an agreement.

Relevant agencies:

DEP

DCNR

PUC

DCED

FERC

USACE

County planning agencies

GIS departments/staff

Conservation districts

American Planning Association – Pennsylvania Chapter (PA APA)

Pennsylvania Association of Conservation Districts (PACD)

County Commissioners Association of Pennsylvania (CCAP)

Pennsylvania State Association of Boroughs

Pennsylvania State Association of Township Supervisors (PSATS)

Justification:

Assure that municipalities and the public have the information they need to be involved in the development process, and when they can participate.

Actions that would be required to achieve recommendation:

- Have the state identify subject matter experts (local groups, state agencies, federal partners, consulting firms, etc.) and create a central repository of these resources that counties and others can access.
- Have the state create a template for training (who should be invited, issues to cover, etc.).

Challenges to achieving recommendation:

- Mapping the pipeline development process and identifying subject matter experts.
- Cost to counties to offer training opportunities.

Additional supporting material:

Chester County [Pipeline Information Center](#)

Pipeline Safety Trust – [Landowner's Guide to Pipelines](#)

County Government Workgroup Recommendation #6

Operators Should Engage in Timely Communication

Full recommendation:

Operators should notify counties and municipalities when initiating a project and provide information about proposed routes for transmission lines before the proposed route is finalized.

Relevant agencies:

County and municipal governments and agencies

Justification:

- Counties can provide input related to environment, land use, mapping and potential for shared rights-of-ways if they are aware of the proposed route.
- Residents will contact counties about the project and this will enable them to provide accurate responses and/or connect with the appropriate operator resource.

Actions that would be required to achieve recommendation:

Counties will have to develop relationships with operators to have them participate voluntarily. However, the legislature or a state agency should develop a law or regulation that compels operators to participate in this manner, in a way that does not conflict with operator concerns about confidentiality.

Challenges to achieving recommendation:

Operator concerns about confidentiality, lack of requirement for early notification by operators.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

County Government Workgroup Recommendation #7

Develop Advisory Standards for Pipeline Setback and Buffers

Full recommendation:

State should develop advisory standards for setbacks and buffers for pipelines which may be included in municipal ordinances and/or county hazard mitigation plans.

Relevant agencies:

PUC

DEP

DCED

Pennsylvania Emergency Management Agency (PEMA)

Justification:

- Public health, safety and welfare.
- Provides non-arbitrary standards on which municipalities and counties can base their recommendation.

Actions that would be required to achieve recommendation:

Agencies would be required to develop advisory standards.

Challenges to achieving recommendation:

Staffing and other resources needed by state agencies.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

County Government Workgroup Recommendation #8

Amend Municipalities Planning Code to Empower County Comprehensive Plan

Full recommendation:

1. Amendments to the Municipalities Planning Code to specifically identify pipelines as a land use element.
2. Legislation authorizing counties to enforce consultation zones or other best practices if the county chooses to adopt them.
3. Legislation which provides for county reviews of any new pipelines and associated facilities for consistency with the county comprehensive plan and consideration of county comments/recommendations as part of the pipeline planning process.

Relevant agencies:

General Assembly, in consultation with counties

Justification:

County comprehensive plans should be taken into consideration as part of the pipeline planning process.

Actions that would be required to achieve recommendation:

- Legislative action.
- Addendum to comprehensive plan in the intervening years, and incorporated into the comprehensive plans at the next update.

Challenges to achieving recommendation:

Additional supporting material:

PIPA – Partnering to Further Enhance Pipeline Safety In Communities Through Risk-Informed Land Planning

Pipeline Safety Trust – Landowner's Guide to Pipelines

Chester County Pipeline Notification Protocol

Issues to address (such as cost, environmental impacts):

County Government Workgroup Recommendation #9

Consider Opportunities for Shared Right-of-Ways

Full recommendation:

State should establish a requirement to co-locate, to the extent possible, new pipeline infrastructure within existing or planned utility rights-of-ways (by regulation or statute), including other pipelines, electric transmission lines, etc. to reduce the impact on existing development, available land for development and natural resources, and to be consistent with the county comprehensive plan. Any requirement should include a maximum number of pipelines, regardless of product, in any single right-of-way.

Relevant agencies:

PUC and/or
General Assembly

Justification:

To reduce the impact on existing development, available land for development and natural resources.

Actions that would be required to achieve recommendation:

Statutory or regulatory development.

Challenges to achieving recommendation:

- Different standards among operators that may have implications for safety.
- Operator concerns about business competition.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

County Government Workgroup Recommendation #10

Empower GIS Mapping

Full recommendation:

Commonwealth should convene the Statewide Geospatial Board created under Act 178 of 2014 to help provide a way to efficiently understand from the community of stakeholders what mapping data exists regarding previously built pipelines, who has the data, as well as what mapping data is needed and how it can be acquired.

Relevant agencies:

Office of Administration - Statewide Geospatial Board

Justification:

Counties and municipalities want to make sure operators are using accurate maps, and that state and local governments are using a common mapping picture.

Actions that would be required to achieve recommendation:

Office of Administration to convene the first meeting of the Board.

Challenges to achieving recommendation:

Additional supporting material:

Issues to address (such as cost, environmental impacts):

County Government Workgroup Recommendation #11

Create a Commonwealth Library of Pipeline Information

Full recommendation:

The Commonwealth should create a single repository for all information related to pipelines, including development process, contact information for regulatory agencies, best practices, subject matter experts, training opportunities, etc., so that local governments, as well as the citizens of the Commonwealth have access to information in one central location.

Relevant agencies:

As determined by the Commonwealth.

Justification:

To provide local governments, as well as the citizens of the Commonwealth with access to information related to pipelines in one central location.

Actions that would be required to achieve recommendation:

Challenges to achieving recommendation:

Funding, resources.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

County Government Workgroup Recommendation #12

Require Pipeline Abandonment Plans

Full recommendation:

State should establish a requirement (by regulation or statute) for pipeline operators to provide an abandonment plan as part of the pipeline's development process. The plan at a minimum should include notification to landowners, PA1Call and counties, and disposition plans.

Relevant agencies:

General Assembly and/or

PUC

Justification:

To limit any exposure for county government for being responsible for abandoned lines (similar to experience with rails to trails).

Actions that would be required to achieve recommendation:

Statutory or regulatory development.

Challenges to achieving recommendation:

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Emergency Preparedness Workgroup

Introduction

The Emergency Preparedness (EP) workgroup is charged with developing best practices related to on-the-ground first response, and developing training programs for first responders in communities impacted by pipeline infrastructure development.

EP workgroup members provide a geographically-diverse representation and perspective on emergency preparedness. Member backgrounds include: environmental monitoring and occupational safety, regulatory compliance, county and municipal governance, first responder concerns, and emergency management planning and training. The following information provides a brief overview of the EP Workgroup's initial and subsequent discussions, information and materials provided by workgroup members, and the recommendations and best practices developed.

PEMA Director Richard Flinn, EP workgroup Chairman, convened the initial meeting and gave the mission and charge of the EP workgroup. A workgroup member provided a review of the overall mission of the Pipeline Infrastructure Task Force (PITF). A discussion ensued to capture clarity of the mission, including remarks from workgroup members on the unprecedented nature of this effort and the opportunity to balance the economic potential with responsible environmental stewardship.

In preparing for the EP workgroup discussion on the charge of providing recommendations and best practices, Director Flinn provided some structural guidance by relating effective procedures used in emergency preparedness planning and training associated with Marcellus Shale and Crude Oil by Rail (CBR). He recommended that workgroup members begin by reviewing current practices, tools, programs, training, and determining gaps to resolve. Multiple contributions were made during the dialogue exchange, including the discussion of existing publications, programs and grants available through the State Fire Academy (SFA), the Pipeline Hazardous Material Safety Administration (PHMSA), and the Pennsylvania State Association of Township Supervisors (PSATS); efforts by various counties and other states; and a recommendation to review the work conducted by the Pipelines and Informed Planning Alliance (PIPA).

It was noted by EP workgroup members that much of the information needed to recommend best practices is available and that "the group did not need to reinvent the wheel". Additional commentary centered on identifying those who need training; it was also noted that getting people to the existing training venues would need more consideration and perhaps marketing. The topic of diminishing fire department personnel, particularly in rural areas, would require consideration.

The workgroup discussed educational resources and noted the importance of well-defined definitions to address both legacy and planned pipeline terminology and technology. It became apparent that understanding the differences between gathering lines and transmission lines was more complex than assumed. Recommendations for developing a comprehensive list(s) of resource files, publications, products, and trainings were recognized.

Understanding the scope and locations of the pipeline infrastructure (including compressor stations) was discussed. Workgroup members believe that Geographic Information System (GIS) mapping technologies would need to be comprehensive and complete for purposes of risk analysis and the identification of planning and training gaps.

Developing a list of recommendations and best practices was accomplished through numerous information exchanges and in subsequent meetings. Several workgroup members recognized that a number of best practices and recommendations may be adopted and revised from the “Governor’s Marcellus Shale Advisory Commission Report (Marcellus Report) dated 7/22/2011” – Section 9.3, Local Impact & Emergency Response. As many comments and recommendations were received, they were reviewed against the Marcellus Report and further developed through review and editing by workgroup members. Additional comments and recommendations not reflected in the Marcellus Report were added, and all recommendations were reviewed and vetted by workgroup members. The following is a list of recommendations as provided by the EP workgroup.

Emergency Preparedness Workgroup Recommendation #1

Standardize Emergency Response Plans

Full recommendation:

In coordination with Pennsylvania Emergency Management Agency (PEMA) and the Department of Environmental Protection (DEP), Emergency Response Plans (ERPs) for responding to pipeline infrastructure incidents should be standardized across the Commonwealth to ensure an acceptable level of expectation for safety and response coordination. The ERPs should be made available to the county emergency management coordinator, and shall include the well-pad or segments as appropriate to the end point of ownership. This plan shall include aerial view(s) of the site(s) for each well-pad and associated assets.

Emergency Preparedness Workgroup Recommendation #2

Train Emergency Responders

Full recommendation:

An enhanced effort to provide education and training for emergency responders will require marketing and oversight. The following recommendations were offered to assist with the diminishing pool of resources and provide access and interest in existing and new training opportunities:

- The development of a “Resource Book” is needed to help communities and first responders identify programs, training, classes, grants, and other opportunities from all sources to include PHMSA, PEMA, SFA, etc.
- Educational and training materials will be developed for delivery to and by fire departments (e.g., at monthly Safety Meetings). Information will contain notices of opportunities to secure additional training.
- PEMA will provide funding streams through various state and federal grants for sub-grantees (i.e., counties) to address planning and training needs.
- Explore new or emerging technology applications for remote training delivery.
- Encourage the Pennsylvania State Police (PSP) and other law enforcement organizations throughout the Commonwealth to attend pipeline awareness sessions, as they have a high likelihood of being first responders at a pipeline incident or may discover a release while on patrol.

Emergency Preparedness Workgroup Recommendation #3

Require Infrastructure Mapping

Full recommendation:

Infrastructure mapping shall be required as under HB 445 using PA1Call's Member Mapping System. Access to GIS data will support many planning and preparedness concerns, and GIS mapping is integral to response efforts. It will also assist in developing a risk assessment to determine impacts and needs with the ability to drill down to DEP Site ERPs. Line owners shall include all known facilities in this system, and shall be subject to the update provisions of the Underground Utility Line Protection Law (UULPL).

Emergency Preparedness Workgroup Recommendation #4

Coordinate Pipeline Mapping Plans

Full recommendation:

Efforts to partner with Pipeline, Oil & Gas Producers, Gas, Petroleum Products, and their derivatives shall make “best effort” to use *Best Practices API RP 80* and PIPA to reduce the impact on the environment and provide emergency responders with the training and information needed to handle pipeline emergencies on their facilities.

Efforts to coordinate planning, design, construction, and operation of these lines and facilities should be coordinated through the PA1Call Member Mapping System and its facility owners to reduce local impact and improve Public Safety. The “*PIPA Report*” is a comprehensive siting guide which has been adopted by PHMSA and supported by Industry and Advocacy Groups alike.

<http://primis.phmsa.dot.gov/comm/publications/PIPA/PIPA-Report-Final-20101117.pdf#pagemode=bookmarks>

Emergency Preparedness Workgroup Recommendation #5

PUC Should Develop a Comprehensive List of Pipeline Classifications

Full recommendation:

To develop a further understanding of and differences between line classifications (i.e., well, production, gathering, collection, transmission lines, etc.) and concerns related to legacy pipelines, it is recommended that the Public Utility Commission (PUC) work with PHMSA to define and publish a comprehensive list of line classifications.

Note: It is important to understand why distinguishing on-shore gathering lines is critical. Gathering lines are pipelines used to collect and transport natural gas from the well and related production facilities to transmission or distribution pipelines, which then transport the gas to a gas consumer, such as a residence or business. PHMSA safety regulations in 49 CFR 192 apply to the design, construction, operation, and maintenance of gathering, transmission, and distribution pipelines. However, the regulations do not cover production facilities or on-shore gathering lines in locations outside cities, towns, villages, or designated residential and commercial areas (hereinafter “rural locations”) (§192.1(b)(4)).

Note: Pennsylvania has no unincorporated area, and therefore should have no pipelines exempt from industry standards for pipeline safety and construction.

Emergency Preparedness Workgroup Recommendation #6

Enhance Emergency Response Training for Responder Agencies

Full recommendation:

Identify, coordinate, and provide regular training for integration with existing specialized response capabilities (public/private) to enhance incident management and unified command practices capable of immediate response to an incident anywhere in the Commonwealth. The responding agencies will focus on ensuring public safety by isolating and securing the incident site while leaving fires or releases to professional, trained experts utilizing equipment staged for that purpose in a manner to provide a timely response to emergencies.

Emergency Preparedness Workgroup Recommendation #7

Create County/Regional Safety Task Forces

Full recommendation:

Establish county/regional safety task forces utilizing public/private partnerships comprised of public officials, local emergency responders, industry representatives, and other experts to facilitate coordination, knowledge sharing, planning, and emergency response protocols.

Emergency Preparedness Workgroup Recommendation #8

Provide Training to Local Emergency Responders

Full recommendation:

Provide comprehensive training to local fire and emergency responders, focused on the unique situations presented from natural gas-related and other pipeline emergencies, and assist in the identification and acquisition of appropriate materials, through a program overseen and administered by the Office of the State Fire Commissioner (OSFC). Training efforts should always take advantage of ongoing industry-provided training.

Note: The OFSC oversees the training, operational, and informational purposes of the Commonwealth's fire and emergency services community. The number of volunteer fire and emergency service providers in Pennsylvania has decreased substantially in recent years, from over 300,000 in the 1970s to approximately 60,000 today.

Emergency Preparedness Workgroup Recommendation #9

Assess Need for Additional Training for Local Responders

Full recommendation:

Assess the need for additional fire, emergency response, and hazardous materials training; personnel; and preparation based on mapping of the proposed pipeline infrastructure and related facilities.

Note: Act 165, *as amended*, known as the Hazardous Material Emergency Response and Planning Act, governs emergency response to releases of hazardous materials from facilities and transportation-related accidents.

Emergency Preparedness Workgroup Recommendation #10

Establish Protocol for Emergency Movement of Heavy Equipment during Off-Hours

Full recommendation:

The Pennsylvania Department of Transportation (PennDOT), in cooperation with PSP, should establish a protocol for the emergency movement of heavy equipment during off-hours (evening, night, and weekends) which must be dispatched to a location in immediate need of the equipment.

Emergency Preparedness Workgroup Recommendation #11

Assigning a 9-1-1 Address to Pipeline-Related Facilities

Full recommendation:

Related facilities (compressor stations, etc.) should be assigned a 9-1-1 address for emergency response purposes. Gas operators should be required to provide GPS coordinates for access roads and related facilities, and post this information, along with appropriate emergency response contact information, in conspicuous location(s) at the related facilities.

Emergency Preparedness Workgroup Recommendation #12

Authorize a Fee for Emergency Response to Pipeline Incidents

Enact or authorize the imposition at a fee for the purpose of mitigating the additional financial impacts borne by emergency response organizations from the development and operation of pipelines within their response areas.

The imposition of any fee should be accommodated by appropriate statutory changes to ensure fair and consistent municipal regulation which does not unreasonably impede the development of the pipeline infrastructure. Any fee should include a correlation between the amount of the fee and cost incurred, should recognize the ongoing nature of certain impacts, and should be done in a manner that does not discourage maintaining or expanding partnerships between pipeline operators and local communities.

Impacts identified by the PITF as appropriate for compensation include, but are not necessarily limited to:

- a. Local emergency response, planning, coordination, training, equipment acquisition, communication, and implementation;
- b. Public safety, including police and fire protection;
- c. State-administered emergency response training, planning and coordination;

Emergency Preparedness Workgroup

Best Practices


Relative to best practices, the EP workgroup has identified an extraordinary number of references, articles, programs, case studies, and links which all stakeholders should find complementary to establishing a comprehensive set of best practices in developing standards.

1. *Common Ground Alliance Best Practices 12.0*, published March 2015 has a considerable number of recommendations ranging from planning and design to one call centers, mapping and public education and awareness. The following references are provided as examples:
 - a. PA1Call Center: To enhance awareness of responsibilities to safeguard workers and the public and protect the integrity of the buried infrastructure.
 - b. Data Reporting and Evaluation: References for facility owners/operators, locators, excavators, or stakeholders with an interest in underground damage prevention.
 - c. Information Sharing: Addresses Homeland Security concerns for all parties who must ensure that such information is shared only with individuals who truly require this critical information.

Note: "**Common Ground Alliance Best Practices**" refers to the damage prevention industry recommended standards issued by the Common Ground Alliance, a not-for-profit corporation created pursuant to the issuance of the 1999 U.S. Department of Transportation's Common Ground Task Force report.

"**Emergency**" means a sudden or unforeseen occurrence involving a clear and immediate danger to life, property and the environment, including, but not limited to, serious breaks or defects in a facility owner's lines. (PA UULPL ACT 287 *as amended* 2008).

2. PA1Call System submitted the following links to share with the EP workgroup members. The information may help the group in preparing the report.
<http://www.firefighternation.com/article/hazardous-material-cbrn/pipeline-emergency-planning-response-tools>.
3. The construction and operation of the vast network of pipelines are regulated by the U.S. Department of Transportation's PHMSA. Workgroup members can research additional information by visiting PHMSA's homepage at www.phmsa.dot.gov and PHMSA's Stakeholder Communications website at <http://primis.phmsa.dot.gov/comm>.
4. Social Media use in emergency preparedness continues to grow, especially with Twitter and Facebook. The First Responder Community of Practice (FRCOP) website, <https://communities.firstresponder.gov/web/guest/home> offers a great resource and insight to the strength of this communication medium.

5. PUC submitted the following link to be reviewed by workgroup members:
<http://www.ferc.gov/media/news-releases/2015/2015-3/07-28-15.asp#.VdErgmBRGUk>.
6. The Federal Energy Regulatory Commission (FERC) posted guidance on best practices for stakeholder outreach programs for natural gas projects. The document, *[Suggested Best Practices for Industry Outreach Programs to Stakeholders](#)* , was prepared by FERC's Office of Energy Projects.
7. The document presents common practices and highlights tools that FERC-regulated natural gas companies can use to effectively inform and engage stakeholders.
8. Fresno, California 12" Accident:
<http://www.usatoday.com/story/news/2015/04/17/fresno-gas-pipeline-explosion/25969507/>
9. Pacific Gas and Electric Company Natural Gas Transmission Pipeline Rupture and Fire, San Bruno, California:
http://www.nts.gov/news/events/Pages/Pacific_Gas_and_Electric_Company_Natural_Gas_Transmission_Pipeline_Rupture_and_Fire_San_Bruno_California.aspx
10. Preparedness for Navigable Waterways: <http://www.camogroup.org/GulfSafe-CAMO-4-28.pptx>
11. U.S. Department of Transportation - *The State of the National Pipeline Infrastructure*
http://opsweb.phmsa.dot.gov/pipelineforum/docs/Secretarys%20Infrastructure%20Report_Revised%20per%20PHC_103111.pdf
12. PHMSA – Pipeline Emergency Official Web Page:
 - a. <http://primis.phmsa.dot.gov/comm/EmergencyOfficials.htm?nocache=2277>
 - b. <http://primis.phmsa.dot.gov/comm/publications/PIPA/PIPA-PipelineRiskReport-Final-20101021.pdf>
13. Marcellus Shale Coalition (MSC) – Pipeline Emergency Responder Statement:
<http://marcelluscoalition.org/marcellus-shale/community/>
14. Pipeline Association for Public Awareness (PAPA) - Industry group with a wealth of Pipeline Safety information available:
<http://www.pipelineawareness.org/featured-video-pipelines>
15. MSC - Recommended Practices:
<http://marcelluscoalition.org/category/library/recommended-practices/>
16. National Association of State Fire Marshals (NASFM) – Pipeline Emergencies:
<http://www.pipelineemergencies.com/>

17. PHMSA - Gathering Line FAQs:
<http://phmsa.dot.gov/portal/site/PHMSA/menuitem.6f23687cf7b00b0f22e4c6962d9c8789/?vgnextoid=4351fd1a874c6310VgnVCM1000001ecb7898RCRD&vgnnextchannel=f7280665b91ac010VgnVCM1000008049a8c0RCRD&vgnnextfmt=print>
18. PHMSA Pennsylvania Page “Regulated” Pipeline Data:
<http://primis.phmsa.dot.gov/comm/StatePages/Pennsylvania.htm>
19. PHMSA Public Service Announcement (PSA) Banner:
<http://phmsa.dot.gov/pipeline/library/pipeline-safety-awareness-archive/psa-banner>
20. PAPA Homepage: The PAPA promotes open communication and cooperation with local organizations to enhance public safety, improve emergency preparedness, protect the environment, and prevent damage to property and facilities:
<http://www.pipelineawareness.org/>
21. Pipeline Education – Basics: <http://www.pipeline101.com/>
22. Pennsylvania One Call System, Inc. (dba PA 811)
Pipeline Safety Awareness & Emergency Response Programs - Statewide Education Program Schedule (Annual) – has been provided for more than 30 years to Emergency responders funded by PA1Call’s Pipeline Members:
 - a. http://www.pa1call.org/PA811/Public/POCS_Content/News/2015_Pipeline_Safety_Awareness_Programs.aspx
 - b. www.paonecall.org/pipelinesafety
23. Pipeline Safety Trust – Washington-based nonprofit pipeline safety advocacy group founded post Bellingham, WA pipeline incident in 1999 that involved 3 fatalities:
 - a. <http://www.pstrust.org> - Basic info
 - b. <http://pstrust.org/wp-content/uploads/2014/11/PST-Newsletter-Fall2014.pdf>
 - c. http://pstrust.org/wp-content/uploads/2013/03/pstNewsletter_November_Final.pdf
 - d. <http://pstrust.org/wp-content/uploads/2013/04/Pennsylvania-owners-guide-2011.pdf>
 - e. <http://pstrust.org/docs/LandownersGuideFinalReport.pdf>
 - f. <http://pstrust.org/wp-content/uploads/2013/10/PST-Govt-Guide-Pipelines-2014-web.pdf>
 - g. <http://pstrust.org/trust-initiatives-programs/planning-near-pipelines/>
24. Texas Organization – affiliated with Common Ground Alliance (CGA):
<http://pipeline-safety.org/> Common Ground Alliance

25. CGA – Organization founded in 2000 after the Common Ground Study commissioned by Congress.

- a. *Best Practices, Version 12.0*. Compilation of industry practices compiled by more than 70 volunteer industry participants and updated annually:
<http://commongroundalliance.com/best-practices-guide>.
- b. *Vault Technology Library* is an online damage prevention technology information source that serves as a tool to easily locate and review technologies by technology category, CGA best practice, related root causes, and stakeholder group. VAULT is used to find technologies that help reduce damage to underground utility facilities.
- c. *811 Toolkit*: 811, the three-digit number to call before you dig, continues to make an impact on the damage prevention community, and you and your organization can help. You can protect yourself, your business and your customers by incorporating the 811 logo into your existing campaigns or by downloading elements of the national awareness campaign.
<http://commongroundalliance.com/damage-prevention/toolkits/811-campaign#sthash.QarvVN11.dpuf>
- d. *Advocacy Resource Library* - The stakeholder advocacy toolkit includes documents available to assist stakeholders in discovering best practices that have already been identified through the CGA, case studies describing legislative activities that have taken place recently in some states, and a list of states that have current legislative activity indicated, as well as contact information for stakeholder groups that would be beneficial to engage in the process of building a legislative coalition with your state. <http://commongroundalliance.com/damage-prevention/toolkits/stakeholder-advocacy-resources#sthash.sZBRApWs.dpuf>
- e. *Damage Information Reporting Tool (DIRT) Report 2014*: CGA's annual DIRT report provides a summary and analysis of events:
<http://commongroundalliance.com/media-reports/dirt-reports#sthash.SkLdXrcq.dpuf>

26. American Petroleum Institute

- a. *API RP 1162* – Standards for pipeline Safety Damage Prevention Programs – 9 Elements:
<http://publications.api.org/documents/1162%20e2-PubAcc/html5.html>
- b. *API RP 80* – Standards for On Shore Gathering Lines

Environmental Protection Workgroup Recommendation #1

Establish Early Partnerships and Coordination in Relationships with Regulatory Agencies

Full recommendation:

The project sponsors should reach out to representatives of regulatory jurisdictions as early as possible to gather input for consideration during project planning. These groups may include local municipalities, county governments, including: planning commissions and conservation districts, river basin commissions, and state and federal regulatory agencies.

Relevant agencies:

Department of Environmental Protection (DEP)
Pennsylvania Fish and Boat Commission (PFBC)
Pennsylvania Game Commission (PGC)
Pennsylvania Department of Conservation and Natural Resources (DCNR)
Susquehanna River Basin Commission (SRBC)
Delaware River Basin Commission (DRBC)
United States Fish and Wildlife Service
United States Army Corps of Engineers (USACE)
Local Governments and Conservation Districts

Justification:

When early partnerships and coordination relationships are established it can assist project sponsors in identifying and avoiding sensitive resources, as well as increase the predictability of regulatory approvals through the life of the project. While certain regulatory coordination relationships are established and mature, each project brings differing issues and early coordination between applicable agencies is essential towards effective and efficient regulatory processes.

Actions that would be required to achieve recommendation:

Project sponsor focus on partnerships and pre-planning with jurisdictional agencies.

Challenges to achieving recommendation:

When multiple agencies are involved, scheduling meetings to collectively discuss a project can be difficult to achieve.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Timing and predictability.

Environmental Protection Workgroup Recommendation #2

Establish Early Coordination with Local Non-Governmental Groups

Full recommendation:

The project sponsors should contact groups such as local and nationally recognized groups affiliated with natural resource preservation and protection. These groups may include local watershed groups, conservancies, land trusts, environmental advocates, and environmentally minded organizations, councils and societies. Early coordination and outreach to establish a partnership with these groups focused on natural resource protection is invaluable.

Relevant agencies:

Land trusts
Watershed groups
Conservancies
Environmentally minded organizations
Councils and Societies

Justification:

Early identification of local concerns is a benefit in the planning process. It allows the opportunity to solicit and incorporate local input into the planning process, which can be a valuable time savings to make project adjustments to address concerns as identified.

Actions that would be required to achieve recommendation:

Provide a directory of relevant groups in Pennsylvania with their contact information to the project sponsors.

Challenges to achieving recommendation:

The groups may not be staffed to offer pipeline project environmental review.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Environmental Protection Workgroup Recommendation #3

Establish Early Coordination with Local Landowners and Lessors

Full recommendation:

The project sponsors should communicate with landowners and educate them on the regulatory requirements faced by the pipeline operator during construction and after construction for long term operations and land use issues.

Relevant agencies:

DEP
PFBC
PGC
DCNR
SRBC
DRBC
USACE
U.S. Fish and Wildlife Service
Local Governments
Conservation Districts

Justification:

Typical landowners have a considerable lack of understating in regards to the regulatory obligations of the project sponsor during pipeline construction and operations. Early and increased communication and education can help minimize third-party impacts to right-of-way (ROW) prior to restoration and during long term operations.

Actions that would be required to achieve recommendation:

Project sponsors should focus on outreach programs as early as possible to educate landowners. Local and State regulatory agencies should also make efforts to educate the public on the requirements of their regulatory programs.

Challenges to achieving recommendation:

To be effective, message delivery should to be multi-faceted (public meetings, mailings, etc.). Using multiple delivery vehicles can be costly and time consuming. It is recommended to incorporate these messages into existing outreach programs where possible.

Additional supporting material:

<http://www.ingaa.org/File.aspx?id=19618>

Issues to address (such as cost, environmental impacts):

Reaching landowners who disregard the regulatory obligations.

Environmental Protection Workgroup Recommendation #4

Project Sponsors Should Review Pennsylvania Stormwater BMP Manual

Full recommendation:

DEP should ensure that the Pennsylvania Erosion and Sediment Control Manual is continuously updated and stays current, including adding alternative BMPs approved by DEP and new leading BMPs.

Relevant agencies:

DEP
Conservation districts
Local governments

Justification:

The project sponsors have to review, utilize and implement BMPs and standards in the Pennsylvania Erosion and Sediment Control Manual. BMPs, when designed according to these standards, and properly implemented and maintained, are expected to minimize the potential for accelerated erosion and sedimentation, and at the same time to protect, maintain, reclaim and restore water quality and existing and designated uses of surface waters.

The March 2012 manual contains a selection of performance oriented BMPs that minimize accelerated soil erosion and sedimentation associated with temporary earth disturbance activities. Much of the design criteria and supporting calculations have already been developed and provided in the manual.

Alternate BMPs that are not listed in this manual but that provide the same (or greater) level of protection may also be used to attain the regulatory standard. It is incumbent on the person proposing the use of alternative BMPs to demonstrate their effectiveness with appropriate test results or other documentation.

Actions that would be required to achieve recommendation:

DEP staff would need to develop a method for efficiently updating the manual, including a way to provide a better process to make available and distribute alternative BMPs that are not listed in the manual, but that have already been approved by DEP to use by others.

Challenges to achieving recommendation:

Additional supporting material:

<http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-88925/363-2134-008.pdf>

Issues to address (such as cost, environmental impacts):

Cost and staffing needs to keep the Pennsylvania Stormwater BMP Manual up to date and current with new BMPs to utilize.

Environmental Protection Workgroup Recommendation #5

Sponsors Should Review the Pennsylvania Erosion and Sediment Pollution Control Program Manual

Full recommendation:

The project sponsors should review, utilize and implement BMPs and standards in the Pennsylvania Erosion and Sediment Control Manual. BMPs, when designed according to these standards, and properly implemented and maintained, are expected to minimize the potential for accelerated erosion and sedimentation, and at the same time to protect, maintain, reclaim and restore water quality and existing and designated uses of surface waters.

Relevant agencies:

DEP

Conservation districts

Local governments

Justification:

The March 2012 manual contains a selection of performance oriented BMPs that minimize accelerated soil erosion and sedimentation associated with temporary earth disturbance activities. Much of the design criteria and supporting calculations have already been developed and provided in the manual.

Actions that would be required to achieve recommendation:

Alternate BMPs that are not listed in this manual but that provide the same (or greater) level of protection may also be used to attain the regulatory standard. It is incumbent on the person proposing the use of alternative BMPs to demonstrate their effectiveness with appropriate test results or other documentation.

To provide a better method to make available and distribute alternative BMPs that are not listed in the manual, but that have already been approved by DEP to use by others.

Challenges to achieving recommendation:

Ensuring that the Pennsylvania Erosion and Sediment Control Manual stays current and has alternative approved BMPs and new leading BMPs added on a regular basis.

Additional supporting material:

<http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-88925/363-2134-008.pdf>

Issues to address (such as cost, environmental impacts):

The ability to keep the Pennsylvania Stormwater BMP Manual up to date and current with new BMPs to utilize.

Environmental Protection Workgroup Recommendation #6

Sponsors Should Request Pre-Application Meetings with Regulatory Agencies

Full recommendation:

The project sponsor should request a pre-application meeting, as required, as early in the process as possible, especially for transmission mains and for larger projects or projects with significant environmental impacts. For larger projects with potentially significant environmental impacts combining pre-application meetings with various Departments, agencies, offices and programs is recommended. A pre-application meeting is the foundation for improved understanding and communication between the potential applicant and the regulatory agencies.

Relevant agencies:

DEP

All other applicable state, federal, local and regional permitting agencies

Justification:

A pre-application meeting is the foundation for improved understanding and communication between the potential applicant and the regulatory agencies. The pre-application meeting allows the agencies, consultant and applicant to discuss project details and seek clarification on applicable regulatory and statutory requirements.

For the applicant and the applicant's consultant, the time invested in a pre-application meeting pays dividends in the form of complete and technically adequate submissions, and shorter processing times resulting from a better understanding of the project and complicated matters prior to application submission. Further, these meetings are critical and highly recommended when large scale, multi-permitted facilities are involved and spans multiple counties or, or if federal permit coordination will be required.

In many cases, permit applications are complicated and challenging, due to the relationship of the numerous and overlapping environmental laws and regulations. Therefore, it is strongly recommended that applicants employ consultants with expertise in the areas of environmental permitting to aid in completion of permit applications.

Actions that would be required to achieve recommendation:

Applicants and their Consultants are responsible for:

- Contacting regulatory agencies as soon as it is possible to provide a description (project summary, maps, etc.) of the proposed project, and requesting a pre-application conference.
- Remaining in contact with the agencies throughout the development of the project details and technical design will ensure a thorough understanding by agency staff, assure adherence to applicable regulatory and statutory requirements to gain insight into potential regulatory concerns that could delay.
- Applicants should also incorporate sufficient time into their project schedule to allow for receipt of all permits and approvals prior to commencing construction and that the

agencies will not begin its technical review of an application until the submission is administratively complete.

Challenges to achieving recommendation:

DEP does not have the staff to hold a pre-application meeting for all projects. Proper thresholds need to be applied to have pre-application meetings for larger projects and projects with significant potential environmental impacts.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Environmental Protection Workgroup Recommendation #7

Sponsors Should Perform Alternatives Analysis to Avoid/Minimize Impacts

Full recommendation:

For all infrastructure potentially impacting significant and sensitive environmental resources, the project sponsor should perform a detailed alternatives analysis with the goals of avoiding and minimizing disturbances to areas requiring significant or sensitive environmental protection or water resource protection and identifying best construction techniques practicable, given the required pipe diameter (for pipeline projects), site and soil conditions and safety requirements.

Relevant agencies:

DEP

All other applicable state, federal, local and regional permitting agencies

Justification:

Alternative analyses would help ensure that goals towards avoiding or minimizing disturbances to environmentally sensitive resources have been fully considered and implemented, where feasible.

When the project is in an exceptional value (EV) watershed, crossing a large wetland (10 acres in size) a Joint Permit Application (JPA) is required. A component of the JPA is to provide an alternative analysis.

Actions that would be required to achieve recommendation:

For larger projects and projects involving transmission or multiple gathering mains, the project sponsor should develop a landscape level plan (Landscape Level Planning BMP).

Challenges to achieving recommendation:

The pipelines are generally placed where the landowner wants it on his/her property and based on the well pad location that needs to be gathered. For routine production and gathering pipelines, pipeline routing will be constrained by landowner and lease requirements and an alternatives analysis may not yield any significant changes. Proper thresholds need to be developed and implemented to balance this BMP, which may not be applicable to all projects.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

- Thresholds
- Future facilities

Environmental Protection Workgroup Recommendation #8

Develop Standard Water Quality Monitoring Practices

Full recommendation:

It is recommended that practices be developed between DEP, industry, and related stakeholders to:

- Identify reasonable water quality parameters that can consistently and reliably be used to monitor and assess indications of significant changes in water quality.
- Identify sustainable methods for the DEP to develop a water quality baseline for waters that could potentially be impacted by pipeline and infrastructure development.
- Develop long term and sustainable sampling plans with the goal of identifying potential significant changes in water quality directly related to land development, including natural gas infrastructure development.
- Develop partnerships with industry, universities, DEP and other independent research groups to review the potential water quality impacts associated with pipeline infrastructure projects to include specific pre-construction and post construction sampling both upstream and downstream of areas of disturbance at streams and waterways.
- Identify methods to ensure quality assurance, quality control and interpret water data to the public.

Relevant agencies:

DEP
DCNR
PFBC

Justification:

The collection of baseline and relevant field level water quality data will support environmental monitoring and assessment and help to inform interested parties of existing conditions, pre-development conditions and any potential short term and longer terms impacts to water quality. Turbidity, conductivity and macroinvertebrates are some suggested indicators of potential impacts.

Actions that would be required to achieve recommendation:

The DEP would need to develop guidance on typical sampling protocols and Quality Assurance/Quality Control (QA/QC) methods to ensure consistency of approach and validity of data collected.

Guidance should also be provided where known special issues could require additional monitoring, such as in areas of disturbance of known or suspected contamination or in areas that could impact impaired waters.

Challenges to achieving recommendation:

There are several challenges to this recommendation including:

- The need to develop reasonable thresholds where water quality monitoring is needed such as:

- For transmission mains.
- In EV and Hazard Quotient (HQ) watersheds.
- Near drinking water intakes.
- Cost and time of potentially intensive sampling and analysis.
- Defining and separating the water quality impacts related to other activity, for example significant rainfall events or lack of rainfall, or other activities within the watershed such as urbanization and other land development, agriculture.
- Scheduling pre-construction sampling during the proper “baseline” seasons.
- Determining responsible parties for sampling, analyses of water quality samples, macroinvertebrate assessments.
- Interpreting data for the public. If all data are public, do they get just the data or an interpretation of the data as well?
- Funding and sources of funding for this work.

Additional supporting material:

The concept of monitoring and assessing water quality has been adopted by many as a part of foundational environmental protection programs. U.S Environmental Protection Agency (EPA) and their state delegates monitor and assess water quality under the Clean Water Act. Pennsylvania Act 13 of 2012 suggest a “predrilling” water quality survey of water supply wells to allow for monitoring, assessment and litigation defenses, related to natural gas drilling and claims of related pollution impacts.

Issues to address (such as cost, environmental impacts):

In the absence of a defined and coordinated water quality monitoring program, stakeholder and other related interests are expected to “fill the void” with alternative sampling, data and interpretation.

Determining:

- Whether water quality assessment is to be done via grab samples vs continuous monitoring.
- Taxonomic level of macroinvertebrate identification.

Environmental Protection Workgroup Recommendation #9

Develop An Advanced High-Quality Environmental Resources Planning Tool

Full recommendation:

In addition to Pennsylvania Natural Diversity Inventory (PNDI), the Commonwealth, should develop an advanced planning toolbox to identify, map and publish information on HQ and Sensitive Environmental Resources state-wide.

Relevant agencies:

DEP
DCNR

Justification:

An advanced tool with capability beyond PNDI screening would allow planning for additional conservation and environmental resource layers that can be used for evaluating infrastructure and development across the state.

Actions that would be required to achieve recommendation:

Development of source data and development of sustainable processes to ensure the tool is kept up to date.

Challenges to achieving recommendation:

Scope and funding are significant. The PNDI model has been successful and this tool could build upon that success to provide more advanced planning data.

Additional supporting material:

http://www.portal.state.pa.us/portal/server.pt/document/1548991/paconservationexplorer_dep_ca_c_sept2015_draft_pdf

Issues to address (such as cost, environmental impacts):

Environmental Protection Workgroup Recommendation #10

Sponsors Should Use Landscape Level Planning

Full recommendation:

The project sponsor should develop and maintain a landscape level plan in Geographic Information System (GIS) and tabular format that can be used for: alternatives analyses; regulatory meetings and coordination; stakeholder meetings and coordination; and public meetings and coordination. The landscape level plan shall identify and inventory all significant and sensitive environmental resource protection elements and display related impacts to resources in GIS and tabular format. The plan should include current and known future infrastructure. The inventory should identify the areas of both temporary and permanent disturbance and areas that are included in defined "co-location" areas (prior disturbances or existing rights or way).

Relevant agencies:

DEP
Soil conservation Districts
Other state federal and regional agencies.

Justification:

The early action landscape level planning will allow for better decision making by the project sponsor as alternative routes are reviewed and/or proposed with the goal of avoiding or minimizing impacts to environmentally sensitive resources. The plan will allow the agencies to compare and normalize impacts across various projects.

Actions that would be required to achieve recommendation:

In addition to the PNDI Environmental Review Tool, the Commonwealth should to develop an advanced environmental conservation and planning tool and resources for project sponsors and related stakeholders to identify environmentally sensitive areas. Practices need to be developed to define and identify land, water and air environmental resource elements to be inventoried and mapped.

Challenges to achieving recommendation:

It recommended that thresholds be considered for the types of projects or the type of potential impacts that would result in the need for landscape level planning. At the transmission line level, this should be standard practice. At the gathering line level, land owner (lease holder) requirements may have a significant impact on the route selection and may limit alternatives and should be considered.

Additional supporting material:

Comprehensive landscape level planning has been proposed in other jurisdictions as best practice and in regulations. Maryland's Interim Final Best Practices Report considers landscape level planning for all gas related infrastructure.

[http://www.mde.state.md.us/programs/Land/mining/marcellus/Documents/7.10_Version_Final BP_Report.pdf](http://www.mde.state.md.us/programs/Land/mining/marcellus/Documents/7.10_Version_Final_BP_Report.pdf)

Environmental Protection Workgroup Recommendation #11

Minimize Water Withdrawals for Testing

Full recommendation:

The project sponsor should minimize direct water withdrawals for testing wherever possible and approved existing water sources be used for testing. If water withdrawals are required, they should be conducted consistent with state, SRBC and/or DRBC requirements as applicable, and in a manner that prevents the introduction and spread of aquatic invasive species. Surface water withdrawals should not be conducted in intermittent streams and should be avoided in headwaters 1st order streams. Surface water withdrawals should consider potential impacts to downstream users, especially public water supplies and drinking water supplies. Groundwater withdrawal should consider impacts to other users in the same hydrogeological features, especially public water supplies and drinking water supplies. Water used for hydrostatic testing shall be interruptible, as required during emergencies or droughts. All water use should be metered.

Relevant agencies:

DEP

All other applicable state, federal, local and regional permitting agencies, including DRBC and SRBC

Justification:

Water used for pipeline and other infrastructure should not cause undue interference or should not cause significant impacts to water resources or other water users.

Actions that would be required to achieve recommendation:

Project sponsors should seek to determine and utilize existing and approved water supplies for their temporary or permanent needs, if feasible.

Challenges to achieving recommendation:

Water withdrawals should not be considered to be “prohibited” for these uses and there is no recommendation to revise any existing laws or authorities. As such, project sponsors reserve their rights to use water similar to any other users; however, it is best practice to use existing water sources, if available.

Additional supporting material:

Pennsylvania Water Rights Law of 1939

<http://www.legis.state.pa.us/WU01/LI/LI/US/PDF/1939/0/0365..PDF>

DRBC Project Review (as applicable)

<http://www.nj.gov/drbc/programs/project/>

SRBC Project Review

<http://www.srbc.net/programs/projreview.htm>

Issues to address (such as cost, environmental impacts):

Environmental Protection Workgroup Recommendation #12

Do Not Locate Pipelines Parallel to Streams Within its 100-Year Floodway

Full recommendation:

Following Chapter 105, it is recommended that pipelines not be located parallel to a stream within its 100-year floodway. DEP should assess whether the current 25' setback is sufficient as a minimum distance.

Relevant agencies:

DEP

County Conservation District

Justification:

Recommendations to prevent the construction of pipelines that closely parallel streams are already in Chapter 105. This recommendation recognizes that some pipelines will parallel streams – but only at a distance from the watercourse where it does not pose a threat to the stream.

Actions that would be required to achieve recommendation:

Incorporate into Stormwater Best Management Practice (BMP) Manual.

Challenges to achieving recommendation:

Concern as to whether current 25' setback is sufficient to protect streams. Anything more restrictive will likely require regulatory changes.

Additional supporting material:

Section 105.314 states: “Pipelines along streams shall be located a sufficient distance away from the bank to prevent damage to the bank as a result of erosion; pipelines shall be located a minimum of 25' away from the streambank unless other erosion protections measures are approved by the Department.”

Issues to address (such as cost, environmental impacts):

Concern over whether 100-year recurrence interval is most appropriate. Defining a setback for streams where a Federal Emergency Management Agency (FEMA) study is not in place.

Environmental Protection Workgroup Recommendation #13

Employ Smart Timing of Construction

Full recommendation:

The project sponsor should avoid or minimize significant field activity during periods or seasons of known special environmental, water resource sensitivity, or human activity (planting / harvesting), as well as times of the year most susceptible to freeze/thaw, erosion/sedimentation issues and trouble with obtaining stabilization.

Relevant agencies:

DEP

County Conservation District

Justification:

Due to the seasonal climate of Pennsylvania, not all seasons are conducive to construction. In general late fall, winter, and early spring are not suitable for pipeline placement due to frozen or excessively waterlogged soils. Moreover, spring or fall may be unsuitable due to planting or harvesting activities on agricultural fields.

Actions that would be required to achieve recommendation:

- Arrange a meeting with DEP and other resource agencies to better identify times of year when pipeline construction is not feasible.
- Perhaps develop a matrix to show how timing might be affected by geography, geology, surrounding land use.

Challenges to achieving recommendation:

Additional supporting material:

<http://www.nature.org/ourinitiatives/regions/northamerica/areas/centralappalachians/recommended-shale-practices-overview.pdf>

Issues to address (such as cost, environmental impacts):

Concern that no time of year may be suitable to pipeline construction. This recommendation would need to be adjusted to site conditions.

Environmental Protection Workgroup Recommendation #14

Assess Potential Subsurface Hazards in Planning

Full recommendation:

Using a qualified professional, such as Professional Engineers (PE), Professional Geologist (PG), Environmental Resource Manager, Surface or Underground Mine Inspector, or an environmental professional with experience in abandoned mine reclamation and mining, the project sponsor should evaluate and consider potential impacts in areas of current mining, past mining, or other resource extraction industries, such as the aggregate industries (limestone quarries-for example, karst topography) and the potential for sinkhole development or dissolution of limestone in areas that could become subsidence prone areas or areas that can lead to inadvertent returns. Areas that are prone to mine subsidence and mine fires should be closely evaluated either by assessing publically available information, or by test borings. The sponsor should avoid areas where cropfalls and highly fractured faulting occur on steep slopes, and should research available documents and mapping to avoid creating additional mine discharges that could surface and overflow to the land. Boring might be problematic in certain circumstances.

Relevant agencies:

DEP, Bureau of Abandoned Mine Reclamation (BAMR)
DEP, Mine Subsidence Insurance Program
DEP, Bureau of Active Mining Operations
DEP, Bureau of Deep Mine Safety
DEP, Bureau of District Mining Operations
US Department of Interior
Office of Surface Mining Reclamation and Enforcement (Federal)
Mine Safety Health Administration (Federal)
Eastern PA Coalition for Abandoned Mine Reclamation (non-profit)

Justification:

Some areas of Pennsylvania are underlain by highly porous/unstable rock formations caused by natural or human activity – particularly mining. Such rock formations may present hazards to pipeline stability and integrity. The potential for underground mine pool groundwater contamination could become especially significant should an accident occur or locating pipelines in areas where active mine fires are located beneath the surface posing an enhanced risk of mine subsidence.

Actions that would be required to achieve recommendation:

Coordination and review among the State and Federal agencies, with local support provided by Eastern Pennsylvania Coalition of Abandoned Mine Reclamation (EPCAMR) serving as a resource organization to review and provide best available mine maps prior to making pipeline routing determinations. Funding may be necessary to continue to provide technical assistance and mine mapping information and planning tools to local governments that would allow them to become more informed of their surface and underground abandoned mine land conditions within their respective land areas and municipalities. Additional hydrogeological studies are needed to define underground abandoned mine pool complexes throughout the Commonwealth of PA, their

proximities to the surface, and hydrologic connections to existing abandoned mine discharges in mining impacted watersheds. The use of GIS is recommended to create geographical overlays of points, lines, and polygon features of abandoned mine land problem areas and the descriptions and details of both surface and underground active and abandoned mine land features on the landscape. Those GIS tools should allow for 3-D visualization, changes over time, and be accessible to the public.

Challenges to achieving recommendation:

For specific projects, conducting borings in some areas having buried toxics may cause more harm than benefit. A more general assessment of the presence of buried mine workings, existing funding is not sufficient to fully map areas having either active or abandoned mines. Not all mine maps are digitally scanned, catalogued, digitized, or geo-referenced and thousands more need to be researched and reviewed to have the same work applied to them to make them more readily available for planning purposes. The Commonwealth does not have a policy to allow the various Bureaus dealing with active and abandoned mine lands to coordinate and review pipeline projects to avoid redundancy and to centralize the review process from a mining perspective. In some locations, it will be difficult to find specific mine maps because many coal companies do not provide them to the public, which could present a challenge when there are no maps in an inventory such as the Office of Surface Mining Folio Series.

Additional supporting material:

www.minemaps.psu.edu

<http://www.pamsi.org/>

<http://www.ahs.dep.pa.gov/PHUMMISExternal/default.aspx/default.aspx>

<http://www.northernfield.info/>

<http://amrclearinghouse.org/Sub/SCARLIFTReports/>

<http://psu.libguides.com/anthracite>

Issues to address (such as cost, environmental impacts):

Cost of development of a centralized pre-screening tool that might allow for the overlay of several of the GIS mining-related layers to assist in planning on a DEP webpage or portal; Gap analysis across the Commonwealth where mine maps do not currently exist or are poorly developed, in terms of the number of mine maps available, both surface and underground that would allow for decisions to be made with the best available mapping technology. Parties responsible for implementing these tasks would need to be identified. At present, the Mine Subsidence Insurance Program is actively performing that task by populating the www.minemaps.psu.edu; DEP BAMR has their own prioritization for reclamation projects within defined Problem Areas in the Abandoned Mine Land Inventory System (AMLIS) that is used to assist with determining which Priority 1 & Priority 2 (health and safety hazards) are reclaimed.

Environmental Protection Workgroup Recommendation #15

Route Pipelines to Minimize Disturbance to Forest Interiors

Full recommendation:

Pipelines should be planned and constructed in a manner that minimizes disturbance of intact forests having extensive interior forest habitat. Create canopy overhang when possible. Whenever possible, route pipelines through meadows, successional shrublands, and agricultural fields.

Relevant agencies:

DEP

DCNR

County Conservation District

Universities

Justification:

Intact forests harbor significant amounts of Pennsylvania's biodiversity, and provide ecosystem services such as water and air purification. Fragmenting forests vital pipeline corridors has been shown to reduce habitat for interior species, create pathways for aliens and invasive to enter, and create faunistic assemblages that are dominated by generalists.

Actions that would be required to achieve recommendation:

Arrange a meeting between DEP, DCNR Bureau of Forestry, PGC, and university researchers to arrive at a workable definition for core forests.

Challenges to achieving recommendation:

The definition of core forests is elusive and may be arbitrary due to size of forest, maturity of ecosystems, and natural disturbances (blowdowns) that reduce core forests. One approach would be to use indicator species such as certain warblers and other interior nesting birds. Doing so would necessitate a landscape-level approach to planning, which would also need to take into account other forms of disturbance such as agriculture, urbanization, roads, and timbering. In essence, if interior forests are off limits to pipelines, they should also be off limits to other forms of human development.

Additional supporting material:

Books and monographs on core forests. DCNR study of development within state lands.

Issues to address (such as cost, environmental impacts):

As noted, definition of core forests would need to be solidified. Certainly, core forests can be protected within state lands (state forests and parks). However, there is no legal framework to protect core forests on private lands.

Environmental Protection Workgroup Recommendation #16

Avoid Steep Slopes and Highly Erodible Soils

Full recommendation:

Where possible, pipelines should be routed to avoid steep slopes (suggest grade over 10%), especially on erodible soils. However, whenever pipelines must traverse slopes, they should do so at right angles to the grade of the slope. Waterbars and trench plugs should be installed on all pipelines constructed on a grade.

Relevant agencies:

DEP

Conservation District

Justification:

Exposing steep slopes to cuts from pipelines create opportunities for erosion, especially on highly erodible soils. But constructing pipelines at an angle to the slope maximizes disturbance, both horizontally and lengthwise. Therefore, a perpendicular cut is recommended. Waterbars and other features reduce the possibility for erosion from the steep slope.

Actions that would be required to achieve recommendation:

Incorporate into BMP Manual.

Challenges to achieving recommendation:

Those not familiar with pipeline construction, but nonetheless commenting on proposed projects, may not understand the rationale for crossing steep slopes perpendicularly, rather than at an angle.

Additional supporting material:

<http://www.nature.org/ourinitiatives/regions/northamerica/areas/centralappalachians/recommended-shale-practices-overview.pdf>

Issues to address (such as cost, environmental impacts):

Numerical definition of steep slope is based on Nature Conservancy document.

Environmental Protection Workgroup Recommendation #17

Share Rights-of-Ways

Full recommendation:

Where practicable, safe, and all parties are agreeable, oil and gas development and associated infrastructure should utilize existing disturbances such as road networks, rights-of-way corridors and other utility installations.

Relevant agencies:

DEP

DCNR

Conservation District

Pennsylvania Department of Transportation (PennDOT)

Other utilities

Other pipeline companies

Justification:

Pipelines that share existing corridors reduce the amount of disturbance and fragmentation that would otherwise occur with a separate pipeline corridor.

Actions that would be required to achieve recommendation:

Incorporate into BMP Manual.

Challenges to achieving recommendation:

Hesitation by some parties to share. Some corridors (high voltage power lines) might not be compatible with natural gas pipelines.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Some sharing may not be practicable due to unique factors of other partners. Co-locating natural gas pipelines and high-tension lines may be hazardous due to the electromagnetic fields that may interact with the pipeline or the gas.

Environmental Protection Workgroup Recommendation #18

Identify Barriers to Sharing Rights-of-Ways

Full Recommendation:

DEP should undertake a study to identify any legal, administrative, regulatory, or technical barriers that currently prevent the co-location of pipelines with either other pipelines or existing disturbances such as road networks, rights-of-way corridors and other utility installations. Once these barriers are identified, the Commonwealth should take reasonable measures to eliminate or mitigate them in order to incentivize co-location as a means of minimizing environmental disturbance.

Relevant Agencies:

DEP

DCNR

PennDOT

Pennsylvania General Assembly

Justification:

Pipelines that share existing corridors reduce the amount of disturbance and fragmentation that would otherwise occur with a separate pipeline corridor. Co-location is sometimes prevented by legal obstacles that may prevent the necessary parties from coming together to reach an agreement. Other times, there may be technical barriers to co-location, such as concerns about co-locating pipelines and electricity transmission lines. Helping pipeline operators overcome these barriers may help to minimize environmental damage, while also reducing cost to industry.

Actions that would be required to achieve recommendation:

Conduct a study to identify barriers to co-location. Take appropriate measures to minimize barriers to co-location.

Challenges to achieving recommendation:

Gathering information about barriers to co-location may be difficult. It will involve significant legal and technical research, and it will also require talking with a number of stakeholder groups, including pipeline companies, government agencies, and landowners.

Additional supporting material:

<https://www1.maine.gov/energy/pdf/LD1786%20Co-Location%20Report%20FINAL%20May%202011.pdf>

Issues to address (such as cost, environmental impacts):

Environmental Protection Workgroup Recommendation #19

Evaluate Existing and Needed Setbacks from Wetlands and Watercourses

Full recommendation:

With the exception of approved encroachments, no earth disturbance activities associated with natural gas infrastructure development should occur on the surface within 50' of any stream, wetland, vernal pool, spring seep, other waters of the Commonwealth. However, the setback distance would be increased to 150', or perhaps 330' as per The Nature Conservancy recommendation for specially designated waters, unless the sponsor can demonstrate that a line placed within that setback would have no adverse impact to the stream or watercourse in question.

Relevant agencies:

DEP

Justification:

Maintaining a setback distance from a wetland or watercourse provides an additional measure of protection to that resource.

Actions that would be required to achieve recommendation:

Incorporate into BMP Manual.

Challenges to achieving recommendation:

See below

Additional supporting material:

<http://www.nature.org/ourinitiatives/regions/northamerica/areas/centralappalachians/recommended-shale-practices-overview.pdf>

Issues to address (such as cost, environmental impacts):

A 100' wide setback may not be practicable for a linear feature such as a pipeline. Also it does not match with the 25' distance referenced in "Environmental Protection Workgroup Recommendation #12" and the current Stormwater BMP manual.

Environmental Protection Workgroup Recommendation #20

Use Dry Seals for Centrifugal Compressors

Full recommendation:

It is recommended that pipeline owners or operators, where possible, consider using “dry seals,” which use high pressure natural gas as a seal, for any new and replaced seals in centrifugal compressors instead of “wet seals,” which use high pressure oil as a barrier.

Relevant agencies:

DEP

Justification:

Centrifugal compressors are commonly used in natural gas transmission systems. These systems have traditionally used wet seals that use high-pressure oil as a barrier to prevent gas from escaping. Research conducted by U.S. Environmental Protection Agency (EPA) has shown that dry seals, which use high pressure gas to seal the compressor, significantly reduce both methane emissions and operating costs. The dry seals have a much lower emission rate, because they do not require degassing, as wet seals do. Dry seals also require less power to operate. Combining these factors, replacing wet seals with dry seals will significantly improve the environmental performance of centrifugal compressors.

Actions that would be required to achieve recommendation:

Operators would use dry seals instead of wet seals when they build new systems or replace seals in existing systems.

Challenges to achieving recommendation:

There is an initial capital cost to using dry seals over wet seals, but EPA estimates that the payback period for that investment is 13-29 months.

Additional supporting material:

EPA Natural Gas STAR Program: http://www3.epa.gov/gasstar/documents/ll_wetseals.pdf

Issues to address (such as cost, environmental impacts):

Initial cost of seal.

Environmental Protection Workgroup Recommendation #21

Minimize Methane Emissions During Compressor Station Shutdown Periods

Full recommendation:

It is recommended that pipeline operators establish practices that minimize the natural gas emissions during compressor station shutdown events. Recommended practices include, but are not limited to: keeping compressors pressurized when off-line or connecting blowdown vent lines to the fuel gas system to recover vented gas.

Relevant agencies:

DEP

Justification:

Compressors must be taken off-line at times to conduct regular maintenance and repair. Often during shut-down, operators vent high pressure gas remaining in the pipeline either to the atmosphere or to a flare. These emissions can be minimized by:

- Keeping compressors pressurized when off-line.
- Connecting blowdown vents to fuel system to recover some or all of the vented gas.
- Using static seals on compressor rod packing.
- Using ejectors on blowdown vent lines.

Actions that would be required to achieve recommendation:

Operators would need to reevaluate and revise their operating procedures to incorporate the suggestions listed above.

Challenges to achieving recommendation:

Evaluating options and revising standard operating procedures to reflect new practices.

Additional supporting material:

EPA Natural Gas STAR Program:

http://www3.epa.gov/gasstar/documents/ll_compressoroffline.pdf

Issues to address (such as cost, environmental impacts):

Some suggestions incorporated into this recommendation require an up-front cost for new equipment.

Environmental Protection Workgroup Recommendation #22

Use Pump-Down Techniques Before Maintenance and Repair

Full recommendation:

It is recommended that pipeline operators use pump-down techniques where possible to lower gas line pressure before venting gas to the atmosphere for maintenance or repair activities.

Relevant agencies:

DEP

Justification:

Significant methane emissions occur during blowdowns for routine maintenance or pipeline upsets. EPA estimates that in 2004 alone, 12 billion cubic feet of methane was emitted to the atmosphere under these conditions. The volume of gas released to the atmosphere during these processes can be reduced if pipeline operators use pump-down techniques to decrease the pressure of the pipeline segment before they evacuate the remaining gas from the segment.

Actions that would be required to achieve recommendation:

Operators would need to revise their procedures to allow for pump-down techniques, and they may need to obtain compressors if there are no adequate in-line compressors available.

Challenges to achieving recommendation:

Additional supporting material:

EPA Natural Gas STAR Program: http://www3.epa.gov/gasstar/documents/ll_pipeline.pdf;

Issues to address (such as cost, environmental impacts):

Environmental Protection Workgroup Recommendation #23

Develop Plans for Construction, Operation, and Maintenance

Full recommendation:

The project sponsor should develop a long term operations and maintenance plan. Such plans should include, but need not be limited to:

- Lawn, shrub, tree and vegetation maintenance.
- Use of fertilizers, herbicides, pesticides or insecticides.
- Operation and maintenance of soil erosion and sediment control and post-construction storm water management features.
- Practices associated with hydrostatic test water and discharge of hydrostatic test water discharge.
- Facility pipeline or power line inspections (already being done?).

Relevant agencies:

DEP

County Conservation District

Justification:

A plan is needed to ensure that the pipeline right-of-way does not become populated with invasive species, serve as a source of erosion or pollution to receiving waterbodies, or pose a hazard to neighboring communities.

Actions that would be required to achieve recommendation:

Incorporate into BMP Manual.

Challenges to achieving recommendation:

Additional supporting material:

Issues to address (such as cost, environmental impacts):

The detail needed in such a plan may be difficult to specify.

Environmental Protection Workgroup Recommendation #24

Implement Directed Inspection and Maintenance Program for Compressor Stations

Full recommendation:

It is recommended that compressor station operators implement a Directed Inspection and Maintenance Program for each compressor station. Such a program should be designed to identify and fix any leaks within the compressor station system.

Relevant agencies:

DEP

Justification:

EPA estimates that 50.7 billion cubic feet of methane emissions result from leaking compressors and other equipment components, such as valves, flanges, connections, and open-ended lines. Implementing a thorough Directed Inspection and Maintenance Program for compressor stations will help operators recoup the profits that would have been lost as a result of fugitive emissions, while also helping to reduce greenhouse gas emissions to the atmosphere. The Directed Inspection and Maintenance Program should include regular screening to identify leaks using appropriate leak-screening techniques. The leaks should then be repaired as expeditiously as possible to minimize emissions.

Actions that would be required to achieve recommendation:

Operators would need to create and implement a Directed Inspection and Maintenance program for their compressor station facilities.

Challenges to achieving recommendation:

Cost associated with developing and implementing the program.

Additional supporting material:

EPA Natural Gas STAR Program: http://www3.epa.gov/gasstar/documents/ll_dimcompstat.pdf

Issues to address (such as cost, environmental impacts):

Potential cost of initiating and maintaining the program.

Environmental Protection Workgroup Recommendation #25

Implement Wetland Banking/Mitigation Measures

Full recommendation:

The Commonwealth should develop and establish the Pennsylvania Integrated Ecological Services Enhancement and Support (PIESCES) in lieu fee (ILF) program under the provisions of 33 CFR Part 332.8. The proposed program would be applicable for use in providing compensatory mitigation of aquatic resources impacts throughout the Commonwealth of Pennsylvania, within the regulatory boundaries of the Baltimore, Philadelphia, and Pittsburgh Districts of the U.S. Army Corps of Engineers.

Relevant agencies:

DEP

USACE

Justification:

The proposed PIESCES ILF program seeks to:

- Provide aquatic resource compensatory mitigation that offsets compensatory mitigation requirements for DEP authorized impacts, Department of the Army (DA) authorized impacts, Corps of Engineers Civil Works project impacts, and/or to satisfy requirements of non-compliance issues or unauthorized activities (i.e., enforcement) to ensure a no net loss of acreage and/or functions of wetlands, streams, floodplains and other bodies of water.
- Ensure “no net loss” of acreage and/or functions of wetlands, streams, floodplains, and other bodies of water through establishment, enhancement, and restoration of aquatic resources.
- Provide a means to ensure that adequate compensatory mitigation of effected aquatic resources occurs within a framework that integrates the Commonwealth’s watershed planning and prioritization processes to the maximum extent practicable.

Actions that would be required to achieve recommendation:

The USACE will evaluate the submitted PIESCES prospectus in accordance with all requirements of the Mitigation Rule in 33 CFR Parts 325 and 332; in consultation with the Pennsylvania Interagency Review Team (IRT); and in consideration of comments received from the general public in response to this Special Public Notice, to determine the potential of the proposed ILF program to provide compensatory mitigation for activities authorized by DA permits within the Commonwealth of Pennsylvania. The utilization of approved and established mitigation banks with available credits, and approved ILF programs, is given preference to other forms of compensatory mitigation in the hierarchy of potential mitigation options as contained in the Mitigation Rule (33 CFR 332.3(b)(1)-(6)). A final approved ILF instrument does not provide DA authorization for specific future projects impacting waters of the United States; exclude such future projects from any applicable statutory or regulatory requirements; or preauthorize the use of credits from the ILF program for any particular project. The USACE provides no guarantee that any particular individual or general permit will be granted authorization to use the ILF

program to compensate for unavoidable aquatic resource impacts associated with a proposed permit, even though compensatory mitigation may be available within the defined service area.

Challenges to achieving recommendation:

Additional supporting material:

<http://www.nab.usace.army.mil/Missions/Regulatory/PublicNotices/PublicNoticeView/tabid/16587/Article/494191/spn14-24-2014-00371-pennsylvania-integrated-ecological-services-capacity-enhanc.aspx>

Issues to address (such as cost, environmental impacts):

Environmental Protection Workgroup Recommendation #26

Use Antidegradation Best Available Combination of Technologies to Protect EV and HQ Waters

Full recommendation:

Where it is not possible to avoid discharging from disturbed areas to a special protection watershed, the project sponsor should use Antidegradation Best Available Combination of Technologies (ABACT) to the fullest extent possible. A listing of ABACT BMPs is contained in Chapter 17 of DEP's Erosion and Sediment Pollution Control Manual.

Relevant agencies:

DEP

Justification:

Pennsylvania waters are classified according to their water quality. The highest quality waters are classified "special protection" waters, which are entitled to additional levels of protection to ensure that they maintain their high water quality. ABACT BMPs for erosion and sedimentation control and post-construction stormwater management are designed to prevent degradation of water quality. Permittees conducting earth disturbance activities in special protection watersheds are required under Pennsylvania's Chapter 102 regulations to use ABACT BMPs to manage the change in a 2-year/24-hour storm event to help prevent deterioration of water quality.

Actions that would be required to achieve recommendation:

Ensure industry awareness of antidegradation requirements and the importance of protecting special protection waters; ensure adequate DEP resources to implement ESCGP-2 permitting program.

Challenges to achieving recommendation:

Ensure budget resources to fund DEP permit review efforts.

Additional supporting material:

25 Pa. Code 93.4c(b)(1)(i)(B); 25 Pa. Code § 102.4(b)(6); 25 Pa. Code § 102.8(h).

Issues to address (such as cost, environmental impacts):

N/A

Environmental Protection Workgroup Recommendation #27

Avoid Dams and Reservoirs

Full recommendation:

Project sponsors should avoid crossing dams, dam related impoundment structures, and water supply, flood protection or other major reservoirs.

Relevant agencies:

DEP

All other applicable state, federal, local and regional permitting agencies, including DRBC and SRBC

Justification:

Dams are high hazard structures typically with significant and critical uses such as water supply and flood protection. Construction should be avoided at or near dams.

Actions that would be required to achieve recommendation:

Challenges to achieving recommendation:

Headwaters of certain reservoirs may transition to streams and in such cases BMPs for stream crossings should be used.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Environmental Protection Workgroup Recommendation #28

Avoid Water and/or Wastewater Discharges

Full recommendation:

The project sponsor should avoid hydrostatic test water discharges to receiving streams where possible.

As applicable, the project discharge should meet the requirement of NPDES General Permit, PAG-10 Discharges from hydrostatic testing of Tanks and Pipelines.

All discharges should comply with state water quality criteria; state waste load allocation and standards; and any applicable requirements and standards of the DRBC, as applicable within the Delaware River Basin.

Relevant agencies:

DEP

All other applicable state, federal, local and regional permitting agencies, including the DRBC

Justification:

Clean Water Act and the Pennsylvania Clean Streams Law.

Actions that would be required to achieve recommendation:

Challenges to achieving recommendation:

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Environmental Protection Workgroup Recommendation #29

Develop Plans for No Net Loss of Forests in Headwater Watersheds

Full recommendation:

The project sponsors for transmission and gathering infrastructure should develop and implement plans that result in no net loss of forests in headwater watersheds (for 1st order streams) either through: avoidance, minimization; and/or compensatory mitigation.

Relevant agencies:

DEP
DCNR

Justification:

Forest cover is an ideal land use protection of significant water resources throughout the Commonwealth. Forests play an integral role in the hydrologic cycle and are an important contributor to watershed health and water resources. While the relationship between forests and water resources is complex, local disturbances at the site level can have, or lead to, impacts at the watershed scale. Forest function can vary from a water resources perspective. Headwater watersheds play a high value role in protection of water quality.

Actions that would be required to achieve recommendation:

Additional research and study may be required to further refine the definition of high value water resource landscapes. While this BMP suggests for watersheds, the highest value to avoid or mitigate may be those associated with first order streams, the topic suggests more complexity and more study is needed for definition.

Challenges to achieving recommendation:

Development of a forest mitigation program for the Commonwealth.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Environmental Protection Workgroup Recommendation #30

Develop Plans for No Net Loss of Forested Riparian Buffers

Full recommendation:

The project sponsors for transmission and gathering infrastructure should develop and implement plans that result in no net loss of forested riparian buffers either through: avoidance, minimization; and/or compensatory mitigation.

Relevant agencies:

DEP

Justification:

Forest cover is an ideal land use protection of significant water resources throughout the Commonwealth. Forests play an integral role in the hydrologic cycle and are an important contributor to watershed health and water resources. While the relationship between forests and water resources is complex, local disturbances at the site level can have, or lead to, impacts at the watershed scale. Forest function can vary from a water resources perspective. Forested riparian buffers play a high value role in protection of water quality.

Actions that would be required to achieve recommendation:

Additional research and study may be required to further refine the definition of high value water resource landscapes.

Challenges to achieving recommendation:

Current laws and regulations define actions, conditions, requirements and exemptions that may not require forested riparian buffer avoidance or mitigation.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Environmental Protection Workgroup Recommendation #31

Develop Plans for No Net Loss of Wetlands

Full recommendation:

The project sponsors should develop and implement plans that result in no net loss of regulated and applicable wetlands either through: avoidance, minimization; and/or compensatory mitigation.

Relevant agencies:

USACE

DEP

PFBC

United States Fish and Wildlife Services (USFWS)

Justification:

Wetlands are recognized important habitats because of their unique role in the landscape, the critical habitat they provide for plants and animals of special concern and as having high value in many ways.

Actions that would be required to achieve recommendation:

Challenges to achieving recommendation:

Property owners might not see value of protecting wetlands and may indeed prefer to have the pipelines installed in the “unusable” portion of their property.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Environmental Protection Workgroup Recommendation #32

Study Long-Term Impacts of Pipeline Infrastructure on Water Resources and Sensitive Landscape

Full recommendation:

The Commonwealth should perform a long term and independent research based study of impacts of pipelines and other related infrastructure on water resources and sensitive landscapes.

Relevant agencies:

DEP
DCNR
DRBC
SRBC
PFBC
PGC

Justification:

There is a need to learn about the long-term and larger scale impacts of pipeline construction on land, water, air and other environmental resources.

Generally, environmental protection efforts and programs are focused on short-term and local scale impacts of development, but what happens over the long-term once permit obligations are completed? An independent long-term study should be commissioned to study and evaluate impacts beyond the project scale. The results of the study can be used to evaluate current environmental programs and best management practices and help to establish best practices for future planning and construction processes.

Actions that would be required to achieve recommendation:

The Commonwealth would need to set aside funds to commission a study. It would then need to define the parameters for the study and identify a person or group to complete the study. It may be necessary to obtain the cooperation and support of pipeline companies and/or private landowners to obtain necessary access.

Challenges to achieving recommendation:

Any of the above actions can become obstacles to implementation. The primary challenge will probably be obtaining the necessary funding to pay for the project. Secondary challenges may come from political obstacles inherent in designing the study and/or identifying independent party or parties who can carry it out.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

- Cost
- Identification of an independent party that can conduct the study in a manner

Environmental Protection Workgroup Recommendation #33

Minimize Methane Emissions

Full recommendation:

DEP continually monitor scientific and technical literature to ensure that appropriate technology and best practices are being used to minimize greenhouse gas emissions from pipeline infrastructure.

Relevant agencies:

DEP

Justification:

Methane, the primary component of natural gas, is a potent greenhouse gas that, pound for pound, has a 25 times greater impact on climate change over a 100-year period than does carbon dioxide.¹ Oil and natural gas operations are the largest source of methane emissions in the United States,^{1,2} and according to EPA, approximately 27% of methane emissions from the oil and gas industry in 2012 occurred during transmission and storage.³ Thus, it is important that the DEP stay abreast of developments in science and technology to ensure that it is poised to act on new opportunities to reduce methane emissions in the pipeline sector.

Actions that would be required to achieve recommendation:

DEP should ensure that staff regularly monitors scientific and technical literature related to methane emissions from the natural gas sector.

Challenges to achieving recommendation:

Limited DEP staff resources.

Additional supporting material:

¹ <http://www3.epa.gov/climatechange/ghgemissions/gases/ch4.html>

² <https://www.edf.org/sites/default/files/AWMA-EM-airPollutionFromOilAndGas.pdf>

³ <http://www3.epa.gov/gasstar/methaneemissions/index.html>

Issues to address (such as cost, environmental impacts):

Environmental Protection Workgroup Recommendation #34

Minimize Impacts of Stream Crossings

Full recommendation:

- The project sponsor should identify all stream crossings and the manner of crossing in each instance that is designed and implemented consistent with soil erosion and sediment control best management practices and in a manner that minimizes short- and long-term impacts on water resources.
- The project sponsor should consider available techniques for each waterway crossing and provide the justification for the techniques proposed.
- Crossings that employ trenchless technologies such as horizontal directional drilling (HDD) and micro-tunneling under the streambed are preferred for larger crossings and those with forested riparian buffers.
- Dry crossings using coffer dam construction may be used and preferred for crossings where impacts and duration of construction can be effectively and beneficially managed.
- Project width disturbances should be minimized to leading practical limits at stream crossings and within riparian buffer areas.

Relevant agencies:

DEP
PFBC

Justification:

Actions that would be required to achieve recommendation:

Challenges to achieving recommendation:

There is a perception that trenchless methods like HDD may be the best method for each crossing. While trenchless methods may be preferred in many cases, in some cases, the impacts could be significantly greater, especially for small crossings that can be managed and constructed in a very short direction with minimal impact.

Additional supporting material:

PFBC white paper entitled: *Guidance for Pipeline Crossings of Pennsylvania's Aquatic Ecosystems*, Division of Environmental Services, PA Fish and Boat Commission, Feb. 2012 should also be used for the design and implementation.

Pennsylvania Erosion and Sediment Pollution Control Program Manual

<http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-88925/363-2134-008.pdf>

Pennsylvania Stormwater BMP Manual

<http://www.elibrary.dep.state.pa.us/dsweb/View/Collection-8305>

Issues to address (such as cost, environmental impacts):

Environmental Protection Workgroup Recommendation #35

Conduct Research to Improve Revegetation BMPs

Full recommendation:

The Commonwealth should develop and fund opportunities for scientists to develop new seed/vegetation mixes that produce sustainable communities of native species attractive to higher trophic levels, resistant to invasive species, and preventative of erosion. Such mixes may include species such as *Panicum virgatum* (switchgrass) that can be used for biomass energy development. In addition, DEP should monitor and consider implementing science-based BMPs developed by other organizations, agencies, states, and academia.

Relevant agencies:

DEP
DCNR

Justification:

A research program sensitive to Pennsylvania's unique combinations of soils and climate will help to develop restoration mixes and approaches that provide vegetation mixes that promote food chain support and even biomass crops.

Actions that would be required to achieve recommendation:

Incorporate into BMP Manual.

Challenges to achieving recommendation:

Funding, unwillingness of agencies to support.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Environmental Protection Workgroup Recommendation #36

Require Shutoff Valves for Liquid Product Pipelines

Full recommendation:

For liquid product pipelines, the project sponsor should ensure that transmission and gathering pipelines are fitted with shutoff valves at easily accessible locations that would minimize liquid release in the event of a break or rupture.

Relevant agencies:

DEP

Justification:

Stopping pipeline product flow as quickly as possible in the event of a break or rupture is imperative to minimize environmental impacts.

Actions that would be required to achieve recommendation:

Project sponsors should identify valve locations that focus on protection of sensitive water resources. When possible, project sponsors should utilize technology that allows for remote control of valves that can be shut off electronically when there is indication of an incident.

Challenges to achieving recommendation:

Retrofitting older pipeline systems with remote control valves is costly.

Retrofitting older pipeline systems with remote control valves is costly:

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Environmental Protection Workgroup Recommendation #37

Use Dust Suppression Controls Near Water Resources

Full recommendation:

Dust suppression controls should be put in place for vehicle traffic accessing pipelines. Possible methods include using non-potable water, tar, and dust suppressants and the chosen method should be appropriate based on the location of the road, taking into account such things as proximity to private homes and streams.

The project sponsors and their contractors should avoid chemical dust suppression activities near the ordinary high water mark of any reservoir, lake, wetland, or natural, perennial, or seasonally flowing stream or river.

Relevant agencies:

DEP
DCNR

Justification:

Dust created by driving vehicles and equipment over dirt and gravel access roads adversely affects air quality and can pose a safety hazard for drivers and workers. Taking steps to prevent or suppress dust can help mitigate those problems. Care should be taken, however, to select a dust suppression method that is appropriate for the environment.

Chemicals, such as magnesium chloride, that are applied to dirt roads to suppress dust may run off in to local water bodies if applied too close to the stream. To prevent such contamination, such chemicals should not be applied within 300 feet of a water resource. Such a BMP has been implemented in other jurisdictions and has been found to be effective. (See Environmental Practice article cited below.)

Actions that would be required to achieve recommendation:

Site operators would need to identify areas within 300 feet of water bodies that would ordinarily require dust suppression activities and take measures to prevent the application of chemical dust suppressants in that area. Depending on the method chosen, there could be potential adverse environmental effects from dust suppressants. Operators should take care to ensure the chosen dust suppression method is appropriate for the location.

Challenges to achieving recommendation:

Training of employees who apply chemical dust suppressants.

Additional supporting material:

Environmental Practice 14 (4), December 2012 at 317; Colorado Division of Wildlife's Actions to Minimize Adverse Impacts to Wildlife Resources, at 5 (October 2009), *available at* https://cogcc.state.co.us/documents/reg/OpGuidance/Colorado%20DOW%20Final%20BMPs_090309.pdf ;

J Environ Qual. 2009 Oct 29;38(6), available at
<http://www.ncbi.nlm.nih.gov/pubmed/19875793>

http://www.blm.gov/style/medialib/blm/wo/MINERALS_REALTY_AND_RESOURCE_PROTECTION/bmps.Par.63068.File.dat/WO1_Air%20Resource_BMP_Slideshow%2005-09-2011.ppt

Issues to address (such as cost, environmental impacts):

Operators would need to implement an appropriate dust suppression protocol.

Environmental Protection Workgroup Recommendation #38

Test Efficacy of Silt Fencing

Full recommendation:

DEP should test and consider the addition of additional soil erosion and sediment (E&S) control products such as the Silt Saver Fence.

Relevant agencies:

DEP

Justification:

There are E&S control products/methods that have shown to be equal to or greater than the products/methods approved in the DEP Erosion Control and BMP Manuals. These products are not approved for use, limiting the options for project sponsors.

Actions that would be required to achieve recommendation:

A convenient and predictable method for approval of new E&S control technologies, that also provides the regulated public with notification of the approvals, preferably as an appendix to the existing E&S and BMP manuals.

Challenges to achieving recommendation:

DEP workload and staffing challenges

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Environmental Protection Workgroup Recommendation #39

Test Soils in Acid Deposition Impaired Watersheds to Identify Need for Additional Liming

Full recommendation:

The project sponsor should identify all project related landscape earth disturbance areas where Acid Deposition has resulted in exceedances of surface water Critical Loads and where Calcium (Ca) depletion has likely occurred. In earth disturbances in these landscape the suggested post construction practice of soil amendment with an application rates of 6 tons/acre, as noted in the DEP E&S Program Manual may be inadequate to buffer the rainfall acidity necessary to prevent the mobilization of the toxic dissolved Aluminum from soils. Soil tests are recommended and additional application rates of lime may be warranted.

Relevant agencies:

DEP
PFBC

Justification:

Acid deposition has altered Pennsylvania soils in many landscapes resulting in Ca depletion, and lower soil pH levels. In many instances acid precipitation dissolves and mobilizes the aquatic life toxic metal Al. Soil disturbances may accelerate the solubilized metals released in storm-water runoff.

Actions that would be required to achieve recommendation:

Other mechanisms or means to provide substitute base cation buffering to acid precipitation impaired storm-water may include the placement of limestone sand into roadside ditches, channels, storm-water basins, outlet protections, or as amendments to compost filter socks or berms. These special situations BMP are recommended and may be necessary to capture and mitigate dissolved aluminum conveyed from disturbed surfaces in Acid Precipitation impaired catchments.

Challenges to achieving recommendation:

It is recommend that a supplement to the Erosion and Sediment Pollution Control (E&SPC) Program Manual be provided to raise awareness to the Acid Precipitation impacts to our soils and to identify air sheds where critical loads of Acid Precipitation occurs and where existing soils lack the cation exchange capacity to address the air source pollution load. Additionally, special BMP that incorporating limestone sand into standard BMP should be developed and added to the E&SPC Program Manual.

Additional supporting material:

National Atmospheric Deposition Program NAPD 2014 Annual Summary.

NAPD 2015 Summary of Critical Load Maps.

Pennsylvania Erosion and Sediment Pollution Control Program Manual
<http://www.elibrary.dep.state.pa.us/dsweb/Get/Document-88925/363-2134-008.pdf>

Pennsylvania Stormwater BMP Manual

<http://www.elibrary.dep.state.pa.us/dsweb/View/Collection-8305>

Issues to address (such as cost, environmental impacts):

Environmental Protection Workgroup Recommendation #40

Sponsors Should Review the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Tool

Full recommendation:

The project sponsors should review and utilize the PNDI early in the project planning process. PNDI enables the public to perform online PNDI searches for potential impacts to threatened, endangered, special concern species and special concern resources in PA.

Relevant agencies:

DCNR

DEP

USFWS

PGC

PFBC

Justification:

Because the Environmental Review Tool is easily accessible to the public, it is recommended that PNDI coordination be completed prior to project development and submission of any permit applications. During instances when the PNDI search indicates potential impacts, early consultation with the proper special concern species or resource jurisdictional agencies (preferably prior to plan development) is crucial. Early consultation not only minimizes associated delays and cost, but also facilitates the integration of more effective conservation measures into project planning.

Actions that would be required to achieve recommendation:

Challenges to achieving recommendation:

Not all significant environmental resources are identified in this screening tool. The tool does not provide a substitute for agency discussions and coordination, especially on large projects or project that potentially have significant environmental impacts.

Additional supporting material:

http://www.gis.dcnr.state.pa.us/hgis-er/PNDI_Introduction.aspx

Issues to address (such as cost, environmental impacts):

Environmental Protection Workgroup Recommendation #41

Develop Construction Sequencing Plan

Full recommendation:

The project sponsor should develop and maintain a construction sequencing plan. The purpose of the sequence is to reduce the potential for accelerated erosion and the resultant sediment pollution to surface waters by ensuring that the BMPs designed to accomplish that are in place and functioning when they are needed.

Relevant agencies:

DEP

County Conservation District

Justification:

Explained above.

Actions that would be required to achieve recommendation:

Incorporate into BMP Manual.

Challenges to achieving recommendation:

None envisioned.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Environmental Protection Workgroup Recommendation #42

Stockpile Topsoil During Construction for Use in Restoration

Full recommendation:

Operators should stockpile topsoil during clearing, and use it during restoration. Operators should avoid compacting soils in the right-of-way.

Relevant agencies:

DEP

County Conservation District

Justification:

Conserving soils originally found at the site would have two benefits. First, trucking soils from the site would be cost-prohibitive. Second, the soils found originally at the site typically have higher fertility and water-holding capacity than the subsoils exposed from grubbing or trenching.

Actions that would be required to achieve recommendation:

Incorporate into BMP Manual.

Challenges to achieving recommendation:

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Stockpiling soils often increases the width of the disturbance zone, resulting in more natural habitat fragmentation. Care should be taken to ensure that soil stockpiles are not sources of sedimentation.

Environmental Protection Workgroup Recommendation #43

Soften Forest/Right-of-Ways Edges and Promote Canopy Closure

Full recommendation:

When cutting through forest, attempt should be made to remove as few trees as possible so as to retain/promote canopy closure. The edge of the forest should be softened with shrubs to promote a diverse ecotone community.

Relevant agencies:

DEP

DCNR

County Conservation District

Justification:

Typically, pipeline rights-of-way are cleared of trees in a manner that leaves an open canopy and a hard edge between the ROW and the forest. The result is increasing edge effect into the forest, including light and wind penetration, as well as the invasion of grassland species into the forest. By introducing a border of shrubs or small trees at the edge of the forest, the edge effect will be reduced. Moreover, allowing branches of adjoining trees to overarch the ROW would reduce the fragmentation effect into the forest.

Actions that would be required to achieve recommendation:

Arrange meetings between agency officials and industry to specify details of this recommendation.

Challenges to achieving recommendation:

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Introducing a shrub border may not be cost effective and logistically difficult for operators.

Environmental Protection Workgroup Recommendation #44

Create Onsite Habitat

Full recommendation:

Construct brush piles and wind rows to be left on-site within the right-of-ways of old tree stumps and or fallen trees that have little timber value to the landowner to increase wildlife habitat, species diversity, and to serve as erosion and sedimentation control BMP. Alternatively (or in addition), the site should be enhanced by nest boxes and other features to attract animals.

Relevant agencies:

DEP

DCNR

PGC

County Conservation District

Justification:

Creating habitat features will improve the biodiversity of the site, providing for food chain support and control of potential pest species.

Actions that would be required to achieve recommendation:

Incorporate into BMP Manual.

Challenges to achieving recommendation:

See below.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Property owners might not see value of these improvements, and may indeed prefer to reduce wildlife populations within their property.

Environmental Protection Workgroup Recommendation #45

Prevent Invasive Species from Entering Sites

Full recommendation:

Contractors should engage in construction practices to avoid the introduction of invasive species onto the site. Such practices are outlined in information provided by DCNR. Avoid tracking-in/introducing invasive species (seeds stuck to equipment, etc.)

Relevant agencies:

DEP

DCNR

County Conservation District

Justification:

Preventing invasive species from entering pipeline sites is needed to reduce their spread throughout the Commonwealth. Where they become established, invasive species are known to outcompete native plants and animals. While some invasive species are poor at colonizing the adjoining forest, others do invade well into surrounding intact forest, degrading their ecological function and value.

Actions that would be required to achieve recommendation:

Incorporate into BMP Manual.

Challenges to achieving recommendation:

Additional supporting material:

http://www.dcnr.state.pa.us/cs/groups/public/documents/document/dcnr_002854.pdf

Issues to address (such as cost, environmental impacts):

Environmental Protection Workgroup Recommendation #46

Ensure Ecologically Sensitive Revegetation of Right-of-Ways

Full recommendation:

Areas that represent permanent rights-of-way (pipeline corridors, access roads) that are not designated for agriculture or pastures should be planted and managed to facilitate dominance by native low shrubs, late-season grasses, and broadleaf forbs that promote species diversity in higher trophic levels. Include plantings to attract pollinators and desired insect herbivores if feasible (native wildflowers, milkweed). Avoid planting cool-season meadow grasses (fescue, timothy, bluegrass) and non-native herbs (crown vetch, birdsfoot trefoil, white clover). Planting a nurse crop of an annual grass is recommended to initiate site restoration. Plant during the spring, early summer, or late summer to avoid impacts of drought or frost. Areas that represent temporary disturbances and not designated for other use should be reforested using approaches outlined by the Appalachian Regional Reforestation Initiative (ARRI). During revegetation, care should be taken to use only minimal amounts of fertilizer, so as to prevent excess fertilizer from being transported into receiving waters.

Relevant agencies:

DEP

DCNR

County Conservation District

Justification:

Establishing a permanent vegetative cover of native species will prevent erosion and introduction of invasive species. The species should be low growing herbs and shrubs, rather than saplings or trees that would produce roots sufficiently long to reach into the pipeline. Including species for wildlife and pollination would establish stable and diverse food webs among higher trophic levels. Reducing the amount of fertilizer will reduce transport into receiving waters, thereby minimizing eutrophication.

Actions that would be required to achieve recommendation:

Incorporate into BMP Manual.

Challenges to achieving recommendation:

See below.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Current practice often involves using early season grasses and herbaceous legumes that establish relatively stable meadow communities. Seed mixes given in E&S manual may need updating.

Environmental Protection Workgroup Recommendation #47

Conduct Quantitative Site Monitoring Where Appropriate

Full recommendation:

Monitor the site bi-monthly during the first year, and then twice a year thereafter. Quantitatively assess the vegetation using plot-based methods to assess presence and density of each species (sampling adequacy to be determined). Post data to online archive.

Relevant agencies:

DEP

DCNR

County Conservation District

Justification:

Establishing a program of site monitoring will help to quantitatively assess the success of restoration. By posting the data to an online archive, the success of a particular pipeline project can be compared to other restoration efforts, and other plant communities that are monitored within Pennsylvania.

Actions that would be required to achieve recommendation:

Incorporate into BMP Manual.

Challenges to achieving recommendation:

Industry may be unwilling to commit to monitoring or posting data.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Consensus would need to be reached concerning nature and intensity of sampling before this recommendation is implemented. All agree data needs to be collected & studied. There is debate over who needs to conduct the monitoring, and if industry is already monitoring, how do we receive and utilize the data effectively? Should DEP conduct studies? Do we require certain applicants to monitor/allow DEP to monitor for study purposes?

Environmental Protection Workgroup Recommendation #48

Conduct Regular Site Maintenance

Full recommendation:

For sites not designated for agriculture, during monitoring, remove invasives as needed following directives of County Conservation District. If necessary, manage height of vegetation by mowing at the end of the growing season. Examine and fix any spots where erosion removes soil and vegetation.

Relevant agencies:

DEP

County Conservation District

Justification:

Adaptively managing the site will ensure that the ROW remains free of invasives, has continuous vegetative cover, and is at an appropriate height to ensure access as needed.

Actions that would be required to achieve recommendation:

Incorporate into BMP Manual.

Challenges to achieving recommendation:

Industry may be unwilling to commit to monitoring or posting data.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Consensus would need to be reached concerning nature and intensity of sampling before this recommendation is implemented.

Environmental Protection Workgroup Recommendation #49

Properly Use and Maintain Pipeline Components

Full recommendation:

Industry should utilize and properly maintain hatches, seals, and valves to minimize emissions.

Relevant agencies:

DEP

Justification:

Faulty hatches, seals, and valves can lead to fugitive pipeline emissions, which may include greenhouse gases, volatile organic compounds, or hazardous air pollutants. These system components should be maintained regularly to minimize emissions.

Actions that would be required to achieve recommendation:

Challenges to achieving recommendation:

Additional supporting material:

[http://www.blm.gov/style/medialib/blm/wo/MINERALS_REALTY_AND_RESOURCE_PROTECTION /bmps.Par.63068.File.dat/WO1 Air%20Resource BMP Slideshow%2005-09-2011.ppt](http://www.blm.gov/style/medialib/blm/wo/MINERALS_REALTY_AND_RESOURCE_PROTECTION/bmps.Par.63068.File.dat/WO1_Air%20Resource_BMP_Slideshow%2005-09-2011.ppt)

Issues to address (such as cost, environmental impacts):

Environmental Protection Workgroup Recommendation #50

Implement Leak Detection and Repair for all Above-Ground Components of Pipeline Infrastructure

Full recommendation:

It is recommended that the owners or operators of natural gas pipelines implement a leak detection and repair (LDAR) program for all above-ground components of natural gas pipelines. Such a program should include the following:

- It is recommended that audible, visual, and olfactory (AVO) inspections be conducted at least monthly on any above-ground components of natural gas pipelines. These above-ground components should include, but not be limited to: metering sites, pig launching and receiving stations, release valves, and custody-transfer stations.
- It is recommended that within 180 days after the pipeline begins to flow gas, the owner or operator of a natural gas pipeline shall, at a minimum on a quarterly basis, use forward looking infrared (FLIR) cameras or other leak detection monitoring devices approved by DEP for the detection of fugitive leaks on any above-ground components of natural gas pipelines.
- It is recommended that if any leak is detected, the owner or operator of the pipeline shall repair the leak as expeditiously as practicable, but no later than 15 days after the leak is detected unless repair within 15 days is technically infeasible without a process unit shutdown or unless emissions from immediate repair would be greater than the fugitive emissions likely to result from the delay of repair. In the event of a delayed repair, the equipment should be repaired before the end of the next process unit shutdown. Monitoring to verify repair should occur within 15 days after startup of the process unit.

Relevant agencies:

DEP

Justification:

Methane, the primary component of natural gas, is a potent greenhouse gas and a significant contributor to climate change. Preventing inadvertent leaks to the atmosphere will help minimize greenhouse gas emissions while also preventing loss of natural gas product to the environment. An LDAR program is already required under GP-5 for operators of compressor stations and processing facilities. By extending this program to all above-ground components of pipelines, pipeline operators can reduce their environmental impact and potentially improve their bottom line.

Actions that would be required to achieve recommendation:

Operators would need to extend their existing LDAR program to all above-ground components of pipelines.

Challenges to achieving recommendation:

There will be some cost associated with hiring staff to perform the monthly inspections of above-ground components. There may be some difficulty accessing some remote sites during winter months.

Additional supporting material:

PA Air Quality Program GP-05 Section H (requiring LDAR for compressor stations and processing facilities) <http://www.elibrary.dep.state.pa.us/dsweb/View/Collection-9747>

Issues to address (such as cost, environmental impacts):

Cost of extending existing LDAR program.

This recommendation will likely not address leaks from underground sections of pipelines. Pipeline operators should use industry best practices to identify and correct leaks from underground sections of pipelines.

Environmental Protection Workgroup Recommendation #51

Clarify Remediation of Spills Under Shale Regulation

Full recommendation:

Overriding goal: to ensure that any releases from pipelines should be appropriately addressed consistent with Pennsylvania's Land Recycling and Environmental Remediation Standards Act, 35 P.S. § 6026.101 et. seq. (Act 2), including the regulations and policies established pursuant to Act 2. To that end:

- a. Consider recommendation to amend Section 106(a) of Act 2 to specifically include/reference the Pennsylvania Oil and Gas Act;
- b. Encourage DEP to resolve inconsistencies that may exist in remediation procedures between the Chapter 78 regulatory program, the "Policy for Coordinating Immediate Responses and Final Remediation of Releases of Regulated Substances" (Spill Response Policy), the Policy for "Addressing Spills and Releases at Oil & Gas Well Sites" (Oil and Gas Policy) and Act 2 to ensure the primacy of Act 2, at least with respect to the use of Act 2 cleanup standards to ensure consistency. This has worked successfully in other DEP programs, such as the Storage Tank and Spill Prevention Act which utilizes Act 2's cleanup standards; and
- c. Recommend that DEP work to resolve inconsistent interpretation of reporting/remediation procedures that may exist in the DEP regions.

Relevant agencies:

DEP

County Conservation District

Justification:

Ensure that spills are effectively addressed in a manner consistent with prevailing laws addressing oil and gas production.

Actions that would be required to achieve recommendation:

See items a, b, and c above.

Challenges to achieving recommendation:

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Consensus would need to be reached concerning nature and intensity of sampling before this recommendation is implemented.

Environmental Protection Workgroup Recommendation #52

Establish Forest Mitigation Program

Full recommendation:

The Commonwealth should establish a Forest Mitigation program as required to meet mitigation needs, when required. The program could include: project sponsor responsible mitigation; mitigation banking; and in-lieu fee mitigation.

Relevant agencies:

DEP
DCNR
PGC

Justification:

A Forest Mitigation Program will ensure no net loss of forest habitat, and may allow for expansion of core forests where none exist.

Actions that would be required to achieve recommendation:

Incorporate into BMP Manual.

Challenges to achieving recommendation:

Time to establish forests, costs, logistics.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Environmental Protection Workgroup Recommendation #53

Implement Electronic Permit Submissions for Chapters 102 and 105

Full recommendation:

It is recommended that DEP move to electronic application package submission for both ESCGP-2 and Chapter 105 permit applications.

Relevant agencies:

DEP in coordination with USACE

Justification:

This would reduce the large amount of paper currently required, reduce the amount of storage space that DEP needs in order to store the submissions, and would make the documents more easily accessible by interested parties.

Actions that would be required to achieve recommendation:

The DEP Information Technology (IT) Department would need to create an electronic submission system.

Challenges to achieving recommendation:

Manpower and funding to create the system and maintain it.

Additional supporting material:

PennDOT/DEP program currently exists. Perhaps this could be modeled similarly.

Issues to address (such as cost, environmental impacts):

Cost would be a factor.

Environmental Protection Workgroup Recommendation #54

Establish Electronic Payment for Chapters 102 and 105 Permit Fees

Full recommendation:

It is recommended that DEP establish an electronic payment program or system for accepting permit review fees.

Relevant agencies:

DEP

Justification:

This would eliminate the need for paper checks to be transferred between parties and subsequently deposited by the DEP.

Actions that would be required to achieve recommendation:

The DEP IT Department would need to create this system.

Challenges to achieving recommendation:

Manpower and funding to create the system and maintain it.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Cost is not expected to be a factor, but could be, depending on manpower required.

Environmental Protection Workgroup Recommendation #55

Evaluate Need for Hard Copies of Chapter 102 and 105 Permit Submissions

Full recommendation:

DEP should evaluate the number of hard copies they require for permit submissions. If multiple copies are required, DEP should evaluate when it is truly necessary to submit the multiple copies. Additionally, rather than submitting multiple copies, it is recommended that one (1) hard copy be submitted along with an electronic copy or (1) hard copy could be submitted and scanned into DEP's computers.

Relevant agencies:

DEP
USACE

Justification:

This would reduce the amount of paper required when revisions are requested.

Actions that would be required to achieve recommendation:

DEP would need to evaluate whether an actual need for multiple copies exists.

Challenges to achieving recommendation:

Outlining the parameters for submissions when joint submission to the USACE is required. Due to security restrictions, USACE has very stringent computer rules that currently prohibit electronic permit submissions and will likely continue to require a hard copy in the near future.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Environmental Protection Workgroup Recommendation #56

Evaluate Erosion and Sediment Control General Permit (ESCGP-2) Expedited Review

Full recommendation:

DEP should evaluate its technical review process for Erosion and Sediment Control General Permit (ESCGP-2) applications to determine whether applications are reviewed efficiently and in a manner consistent across all regions and reviewers. DEP's evaluation should include, but not be limited to: staffing levels, reviewer training and experience, review checklists, DEP guidance and manuals, and consistency with the Permit Decision Guarantee policy. If DEP identifies any deficiencies, it should correct them promptly.

Relevant agencies:

DEP

Justification:

DEP has been receiving external complaints of inefficiencies in the permitting process, specifically during the technical review period. If there are solutions possible to resolve perceived inconsistencies, DEP needs to research them and implement those that are feasible.

Actions that would be required to achieve recommendation:

DEP would need to survey internal staff and conduct outreach with permit applicants to get to the core issues that need resolution. Additional internal and/or external trainings may be needed to ensure consistency.

Challenges to achieving recommendation:

Internal and external variables in the permit application process.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Environmental Protection Workgroup Recommendation #57

Ensure Adequate Agency Staffing for Reviewing Pipeline Infrastructure Projects

Full recommendation:

The Commonwealth and DEP should ensure adequate staffing, as well as staffing support, to effectively oversee activities of the natural gas industry and to ensure compliance with its Permit Decision Guarantee (PDG) Policy and other DEP regulations, policy and guidance as relevant to pipeline infrastructure projects.

Relevant agencies:

DEP

Justification:

There is concern that the DEP does not have sufficient staffing levels to process and inspect the amount of new and existing pipeline infrastructure projects currently seeking permits. Moreover, the number of permits each reviewer can handle is exceeding what can reasonably be completed within parameters required by the PDG. Additionally, responses and comments to applications provided by DEP can result in extensive delay to the processing of existing and new applications which further exacerbates PDG compliance.

Actions that would be required to achieve recommendation:

DEP should evaluate the needs in each regional office and seek appropriate funding for these additional positions or for other support needs identified by DEP. Ensuring the applicants are submitting administratively complete applications to qualify for the PDG.

Challenges to achieving recommendation:

Funding for the positions, for the requisite support, and funding for finding qualified personnel to hire.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Cost concerns.

Environmental Protection Workgroup Recommendation #58

Evaluate DEP Retention and Attrition of Staff and Succession Planning

Full recommendation:

It is recommended that DEP work with the civil service commission to evaluate the market to determine how to best attract and/or retain DEP staff, generally. DEP should investigate the role compensation competitiveness in the private sector may be affecting staffing issues and possible methods for reducing turnover due to this competition. Secondary and graduate education outreach should be conducted to attract new hires, especially from within educational institutions in the Commonwealth. In addition, DEP needs to explore succession planning methods in light of the relatively large contingent of DEP staff eligible, or nearing eligibility, for retirement. DEP should also encourage staff to remain within particular environmental program areas (e.g. water, waste, air, oil & gas), to allow for continued growth of programmatic expertise, rather than having staff move from one program area to another.

Relevant agencies:

DEP

Civil Service Commission (CSC)

Possible Legislature

Justification:

In certain regions, high DEP staff turnover has been attributed to competitive wages in the private sector, especially in oil and gas permitting and inspection jobs. Regardless of cause, turnover within DEP can have a “domino effect” on internal staffing, as existing staff applies for these newly open positions, sometimes making lateral moves across internal program areas (e.g. water permitting staff applying for newly open oil and gas permitting staff positions). This results in the loss of institutional knowledge beyond just the original position opening. In terms of acquiring new hires, the ideal candidates may be going to private industry positions and consulting jobs immediately after college reducing the hiring pool for new DEP employees. Finally, the institutional knowledge that is held by DEP employees nearing retirement is vital to ensuring consistency within programs, and much of this knowledge is often held only within the employees’ minds, not reviewable documents.

Actions that would be required to achieve recommendation:

The DEP needs to evaluate the current cause for high turnover positions and open discussions with the CSC in order to assess obstacles and opportunities for increasing hiring flexibility. Conducting exit interviews with departing and retiring employees in a manner that would elicit honest responses. Outreach to colleges and universities would be required. Creation of methods or internal Standard Operating Procedures to memorialize information retained by those nearing retirement, in addition to proactive steps to encourage more documentation of processes and knowledge by all staff.

Challenges to achieving recommendation:

Possible funding for higher pay; efforts to re-classify positions to make them more proportionately competitive with the private sector. For a variety of reasons, key DEP staff may announce retirements in a manner that fails to leave sufficient time for succession planning.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Funding would be a factor. Communication and outreach to academic institutions.

Environmental Protection Workgroup Recommendation #59

Evaluate the Effectiveness of the Permit Decision Guarantee Policy

Full recommendation:

It is recommended that DEP complete an assessment of the effectiveness of the Permit Decision Guarantee policy with various stakeholders on a regular basis to ensure the policy is realizing its purpose and to determine areas for improvement.

Relevant agencies:

DEP

Justification:

Any program should be re-evaluated and improved as the program evolves. In particular, the program should be evaluated to ensure that:

- The permit review timelines are being met consistently; and
- DEP reviewers have adequate time and resources to ensure compliance with all statutes and regulations. Consideration should be given to all interested parties for suggestions of improvement.

Actions that would be required to achieve recommendation:

Set up an annual or bi-annual meeting dates, determine who should attend (Industry, Consultants, DEP review staff). Ensuring that the regulated community fully understands that the PDG will only apply “to those applications... that are complete, technically adequate, and address all applicable regulatory and statutory requirements.”

Challenges to achieving recommendation:

Following through and making sure that it happens.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Environmental Protection Workgroup Recommendation #60

Evaluate the Permit Decision Guarantee Priority Status Hierarchy

Full recommendation:

DEP should evaluate the current prioritization hierarchy that exists in PDG policy to ensure that pipeline projects are being properly assigned a priority status under the PDG policy II.B.1.ii, pertaining to applications that provide certain economic benefits to Pennsylvania and its citizens.

Relevant agencies:

DEP

Justification:

The PDG policy section II.B.1.ii. reads “*Applications necessary for economic development projects that create and/or retain jobs in Pennsylvania, leverage private investment in Pennsylvania, and/or provide significant economic benefit to Pennsylvania communities.*”

Actions that would be required to achieve recommendation:

Through Harrisburg/Central Office, DEP would need to coordinate regional offices and assess what prioritization, if any, is being given to pipeline project applications.

Challenges to achieving recommendation:

Balancing pipeline project prioritization with all other projects within the state and ensuring that the prioritization guidelines are consistently applied for predictability across all regions.

Additional supporting material:

PDG policy

[http://files.dep.state.pa.us/ProgramIntegration/PermitDecisionGuaranteePortalFiles/021-2100-001 PRP and PDG Policy.pdf](http://files.dep.state.pa.us/ProgramIntegration/PermitDecisionGuaranteePortalFiles/021-2100-001_PRP_and_PDG_Policy.pdf)

Issues to address (such as cost, environmental impacts):

Environmental Protection Workgroup Recommendation #61

Increase DEP Staff Training

Full recommendation:

DEP should increase availability and/or funding for regular training of permitting staff on technical items and new technologies, such as hydrology 101, hydrology refresher, HydroCAD modeling program and other technical programs, life cycle of a pipeline project – inception to permit to flowing gas, recommend Certified Professional in Erosion and Sediment Control (CPESC), Certified Erosion Sediment and Storm Water Inspector (CESSWI), or Certified Professional in Storm Water Quality (CPSWQ) programs.

Relevant agencies:

DEP

Justification:

DEP staff is often required to review submissions that may contain voluminous and highly technical and complex calculation packages, utilizing software and programs not typically used by the DEP. It would help staff to be exposed to and learn most of the technologies that are used by industry in creating permit application packages. DEP staff should be afforded the same resources and training opportunities available to the counterparts in the private sector.

Actions that would be required to achieve recommendation:

Funding for professional development, training and certification programs and new technology exposure and outreach to Commonwealth universities or consultants to provide such opportunities.

Challenges to achieving recommendation:

Determining the best approach to training programs and the frequency of such trainings.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Cost could be a factor.

Environmental Protection Workgroup Recommendation #62

Eliminate Duplicate Questions in Erosion and Sediment Control General Permit (ESCGP-2) Notice of Intent (NOI)

Full recommendation:

The ESCGP-2 NOI should be reviewed to determine and remove duplications in questions (eg. thermal impacts, riparian buffers, etc.).

Relevant agencies:

DEP

Justification:

If redundancy is found, asking for the same information more than once within an NOI decreases efficiency in the permitting process.

Actions that would be required to achieve recommendation:

Reviewing and revising the application to remove duplicative sections or questions.

Challenges to achieving recommendation:

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Environmental Protection Workgroup Recommendation #63

Create Pipeline Erosion and Sediment Control Manual

Full recommendation:

It is recommended that DEP create an E&S Manual version that is specific to pipeline infrastructure development activities. A mobile-accessible version that is also searchable would further increase usability.

Relevant agencies:

DEP

County Conservation Districts

Justification:

The E&S Manual is quite large and many BMPs therein are irrelevant or not applicable to pipeline development activities. It would be helpful to both DEP staff, local governments and industry to have a smaller manual that only contains the items relevant to pipeline development activities for easier usability. A similar truncated document is the Underground Utility Construction Manual that is dated 2001. A web-based and/or app-based mobile version would further enable referencing the document while in the field, implementing the BMPs.

Actions that would be required to achieve recommendation:

Assessing and locating the relevant BMPs from the larger manual and creating a new manual. This could be achieved in conjunction with the recommendation to update this manual.

Challenges to achieving recommendation:

Providing a person/group to determine what should be in the manual. Training.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Environmental Protection Workgroup Recommendation #64

Consider Limited Permit Review Assistance Using Qualified Contractors

Full recommendation:

The DEP should consider developing a third-party contractor system to review permits and submit analysis to DEP at times of heavy work load to prevent backlog and ensure compliance with PDG. In no scenario would third party reviewers approve the permit application.

Relevant agencies:

DEP

Justification:

In the event that DEP cannot meet workload requirements, additional qualified resources should be secured to complete the review and process permits. The qualified contractor would be providing recommendations to DEP, who would maintain all of the permitting authority.

Actions that would be required to achieve recommendation:

- Development of a qualification system for contractors (including professional licensing requirements).
- Development of a system to review for potential conflicts of interest.
- Development of performance standards for 3rd party reviews.
- Development of thresholds that would initiate the need for additional resources.
- Possible fee and registration structure for third party contractors.

Challenges to achieving recommendation:

Review laws and regulations to ensure third party contractors can be used.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Determining how to best use 3rd party reviewers without compromising program integrity or confidence of the general public.

Environmental Protection Workgroup Recommendation #65

Convene Annual Regulatory Agency Meetings

Full recommendation:

Recommend annual meetings between state, federal and other relevant agencies to discuss permit requirements, time frames, Environmental Hearing Board (EHB) decisions, etc. to ensure an effective and consistent process for permit authorizations.

Relevant agencies:

DEP

USACE

River Basin Commissions

USFWS

PGC

DCNR

PFBC

etc.

Justification:

The various agencies should be coordinating as to how each Agency's permit/authorization impacts the other and how recent appeals can impact them.

Actions that would be required to achieve recommendation:

Scheduling the meeting and having it organized with a thoughtful agenda.

Challenges to achieving recommendation:

Scheduling.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Environmental Protection Workgroup Recommendation #66

Re-Assess and Update Standing Memoranda of Understanding (MOUs) Between State and Federal Agencies

Full recommendation:

Re-assess and update standing MOUs and determine whether new MOUs are warranted between state and federal agencies to make sure the permitting process works effectively and efficiently.

Relevant agencies:

DEP and any other relevant agency

Justification:

To ensure the process is working effectively and efficiently.

Actions that would be required to achieve recommendation:

Locating and reviewing all current MOUs. Identifying areas where new MOUs would be helpful.

Challenges to achieving recommendation:

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Environmental Protection Workgroup Recommendation #67

Incorporate Cumulative Impacts into Applications and Review Process

Full recommendation:

DEP should incorporate into its application and review process for a Chapter 105 permit an effective method of evaluating the "cumulative impact of this project and other potential or existing projects," to evaluate the impacts from current and future activities in the area of the project.

Relevant agencies:

DEP

Justification:

A heightened focus on the cumulative impacts that human activities have on our Commonwealth's resources will help to ensure that environmental impacts from pipeline construction are sustainable. There is a tendency in the review of environmental impacts to focus on the environmental effects one particular project will have, rather than on the capacity of an environmental resource to withstand all pressures imposed on it by numerous activities. As the Council on Environmental Quality reminds us, "Evidence is increasing that the most devastating environmental effects may result not from the direct effects of a particular action, but from the combination of individually minor effects of multiple actions over time." In order to truly protect the environment, especially in light of the expected growth of the natural gas industry in coming years, it is necessary to focus not only on the effects of one particular project, but on the ability of the impacted resources to continue to function properly once all development is taken into account.

The current Chapter 105 permit review often falls short of fully accounting for cumulative impacts. In many cases, it appears that DEP considers only the primary and secondary impacts of the project under consideration, rather than all impacts from all human activity that affects the environmental resources in the area.

Actions that would be required to achieve recommendation:

Developing a consistent and cost-effective process for evaluating cumulative impacts as part of the review of Chapter 105 permit applications.

Challenges to achieving recommendation:

Cumulative impacts can be difficult and costly to identify and analyze properly. It will be important for DEP to develop a reasonable and effective method for evaluating cumulative impacts. DEP may find a model in the cumulative impacts analysis required in environmental impacts statements under the National Environmental Protection Act. DEP may also be able to use GIS technology to help streamline the process and minimize the burden on itself and regulated industry.

Additional supporting material:

25 Pa. Code § 105.14(b)(14); Council on Environmental Quality, *Considering Cumulative Effects under the National Environmental Policy Act* (January 1997), p. 1, available at http://energy.gov/sites/prod/files/nepapub/nepa_documents/RedDont/G-CEQ-ConsidCumulEffects.pdf

Issues to address (such as cost, environmental impacts):

Finding an effective method for identifying and analyzing cumulative impacts.

Environmental Protection Workgroup Recommendation #68

Conduct Joint Agency Coordination Meetings During Pre-Application and Planning

Full recommendation:

For intrastate and interstate transmission projects, or projects that fall into multiple DEP regions, Corps Districts, or County Conservation Districts (depending on pipeline type), it is recommended that applicants and consultants hold joint combined coordination meetings throughout the pre-application and planning stages of the project.

Relevant agencies:

DEP

USACE

Conservation District

Justification:

There is a need for coordination on these types of projects, which would likely reduce preventable delays during the permitting process.

Actions that would be required to achieve recommendation:

Challenges to achieving recommendation:

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Environmental Protection Workgroup Recommendation #69

Assess Oil and Gas Program Chapter 102 Training

Full recommendation:

It is recommended that DEP assess any current training programs that review Chapter 102 for permit reviewers. Training should be at least annual and extremely thorough to aid consistency and predictability in the review process. In addition, training need for applicants should also be assessed.

Relevant agencies:

DEP

Justification:

To address inconsistency in how reviews are completed and the type of comments that are received by applicants.

Actions that would be required to achieve recommendation:

DEP would need to initiate review of any current training and may need to create specific trainings for permit reviewers and/or applicants.

Challenges to achieving recommendation:

Ensuring consistency across regions.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Potential costs for training.

Historical/Cultural/Tribal Workgroup Recommendation #1

Improve Communication with Landowners

Full recommendation:

Increase trust/transparency and prevent miscommunication between agencies, Oil & Gas (O&G) industry and landowners by improving communication standards to clearly explain the cultural resource survey process, as well as provide details of the survey activities, data collection and artifact sampling that may take place on their property.

Relevant agencies:

Department of Environmental Protection (DEP)
Department of Conservation and Natural Resources (DCNR)
United States Army Corps of Engineers (USACE)
Pennsylvania State Historic Preservation (PA SHPO)

Target Audience:

O&G Industry, land agents and landowners.

Justification:

The objective is to create open communication between O&G companies and their land agents to better inform the landowners affected by their projects. Implementation of this practice will prevent miscommunication between O&G industry and landowners and ward off project scheduling delays by landowners who may deny access to their property due to communication breakdowns. Transparent and detailed communication will generate a positive community perception for the O&G industry, as well as for the state and federal agencies.

Actions that would be required to achieve recommendation:

During the landowner notification process for a project, the O&G industry outreach letter should include a detailed description of the survey activities, including types of excavation, excavation placement/intervals, excavation size/depth, artifact sampling, and architectural survey documentation. The letters should also include references to find more information online, and a hotline number for questions related to the survey.

Challenges to achieving recommendation:

Building trust and facilitating open and frequent communication between industry, agencies and individual landowners will require an organized effort. Industry buy-in is essential.

Additional supporting material:

Check list for landowner notification, online resources, example letters for landowners (see below and end of recommendation), PA SHPO Accession Form and Gift Agreement, and PA SHPO Rejection of Gift form.

Issues to address (such as cost, environmental impacts):

Ongoing, direct communication with landowners, O&G industry and agency representative. Actively work together to understand landowner's concerns and needs, as well as clearly represent the project goals.

Land Owner Communication Check List:

- Identify the O&G Company, Cultural Resource Consultant, Project Name and Regulatory Agencies.
- Identify the types of cultural resources surveys:
 - Phase I Archaeological Survey
 - Historic Architectural Survey
- Describe the nature of the archaeological testing:
 - Hand dug shovel test pits that are excavated using hand tools
 - Placement and measurements of shovel test pits
 - Shovel test pits will be back filled
 - Ground surface will be restored (as close as possible) to original condition
 - Survey will follow PA SHPO guidelines
- Describe the nature of the archaeological sampling:
 - If artifacts (i.e., arrow points, flake stone from creating stone tools, pottery, historic ceramic, glass, etc.) are found during the survey, they will be recovered by the archaeological consultants
 - Artifacts will be transported to the archaeological consultant's laboratory for analysis, reporting and temporary storage
 - Landowners can choose to donate artifacts to the State Museum; otherwise they will be returned to the landowner upon completion of the project and approval of the report by the PA SHPO and regulatory agencies
 - Describe the types and quantity of artifacts recovered from the property
 - Describe the process for donating artifacts to the State Museum, or rejecting donation
 - Accession Form and Gift Agreement
 - Rejection of Gift Agreement
 - Artifact inventory list
- Describe the nature of the architectural survey:
 - Documentation of above-ground resources over 50 year in age (i.e., buildings, bridges, stone walls, landscapes)
 - Above-ground resources within and adjacent to the project area
 - Notes, photographs and standard forms will be used to document the resources
 - survey will follow PA SHPO guidelines
- Provide contact information for the consultant, land agent, or O & G industry representative.

Online Resources:

<http://www.achp.gov/docs/CitizenGuide.pdf>

<http://www.achp.gov/citizensguide.html>

<http://www.achp.gov/work106.html>

http://www.portal.state.pa.us/portal/server.pt/community/phmc_home/1426

http://www.portal.state.pa.us/portal/server.pt/community/project_review_under_section_106_and_pa_history_code/3787/review_process/415082

Landowner Notification Letter

Example #1: Description of survey activities

Date

Landowner

Street

City, State, Zip

Reference: Archaeological and Historic Architectural Survey
Proposed Pipeline Project

Dear Landowner:

On behalf of Gas Pipeline Company, LLC (GPL), X Consulting Company (XCC) plans to complete a Phase I archaeological survey and historic architectural survey for the proposed pipeline project (project) that includes a portion of your property. This survey is being conducted to meet permitting requirements of the US Army Corps of Engineers (USACE).

Phase I archaeological survey includes subsurface excavation of small shovel test pits (STPs) that will be dug by hand using shovels and sifting screens. STPs will be placed at 50 feet spacing over the portions of the project area that are suitable for archaeological testing. STPs will measure approximately 1.5 feet in diameter and will extend approximately 1.0 feet (in upland settings) to 3 feet or deeper (in stream bank settings) below surface into subsoil, or archaeologically sterile soil. Upon completion of the STPs, the excavations will be backfilled and the ground surface will be returned as close to the original condition as possible. The survey will be conducted following the standards and guidelines developed by the PA SHPO for such projects.

If archaeological materials (e.g., artifacts such as flaked stone, arrow points, historic ceramics, etc.) are recovered, additional closely spaced STPs (16 feet) may be needed to determine the nature and size of the archaeological resources located within the proposed project area. A sample of the artifacts will be collected and transported to our laboratory in X City, Y State for analysis, reporting, and temporary storage.

If artifacts are recovered from your property, you may opt to donate the artifacts to the State Museum, which houses artifacts recovered from archaeological sites so that the artifacts may be used for future study. Alternatively, the artifacts will be returned to you upon completion of the project and approval of the archaeological survey report by the PA SHPO.

Additionally, historic architectural survey includes documentation of above-ground resources over 50 years in age, such as buildings, bridges, stone walls and landscapes. Historic architectural survey will be conducted within and adjacent to the project area. Above-ground resources will be documented with notes, photographs and standardized forms that follow the standards and guidelines developed by the PA SHPO for pipeline projects.

If you need additional information, please feel free to contact me at 123-456-7890 or by email at archaeology@xcc.com. I am happy to answer questions you may have.

Yours truly,

X Consulting Company
Principal Investigator

Landowner Notification Letter

Example #2: Results of survey of the property

Date

Landowner
Street
City, State, Zip

Reference: Archaeological Survey
Proposed Pipeline Project

Dear Landowner:

On behalf of Gas Pipeline Company, LLC (GPL), X Consulting Company (XCC) completed a Phase I archaeological survey for the proposed pipeline project (project). This survey was conducted to meet permitting requirements of the US Army Corps of Engineers (USACE). The survey identified a small prehistoric archaeological site within your property.

The artifacts from the archaeological site represents a small camp sites used by Native American before European settlement occurred in the region. The artifacts include waste flakes from stone tool manufacture, and fragments of stone tools. A description and count of the artifacts is provided in the attached artifact inventory.

The State Museum of Pennsylvania (Museum) houses artifacts recovered from archaeological investigations. You may choose to donate the artifacts to the Museum, where they will be available for future researchers. If you agree, please sign the enclosed Accession Form and Gift Agreement, and mail it to XCC. Upon receipt of the Gift Agreement, the collection will be delivered to the Museum for permanent curation. Alternatively, you may decide to reject donation to the Museum and have the artifacts returned to you. If you opt to reject donation, please sign the enclosed Rejection of Gift Agreement form, and return it to XCC.

Please return the appropriate Agreement form documenting your decision to donate or reject donation of the artifacts to the Museum. If you need additional information, please feel free to contact me at 123-456-7890 or by email at archaeology@xcc.com. I am happy to answer questions you may have.

Yours truly,

X Consulting Company
Principal Investigator

Historical/Cultural/Tribal Workgroup Recommendation #2:

Consult with Federally Recognized Tribes on Section 106-Related Projects

Full recommendation:

Lead federal agencies responsible for regulating pipeline projects should engage the relevant tribes/nations directly and early in the 106 process, whether it is the Corps' "Appendix C" permit areas (33CFR325, Appendix C) or the entire APE as per 36CFR Part 800 (i.e., on FERC projects).

From a legal standpoint, federally recognized tribes are distinct from non-federally recognized tribes in that the U.S. Government acknowledges that the former are politically sovereign. There are 15 federally recognized tribes/nations (tribes) who are all non-resident but claim legitimate ancestral ties to Pennsylvania.

Because these tribes are considered sovereign nations, consultation should be "government to government", i.e., between the federally agency and tribe(s). In some cases, tribes will accept a delegated consultation to a state agency as long as that delegation is formally approved and agreed to by such tribes and as long as the federal agency continues to recognize its full responsibility under Section 106 of the National Historic Preservation Act. An example is the Federal Highway Administration's (FHWA) delegation to Pennsylvania Department of Transportation (PennDOT's) cultural resource professionals for routine notifications and submittals of information and 106 findings to tribes. In this case, FHWA is still involved and will weigh in when there is consultation for resolution of adverse effects and for any agency disputes or controversies arising in the 106 process.

Tribes generally do not consider it appropriate for 106 consultations to take place solely between a private cultural resource professional or engineer employed by an energy company and a federally recognized Indian tribe. It is the federal agency's representative who should notify and consult and coordinate with tribes and that is what tribes expect to occur.

A list of those tribes with federal recognition who have ancestral ties to Pennsylvania can be found on FHWA and PennDOT's *tribal contacts list*. PennDOT's cultural resource staff regularly updates this list to keep all contacts and other information current. Please see the following link:

<http://paprojectpath.org/docs/default-source/tribal-consultation-documents/list-of-tribal-contacts.pdf?sfvrsn=34>

Relevant agencies:

USACE

Federal Energy Regulatory Commission (FERC)

Target Audience:

USACE and FERC, DEP, O&G industry.

Justification:

Engaging tribes (and other stakeholders) early in the process rather than after major decisions have been made builds trust and allows for meaningful tribal input on siting and other issues. Using the process as it was intended by the federal government shows the proper respect for the sovereign nations.

In addition, government-to-government consultation is required of federal agencies by

- the National Historic Preservation Act of 1966
- Executive Order 13175 (2000) Consultation and Coordination with Tribal Governments

Actions that would be required to achieve recommendation:

Federal agencies should have representatives who are more frequently engaged with tribes and who make the effort to contact them early in the course of the 106 process. Face to face conversations should take place on controversial projects and/or those involving tribal concerns.

Challenges to achieving recommendation:

Agency culture that drags its feet in regard to tribal consultation and has traditionally notified tribes late in the process or has often only included them in notices for the general public.

Additional supporting material:

Guidance from the Advisory Council for Historic Preservation's (ACHP) *Office of Native American Affairs* (ONAA) is available on the ACHP's web site: <http://www.achp.gov>.

Helpful examples of ONAA documents relevant to these issues include, but are not limited to, the following:

<http://www.achp.gov/docs/consultation-indian-tribe-handbook.pdf>

This is a comprehensive handbook

http://www.achp.gov/delegationmemo-final_7-1-11.pdf

This document discusses proper procedures for—and limitations to—delegation of consultation responsibility.

Issues to address (such as cost, environmental impacts):

- There should be no additional costs involved other than those that may commonly occur when setting up group meetings, conference calls, sending out notifications, information letters, etc.
- It is important to note that tribal consultation is set up differently than other consulting party coordination and both tribal consultation and official consulting party consultation are made distinct from the general public engagement/participation requirements in the 106 regulations (36CFR800). In addition, federally recognized tribes and the government-to-government relationships are distinct from those of non-federally recognized tribes and other interest groups.

- Not all of the 15 tribes with ancestral ties to Pennsylvania are interested in all areas of the Commonwealth. Although there are some tribes who do express interest statewide, most are interested in certain regions only, usually as defined by a particular group of counties. Agencies should proactively contact tribes to determine areas they are interested in for future projects and potential future projects. Given the estimated acceleration of gas pipeline and related projects projected by the gas pipeline task force, carrying out tribal consultation in an appropriate manner may be critical.

Historical/Cultural/Tribal Workgroup Recommendation #3

Consult with Citizens' Groups, Including Heritage and Historical Organizations and Non-Federally Recognized (NFR) Tribes for Oil and Gas Development

Full recommendation:

Increase trust, transparency and communication between agencies, O&G industry, and citizens groups by augmenting current Best Practices for:

- Identifying and notifying citizen groups in advance of application process;
- Formally seeking input and consulting with citizen groups on significant resources; and
- Developing guidelines for standardized, meaningful notification and consultation with citizen groups. Examples of Citizens Groups: Local/County Historical Societies, Preservation PA, among others.

Relevant agencies:

DEP

DCNR

USACE

PA SHPO

Target Audience:

Oil & Gas Industry, above listed agencies.

Justification:

Implementation of this practice will foster goodwill within the communities affected by O&G industry projects, demonstrate “good neighbor” practices and social responsibility for both the O&G industry and state and federal agencies, facilitate smart routing/design for O&G projects, and develop better tools to address effects on cultural resources.

Actions that would be required to achieve recommendation:

In the pre-application/proposed alignment stages of a project, the O&G industry should identify and notify citizen groups. The notification process should include public notice letters and announcements in local media (i.e., newspaper, local television, radio). By formally consulting with citizen groups, O&G industry can gain insight to resources that are considered significant locally and that may not be previously recorded in PA SHPO files. Active consultation will facilitate smart routing/design, as well as minimize risks for impacts on cultural resources and project scheduling. Consultations should involve a minimum of three (3) public meetings that are publicized in local media. Guidelines for notification and consultation with NFR tribal organization can be developed by Pennsylvania Historical and Museum Commission (PHMC) and enforced by the regulatory agencies.

Challenges to achieving recommendation:

Building trust and facilitating open and frequent communication between industry, agencies and citizen groups. Industry and agency buy-in would be needed.

Additional supporting material:

PA SHPO list of consulting parties; check list for notification and consultation.

Online Resources:

<http://www.achp.gov/docs/CitizenGuide.pdf>

<http://www.achp.gov/citizensguide.html>

<http://www.achp.gov/work106.html>

http://www.portal.state.pa.us/portal/server.pt/community/phmc_home/1426

http://www.portal.state.pa.us/portal/server.pt/community/project_review_under_section_106_and_pa_history_code/3787/review_process/415082

<http://paprojectpath.org/penn-dot-crm/tribal-consultation>

Issues to address (such as cost, environmental impacts):

State agency and industry buy-in would be essential, as state laws do not require it. Additional funds may be required to supplement existing positions.

The notification and consultation process should be added to the Project Schedule/Timing. Notification would take place during the pre-application process, once a proposed alignment/location is announced. Three (3) public meetings should also take place (over the course of 3 months) in advance of environmental and cultural field studies. Groups should be solicited as potential formal consulting parties by the federal agency and PA SHPO at the start of the 106 process.

NOTE: Notification and consultation with NFT differs from that with Federally Recognized Tribes because:

- Federally Recognized Tribes are sovereign nations;
- NFT are not sovereign nations;
- Consultation with Federally Recognized Tribes is a legal requirement for a federal agency regulating a project;
- Consultation with Federally Recognized Tribes must be conducted from government to government (see workgroup recommendation II above); therefore, the lead federal agency must conduct all communication,; O & G Industry and Consultants would not carry on the consultation process with Federally Recognized Tribes; and
- Consultation with NFT is not a legal requirement and obligation for state agencies.

Historical/Cultural/Tribal Workgroup Recommendation #4

Implement Best Practices for Upstream and Midstream Oil and Gas Development that Fall Outside of USACE Permit Areas

Full recommendation:

Encourage/Raise Awareness of Voluntary Best Practices by the O&G industry to minimize risk of bad press and project delays due to impacts to significant archaeological sites and, especially, legal liability for damage or destruction of sites containing human burials and historic cemeteries.

Relevant agencies:

DEP
USACE

Target Audience:

Industry, land Agents, regulatory agencies, and stake holders.

Justification:

Manage risks to cultural resources (limit loss of undiscovered significant archaeological and historic sites) and delays resulting from unanticipated finds, generate community goodwill, and demonstrate corporate social responsibility.

Actions that would be required to achieve recommendation:

Implementation of actions to consider significant cultural resources that occur beyond the reach of the federal agency's (USACE) jurisdictional threshold. Work with Leaders in Energy and Preservation (LEAP) to manage risk, to benchmark industry performance and improve practices over time, to support development and gain access to new decision-making tools, and to allow informed decisions in facility siting alternatives. LEAP will work with the PA SHPO and other data repositories to collect and manage data about significant archaeological resources, sites of cultural significance to local communities and Indigenous peoples, and historic resources (buildings, industrial sites, and bridges, etc.) and deliver information, tools, and services that help government agencies, corporations, and preservation organizations make informed decisions about managing our collective cultural heritage. Voluntary Best Practices would also apply to areas subject to the 10 acre exemption rule (DEP policy that does not require applicants to consult with PHMC where there is no federal involvement in an undertaking of 10 or fewer acres of disturbance). This arbitrary policy needs to be revisited with respect to potential impacts to archaeological and historic properties, most of which are far smaller than 10 acres in size.

Cultural Resources Pre-Screening/Background Research:

Project screening will serve to identify potential areas of sensitivity for cultural resources within a project's Area of Potential Effects (APE) and provide a tool to not only limit risk to the industry in regards to unanticipated finds, such as historic cemeteries, but would also limit a loss of undiscovered significant resources. Screening or background research would benefit early route development and design decisions when they have information on potential development constraints that may add time to the compliance process.

By utilizing proposed route development project location mapping, a Qualified Professional will perform a file review of the National Register of Historic Places on-line database; the PA SHPO Cultural Resources GIS database (CRGIS) digital archives and paper files, local historical organizations, etc. to identify known historic properties.

Pre-Screening/Background Research:

- Is the cultural resources screening being performed by a Qualified Professional, or professionals who meet or exceed the Secretary of Interior's Standards for Professional Qualifications as outlined in 36 CFR Part 61 Appendix A.
- Previous disturbance impacts (strip mines, existing utilities, road easements, etc.).
- Historic land-use: i.e. historic mapping and aerial documentation.
- Properties listed on the National Register for Historic Places (NRHP) present.
- Properties formally determined eligible for listing on the NRHP present.
- Structures present within the APE.
- Potential historic rural landscapes, including: historic tree lines, hedge rows, line of sight, etc.
- Properties included in previous architectural or archaeological surveys.
- Historic cemeteries present (family or community).
- Previously documented archaeological resources.
 - Within the APE
 - Within close proximity to the APE
- Sites of potentially "Critical Importance" to the local community.
- Soil Types.
 - Floodplain or Hydric Soils
 - Upland/Well-Drained Soils
- Topographic setting conditions: landform types present.
- Conduct field view of proposed APE to "ground-truth" environmental perimeters.
- Written summary of file review results for authorized end-user, identifying known cultural resources and potentially sensitive areas to aid in development and design.
- Recommendations for any additional cultural resources activity.

Challenges to achieving recommendation:

Industry buy-in for Voluntary Best Practices. Terminology associated with Appendix C. The Section 404 Permit of the Clean Water Act (CWA) regulates the discharge of dredged or fill material into waters of the United States, including wetlands.

The basic premise of the program is that no discharge of dredged or fill material may be permitted if:

- A practicable alternative exists that is less damaging to the aquatic environment;
- The nation's waters would be significantly degraded. The USACE, who enforces Section 404 provisions, puts heavy emphasis on avoiding these jurisdictional wetlands resources and the stream crossings, and decide if any resources are impacted.

Pre-application meetings are held to discuss pipeline route development to avoid these resources if impacts are to occur as a result of the project. Although these potential pipeline re-routes

reduce impacts to the watercourse resources, they do however minimize the area in which archaeological surveys will be required based on the Appendix C regulations. Good faith efforts on the part of Industry to comply with USACE permitting requirements fail to manage Industry risks and impacts to significant resources located between Corps jurisdictional areas on any given pipeline route.

Additional supporting material:

At a minimum, due diligence requires Industry to conduct in-depth literature searches for the entire undertaking's area of potential effect to ensure against previously documented resources and to aid in the development of predictive models for potential upland resources within the proposed corridor. www.energyandpreservation.org

Issues to address (such as cost, environmental impacts):

Cost of development of screening tool that would allow energy companies to engage in more robust early stage planning with regard to cultural resources would be borne by industry in exchange for credits to future subscriptions for access to the tool. We would anticipate access to state-wide database of archaeological sites and historic built environment and would anticipate access to the forthcoming PennDOT statewide predictive model.

Historical/Cultural/Tribal Workgroup Recommendation #5

Conduct Early Outreach with Affected Communities

Full recommendation:

Institute the process of early engagement with affected communities to gather data. Conduct outreach before preliminary siting of pipelines. Contact the Pennsylvania Land Trust Association to determine the local natural/historical resource organizations, Planning Commissions for all resources, local historical societies and preservation groups. This should occur at the inception of planning to insure all parties have the information they need.

Relevant agencies:

Local Government
PA SHPO

Targeted Audiences:

PA SHPO (to facilitate if needed), the Industry, and the legislature (if this recommendation warrants any regulatory changes).

Justification:

Alleviates bottlenecks, provides for informed choices, and ensures affected communities have a voice.

Actions that would be required to achieve recommendation:

Education and voluntary adoption of process or legislative change. Post early planning for pipelines on a central website/clearing house. Simple change to first correspondence to landowners – add a sentence such as “studies could include ground disturbances.”

Challenges to achieving recommendation:

If this becomes regulatory, then legislation may be perceived as slowing approvals; however, if this is conducted at the planning stage prior to initial siting, it may speed approvals.

Additional supporting material:

N/A

Issues to address (such as cost, environmental impacts):

Additional cost to Industry will be offset by the savings in subsequent research and negotiations.

Historical/Cultural/Tribal Workgroup Recommendation #6

Conduct County-Based Siting and Mitigation Research

Full recommendation:

Alter the approach to inter-county pipeline projects by conducting advance research on resources and limits on resources by county. To that end, work with county planning commissions and non-governmental organizations (NGOs) to identify local limiting factors. Example: There may be large forest blocks in one county vs. severely limited acres of forests and contiguous forests in another, resulting in greater impact from siting in forests in the latter county. Create a database of advance issues. Example: Counties with large numbers of archaeological and historic resources preserved as part of NGO and government efforts. Structure mitigation based on local constraints.

Relevant agencies:

DCNR

PHMC

DEP

Department of Community and Economic Development (DCED)

County Governments and Planning Commissions

Target Audience:

The O&G Industry.

Justification:

Streamlines reviews, reduces environmental and cultural impacts (protected lands protect both cultural (historical and archaeological) resources and environmental resources), and facilitates appropriate mitigation partners to achieve meaningful mitigation strategies with local benefit.

Actions that would be required to achieve recommendation:

Voluntary implementation, coordination, or regulatory checklist which includes meeting with local planning commissions and NGOs before applications or in FERC filings prior to pre-applications.

Challenges to achieving recommendation:

Resistance by the industry to this method of sketching out preliminary routes based on local variables; variety of levels of planning in different counties.

Additional supporting material:

N/A

Issues to address (such as cost, environmental impacts):

Since the Planning Commissions and NGOs are giving the industry the information the industry needs to make sound choices there is really no cost other than those of meetings and calls. This approach requires a shift in initial analysis and industry culture.

Local Government Workgroup Recommendation #1

Communicate Early and Often with Local Government Officials

Background:

From the development of new pipelines, to the operation and maintenance of existing pipelines, the flow of information between pipeline companies and affected municipalities is fragmented and inconsistent at best. To ensure that communication is fluid and timely among stakeholders (i.e. local, state, federal governments; pipeline companies; residents, etc.), we need to establish best management practices (BMPs) before the communication process even starts. It is important that pipeline companies communicate *early and often* with local officials since pipeline infrastructure projects have localized components. Through reliable and transparent means of communication, trust can be established between pipeline operators and local government officials; coordination can assist with project timing and meeting budgetary limits, while in accordance with all government relations.

To accomplish this goal, Pennsylvania should create a standardized “checklist” for pipeline applicants, which outlines the procedure for entities that intend to construct pipelines within the commonwealth.

Full Recommendation:

It is important that companies constructing pipelines or related surface facilities communicate early and often with the local officials of each municipality where any construction may take place.

(1) The first step would be that the gas company contacts the municipality. Ideally this should be a person-to-person contact, or designated individuals that would work with the municipality for the duration of the pipeline project. Local elected officials should be notified about a potential project before there is a need for the pipeline company to ask for any approvals from the municipality. This communication concept would be similar to an “Ambassador Program,” where each party would relay information back to their respective group. Pipeline companies should keep in mind that not all elected officials are well versed in the pipeline construction process, and there may be a need for education and informational sessions about the project.

(2) After the initial contact is made, municipalities would be in a better position to respond to inquiries from residents about the project, which should not be construed as the municipality taking a position on it. Communicating with the municipality and educating residents can make for the project to be a positive experience. Without proper communication, the media or other outside groups can influence residents and cause friction between the pipeline company and the residents and even the municipality. Communication should be frequent and open during the entire project. Pipeline companies should not only share good news and project milestones, but also issues that could end up in the media, as a way to maintain a good, working relationship with the municipality. It is important for the pipeline company to provide any relevant documentation to the municipality as soon as it becomes available; this includes any

anticipated maps of routes, schedule of projects, facility sites, etc.). Again, this is essential to keep residents educated and open to viewing the project as an asset to the community. Additionally, the pipeline companies are encouraged to interact with the community just as the local businesses do, and support community events, teams, causes, etc.

(3) An affected municipality should be given the opportunity to sit in on the review process of a proposed pipeline application with the Pennsylvania Department of Environmental Protection (DEP). This invitation would be extended to the municipality at each stage of the permit process; municipalities may also decline to attend any of the review stages. Declining to attend a review stage does not disqualify a municipality from attending future stages of the review. At the present time, local governments have a very limited role in siting and permitting, depending upon the extent of Federal Energy Regulatory Commission (FERC) or Public Utility Commission (PUC) jurisdiction. Local officials have a significant amount of insight as far as any impact to the community or potential obstacles; local officials can provide meaningful input during the permitting process.

Additionally, a map of potential routes of the proposed project should be submitted with the permit application in order for the municipality to give the most valuable feedback and for DEP to have substantial information to grant the applicant the permit, as stated in Title 71 P.S. sections 510-515 (*municipal notification*).

(4) Communication needs to be a constant throughout the entire project between the pipeline companies and the municipality. Individuals that act as the point of contact for any company may change; therefore it's important for pipeline companies to keep municipalities updated on who the appropriate point of contact is for that particular pipeline project.

(5) Not only should the pipeline company and municipality maintain open lines of communication but county, state, and federal agencies need to relay information to one another as well. Again, this should be constant and open throughout the entire process, not just the initial phase.

(6) At the completion of project, the pipeline company shall provide maps of the pipelines (a process that would be similar to laying sewer lines) and any other relative documentation to keep on file at the municipality. Any updates to maps or relevant documentation, including more details, should be communicated to the municipality. This information would then be available to the community but does not release any party from the requirements of the PA1Call System.

Williams Companies has expressed concern about this recommendation: Most of industry generally disagrees with this concept. There is concern that individuals would use these maps as a resource to avoid the PA1Call System, greatly increasing the potential for third party damage to our pipelines or the likelihood of a catastrophic event.

(7) A registry of **all** pipeline companies that receives permits shall be established and maintained by the state, just as the PUC does with pipeline companies that receive public utility status under the provision of The Gas and Hazardous Liquids Pipelines Act (*Act 127 of 2011*). This list would also include a contact person for each specific pipeline and pipeline project. If lines are sold or the project is transferred to another company, the contact information must be updated with the state within 7 days.

Relevant Agencies:

The municipality affected by the pipeline project

County Conservation District affected by pipeline project

PUC

DEP

FERC (*depending upon the project*)

Pipeline & Hazardous Materials Safety Administration (PHMSA)

Army Corp of Engineers (*depending upon the project*) (USACE)

PA Historical and Museum Commission (*depending upon the project*) (PHMC)

Justification:

(1) Currently the standardized procedure for the entire pipeline application permitting process is fragmented and lacks sufficient enforcement. All too often pipeline companies approach landowners about potential projects but neglect to inform the municipality. Affected landowners then ask their local officials what the municipality is going to do about their concerns, but the municipality has no knowledge because they were not informed or notified by the pipeline company early in the process. By the time money is invested and DEP permits are secured, the municipality is out of the loop of information because the company is already in the process of starting the project and the negotiations have already begun or possibly even been completed between the pipeline company and the landowner. If local officials are to respond to their residents, BMPs should be established relative to a process for communications between the pipeline company and the municipality.

(2) Furthermore, pipeline companies currently are **not** required to submit relevant documentation or mapping regarding the pipeline project to the municipalities. Typically, a municipality can find information about a project once a pipeline company applies for a DEP permit, but this information must be sought out; it may not have been provided to the municipality. Since DEP requires permits for earth disturbances, there is some sort of process for gathering lines, but again, we need a standardized “checklist” that encompasses all stakeholders in the pipeline process, especially municipalities. At the very least, a highway occupancy permit or agreement should be standardized for townships so that gathering lines can be accurately accounted for, just as pipelines are accounted for through DEP permits.

Actions That Would Be Required to Achieve the Recommendation:

- (1) Creation of a standardized “checklist” for pipeline application, which includes the affected municipalities.
- (2) Establishing BMPs for communication among stakeholders.

Issues to Address (Such as Cost, Environmental Impacts, etc.):

Determine if landowner information pertaining to a pipeline project is subject to the Right To Know Law (RTKL) if the pipeline company provides this information to the township or would this be a homeland security issue?

Local Government Workgroup Recommendation #2

Minimize Impact on Local Roads

Background:

One of the most essential functions of local government is ensuring that their right-of-ways are safe and passable for the traveling public while meeting the Pennsylvania Department of Transportation's (PennDOT's) standards. Roads play a crucial role in the pipeline process. Intensive heavy truck traffic, including the hauling of heavy equipment, has an adverse impact on local roads, highways, and bridges. This negative situation is exacerbated by the fact that a significant portion of such hauling activity occurs on local roadways that were not constructed for this type and amount of truck traffic. Additionally, these roads are exposed to extreme fluctuations in weather throughout the year, which results in rapid deterioration and requires constant maintenance and upkeep.

Full Recommendation:

It is important that companies constructing pipelines or related surface facilities communicate early and often with the local officials of each municipality concerning the use of local roads.

1. In order to provide safe and reliable transportation for all travelers, all pipeline companies shall execute an excess maintenance agreement with the appropriate municipality for all roads used by the pipeline company in accordance with PennDOT's standards. The municipality shall work closely with the industry and its subcontractors to ensure that any damage to a local road is repaired as soon as possible to at least pre-existing conditions. Bonding rates, which are the insurance policy that the damage will be repaired, have not been increased since the early 1980s and do not reflect the current costs of paving a road, let alone rebuilding it. In addition, the regulations currently do not include a mechanism to recover all costs associated with the work of the pipeline companies. This includes additional staff to constantly inspect road conditions and monitor repairs. This goal can be accomplished through the execution of a standardized ordinance or agreement that provides for the costs of excess maintenance. This goal may also be accomplished through a standardized highway occupancy permitting process or a highway occupancy agreement.
2. Currently, highway occupancy permits are granted on a municipality by municipality basis, but not all municipalities have a highway occupancy permit procedure in place.
3. Municipalities should have the authority to require and establish either an escrow fund or acceptable "letter of credit" in-lieu of a bond to ensure that roadwork is completed in a timely manner and completed in accordance to established standards.

4. PennDOT regulations and standards require the local government to comply with these regulations. In order to meet these standards efficiently and effectively, we recommend that the pipeline company and municipality coordinate road projects in order to alleviate lengthy road closures or multiple road projects performed on the same road or roads that would be affected by the pipeline project. It would also reduce the cost of road repairs, saving the municipality from spending more taxpayer money. It is suggested that the municipality and the pipeline company work together to verify the condition of the road prior to construction. This could be accomplished by recording video of multiple angles of the road. This step is necessary to guarantee the road and its right-of-way is returned to municipal standards.
5. After securing the highway occupancy permit, the pipeline company shall notify the municipality at least 24 hours in advance before performing any pipeline construction that involves working in a local road right-of-way.

Relevant Agencies:

The municipality affected by pipeline project

County Conservation District affected by pipeline project

DEP

FERC (*depending upon the project*)

PHMSA

PUC

USACE (*depending upon the project*)

PHMC (*depending upon the project*)

Justification:

(1) Establishing BMPs for roadwork as they relate to these projects would substantially assist municipalities in meeting their obligation to provide a safe and reliable transportation network. A standardized highway occupancy permitting process creates uniform street opening standards, including opening, cutting, excavating, grading, boring, crossing, installation or disturbance upon, in, under, or across a Township road or road right-of-way. Such standards are intended for any street openings on Township roads and would provide municipalities with appropriate tools to regulate and manage such occurrences.

(2) There are no existing regulations that require the municipality to perform the necessary roadwork after the pipeline work is completed. In most cases, the pipeline company will contract with a road paving company or other contractor to perform the work to PennDOT and municipal standards and for any inspection. This scenario meets the existing regulations and in most cases cost the pipeline company less money in meeting their obligation.

(3) All roadwork completed by the pipeline company or its contractor has to be performed to PennDOT regulations/standards in order for the municipalities to receive Municipal Liquid Fuels payments from the state for that road. The local government's existing authority to

regulate the opening of local roads, regardless of PUC or FERC jurisdiction, needs to be maintained.

Actions That Would Be Required to Achieve the Recommendation:

(1) This would require that regulations be amended to specifically require excess maintenance agreements as a necessary tool to administer and enforce weight limits used by heavy haulers.

(2) This would require that existing statutes or PennDOT regulations be amended as necessary to implement the desired changes.

Issues to address (such as Cost, Environmental Impacts, etc.):

There may be some financial impact from increasing bonding amounts required of those entities that damage right-of-ways. Municipalities may experience decreased cost exposure due to the limited ability to execute a bond that will actually repair the damages.

Local Government Workgroup Recommendation #3

Clarify and Examine Need for Local Regulation of Surface Facilities

Background:

Surface facilities can have different impacts than the underground pipeline particularly when placed in residential neighborhoods as opposed to non-residential zones where they may be better suited. Local municipalities should have the authority to regulate these facilities, unless they have received a certificate of public convenience from the PUC. We understand that municipalities must accommodate the need for surface land uses affiliated with pipelines while at the same time protecting the health, safety and welfare of the citizens of the municipality. Additionally, this means that existing pipelines and subdivision and land development plans would also influence siting and construction of new surface facilities. As local officials, it is their responsibility to ensure the location of surface land uses affiliated with pipelines are in compliance with applicable industry standards and requirements, including Federal law, FERC; and Pennsylvania State law, including the Pennsylvania Oil and Gas Act and relevant state and federal case law and local zoning ordinances.

Full Recommendation:

(1) Surface land uses affiliated with pipelines shall be permitted as a principal use by right in designated districts where underground pipelines exist or are proposed. Such uses shall meet the dimensional requirements, including but not limited to area and bulk standards, of the designated district. Applicants are required to demonstrate to the satisfaction of the municipality that the requirements meet the standards for surface land uses affiliated with pipelines.

(2) Local officials should be consulted and given the opportunity to comment and participate in the state permitting/siting process, as well as the opportunity to sit in on the review process of a proposed pipeline facility with the DEP. The local officials will have the greatest amount of insight of the impact to the community and any potential obstacles; they could provide meaningful input during the siting process.

(3) The municipality shall have the authority to regulate a surface facility, regardless of what the surface facility is connected to (e.g. transmission vs. gathering lines).

(4) All surface facilities' siting and safety may be regulated by the municipality, either through their zoning ordinance or a stand-alone ordinance. Federal regulations should be cited in the ordinance, including Title 49 Chapter 192.3, which establishes setbacks for surface facilities. These regulations would be adopted and incorporated as part of the model language.

(5) The state should provide to the municipalities BMPs as it relates to siting and safety guidelines for surface facilities. Sample ordinances or sample language should be provided to municipalities so that they may adopt ordinances that regulate surface facilities.

Relevant Agencies:

The Municipality affected by pipeline project
County Conservation District affected by pipeline project
DEP
FERC (*depending upon the project*)
PHMSA
PUC
USACE (*depending upon the project*)
PHMC (*depending upon the project*)
DCED

Justification:

(1) Municipalities are authorized to regulate the siting of surface facilities through their individual zoning and subdivision ordinances. For this reason, pipeline companies prefer to rely on state or federal standards. FERC and state law supersede local government **only** in those areas that are specifically expressed in the law. Local officials should have input in the siting process because they are the most knowledgeable about the community and its economic and environmental makeup. They are the ones who answer directly to residents.

(2) No state or federal land use standards exist for compressor or pumping stations (i.e. fencing, cages, locks) but they may be included in the local ordinance. Local ordinances may regulate *where* stations can go, but there are no standardized construction requirements. Any structure that is created to house pumping or compressor stations should be required to comply with the Uniform Construction Code.

(3) It is up to the municipality to minimize aesthetic, nuisance and visual impacts of surface land uses affiliated with transmission pipelines through proper design, siting and vegetative screening through their zoning and subdivision ordinances. Local zoning ordinances may preserve the rural, suburban and urban character of neighborhoods adjacent to surface land uses affiliated with transmission pipelines.

Actions That Would be Required to Achieve the Recommendation:

- Sample ordinances or sample language should be provided to municipalities so that they may adopt ordinances that regulate for surface facilities.
- DEP should provide appropriate suggested land use practices to municipalities so that the municipality can plan for surface facilities according to the agency's standards, especially for communities that do not have zoning.

Natural Gas End Use Workgroup Recommendation #1

Create A State Level Permit Coordinator

Full recommendation:

A company proposing a project requiring permitting may provide additional funding to the State to help to defray the costs associated with streamlining the permit application and review process via intra- and inter-agency coordination. The State provides a single point of contact with experience in permitting complex projects, including natural gas pipelines and/or industrial sites, who coordinates the efforts of all the relevant State permits for the project.

This recommendation already has a foundation set forth in the DEP, Office of Program Integration's *Policy for Permit Coordination* (021-2000-301), which created the Pre-Application Process and Permit Decision Guarantee programs.

To the extent practicable, projects for *new construction, brownfield redevelopment*, and requests that will result *in the creation of new permanent jobs in Pennsylvania* will be given highest consideration, expanding upon the Permit Review Hierarchy set forth in the *Policy for Implementing the Department of Environmental Protection Permit Review Process and Permit Decision Guarantee*, 021-2100-00.

- Funds received by the permit applicant may be used to:
 - Retain former or retired government employees as temporary contractors, to conduct application and permit reviews, on a project-by-project basis.
 - Offset current employee overtime compensation on expediting an application, permit review, modification, etc.
 - Grow the agency's understanding of industry requirements and timelines, through training of current or additional personnel.

This process would not eliminate or modify any requirement set out by state, local, or federal regulations. Permit/s approved for expedited permit processing must meet all regulatory requirements, including required public comment periods and any required review by all relevant agencies.

Relevant agencies:

- The Permit Coordinator would be assigned based on the main project driver (Oil & Gas, Brownfields, etc.), coordinating all State permits required for the project, and would serve as a liaison with Federal and Local agencies as well.

Justification:

Currently, the permitting process in PA is not dependable or predictable.

- Government staff must manage budgets, limited staffing, emerging technologies, training, and other resources, making efficient permitting and working with industry partners a challenge. Pennsylvania's DCED is dedicated to promoting private investment in the State. *Extra funding on a project-by-project basis would alleviate many of these issues, without being a burden on taxpayers.*
- Communities want certainty about where a project stands in its development, without being dragged out into a long, unpredictable process.

- Non-Government Organizations (NGOs) want assurance that government staff (permit reviewers and officials) have *sufficient time and expertise* to review permits; as well as to monitor and enforce regulations. A dedicated, experienced Permit Coordinator would fulfill that need.
- Industry is dealing with unpredictable timeframes and delays due to the permit reviewer's lack of understanding/knowledge about the project itself, permits being reviewed by several different permit reviewers, or just a backlog of work. The arrival of a new pipeline with adequate natural gas supply must be timed well with Site re/development for a project to be financially successful. The current uncertainty and unpredictability encourages companies to operate outside of Pennsylvania, impacting our local, regional, and state economies. *Result: missed opportunities in terms of new infrastructure.*

Actions that would be required to achieve recommendation:

- Develop and publish a fee calculation.
- Establishing the funding account.
- Upgrade the existing Pre-Application Consultation tool (PACT) to State-level. Use it as a gateway to find not only the list of potential permits likely required for the project, but also to opt into the Expedited Permit Program, and to help assign a Permit Coordinator that best fits the overall project scope.
- Build a database of potential, qualified Permit Coordinator applicants (contract employees or other personnel) interested in assisting on a project-by-project basis.
- Train PA State employees and contractors (as necessary).
- Train industry on the improved process, develop Fact Sheets about the program.

Challenges to achieving recommendation:

- Creating State-level oversight of the Permit Coordinators.
- Searching for qualified individuals with the relevant experience, willing to work on a contract, project-by-project basis (to supplement existing employees).
- Providing relevant training opportunities for current/former State employees in relevant agencies.

Additional supporting material:

- *Ideas To Empower America's Emerging Shale-Based Manufacturing Renaissance*, American Shale & Manufacturing Partnership, January 2015.
- Louisiana DEQ: *Expedited Permit Program*
<http://www.deq.louisiana.gov/portal/PROGRAMS/ExpeditedPermitProgram.aspx>
<http://www.deq.louisiana.gov/portal/Portals/0/assistance/Chapter%2018.pdf>
- Kentucky DEP: Division of Compliance Assistance (DCA)
 Created specifically to coordinate, streamline, and therefor expedite the permitting review process across the agency (multi-department):
<http://dca.ky.gov/DCA%20Resource%20Document%20Library/TypicalPermitsAtaGlance.pdf>
<http://dca.ky.gov/DCA%20Resource%20Document%20Library/CommonPermitsKYDEP.pdf>

Natural Gas End Use Workgroup Recommendation #2

Create Regional Energy Corridors and Energy Action Teams

Full recommendation:

Build off of Philadelphia, Pittsburgh and Williamsport's strategic plan to develop energy hubs and energy corridors across the Commonwealth, while utilizing already established infrastructure at the DCED within the Governor's Action Team (GAT). Build energy specific teams within the regional GAT offices around the Commonwealth.

Relevant agencies:

DCED

DEP

Department of Transportation (PennDOT)

Department of Agriculture (Ag)

Justification:

In an effort to entice infrastructure build out, end use expansion or new company location DCED and GAT would use a dedicated employee dedicated to energy and end use.

Actions that would be required to achieve recommendation:

- Model plan after Philadelphia, Pittsburgh and Williamsport to regions around the Commonwealth, that mirror DCED action teams already established.
- Build plan within the GAT office.
- Secretaries from affected agencies will need to develop criteria and definitions.
- Possible legislation.

Challenges to achieving recommendation:

Budget.

Additional supporting material:

The GAT is a group of experienced economic development professionals that serve as a single point of contact for companies looking to establish new business operations in Pennsylvania or companies considering retention and/or expansion of existing Pennsylvania operations.

GAT provides businesses with the information needed to make an informed assessment of the Commonwealth and its communities as a business location. GAT is able to:

- Identify suitable properties for client companies by utilizing PA Site Search our property database, and working with our statewide network of local partners.
- Provide information on available workforce, infrastructure, taxes and the quality of life.
- Coordinate and host site tours with client companies
- Make appropriate introductions to local economic development groups and elected officials.

Interagency Coordination

- As a one-stop-shop, GAT will coordinate the involvement of all Commonwealth agencies in a business development project (DEP, PennDOT, Department of Labor and Industry (L&I), Department of Revenue, and other agencies as necessary).
- Facilitate introductions and pre-application meetings.
- Expedite permit review and approval.

Access to Economic Development Incentives.

GAT serves as the primary contact for businesses wishing to access the Commonwealth's various economic development incentive programs. GAT performs a thorough due diligence review of each project, taking into consideration the following:

- Overall economic impact of the project.
- Company's financial condition.
- Validity of the company's business model.
- Strength of commitments for private financing for the project.
- Competitive posture of the project.

Natural Gas End Use Workgroup Recommendation #3

Create Energy Opportunity Zones

Full recommendation:

Add to the already established Keystone Opportunity Zone (KOZ) program, an Energy Opportunity Zone (EOZ) program.

Relevant agencies:

DCED

DEP

PUC

Department of Revenue

Justification:

In an effort to continue to attract businesses, including end users of natural gas this program would be provided specifically to companies that utilize natural gas in some capacity.

Actions that would be required to achieve recommendation:

- Amend KOZ legislation

Challenges to achieving recommendation:

- Legislation
- Budget

Additional supporting material:

- <http://newpa.com/business-assistance/keystone-opportunity-zones/>
- http://community.newpa.com/download/programs_and_funding/keystone_opportunity_zone/KOZ_Report_2008-2010.pdf

Natural Gas End Use Workgroup Recommendation #4

Enact Statute to Permit Use of a Charge for New Service (Similar to a Distribution System Improvement Charge (DSIC))

Full recommendation:

On February 14, 2012, Governor Corbett signed Act 11 of 2012 amending Title 66 (Public Utilities) of the Pennsylvania Consolidated Statutes to allow jurisdictional water and wastewater utilities, natural gas distribution companies, city natural gas distribution operations, and electric distribution companies to petition the Commission for approval to implement a DSIC. The DSIC must be designed to provide for "the timely recovery of the reasonable and prudent costs incurred to repair, improve or replace eligible property in order to ensure and maintain adequate, efficient, safe, reliable and reasonable services." 66 Pa.C.S. § 1353 (a).

The Recommendation is to expand Act 11 of 2012 to include new projects to allow for timely development of infrastructure.

Relevant agencies:

PUC
DCED
DEP

Justification:

DSIC allows for the upgrade of old infrastructure ignoring the need for new infrastructure to be built out in many areas of the Commonwealth.

Actions that would be required to achieve recommendation:

- Amend Act 11

Challenges to achieving recommendation:

Amending Act 11 and gaining consensus among state agencies and affected parties.

Additional supporting material:

http://www.puc.state.pa.us/filing_resources/issues_laws_regulations/system_improvement_charges_act_11.aspx

Natural Gas End Use Workgroup Recommendation #5

Develop Municipal Guidelines for Natural Gas Distribution Lines

Full recommendation:

Encourage the development of recommended guidelines at the municipal level that impact the extension of natural gas distribution lines, including the areas of permitting fees, rights-of-way and repaving.

Guidelines should be developed by the PUC and the DCED.

Relevant agencies:

PUC

DCED

DEP

PennDOT

Justification:

Concern to keep these projects on-time and on-budget.

Actions that would be required to achieve recommendation:

Discussion between relevant state agencies, local governments and affected companies to discuss and develop guidelines.

Pipeline Safety and Integrity Workgroup Recommendation #1

Require Leak Detection Survey Schedules

Full recommendation:

Create a Best Practice and subsequent regulations associated with conducting annual leak detection surveys on all pipelines existing or new.

Relevant agencies:

PUC

Justification:

Basis of the recommendation is the existing leak detection requirements under the PHMSA pipeline safety regulations that are applied to Class 2-4 gathering pipelines and are applied to all class locations for transmission pipelines. Applying these existing regulations and stricter Best Practices to:

- Class 1 gathering lines;
- Production pipelines outside of the well pad; and
- All other pipelines (natural gas and hazardous liquid) will enhance public safety and lower methane emissions.

Actions that would be required to achieve recommendation:

PHMSA would need to adopt new regulations for Class 1 Gathering/production pipelines, or Pennsylvania modifies its current statute to enact a Class 1 Gathering/Production pipeline Leak Detection requirement so that Class 1 Gathering/production pipelines become jurisdictional. A Best Practice would need to be established to encourage all pipelines to perform annual leak surveys.

Challenges to achieving recommendation:

PHMSA rulemakings can often last for years and the outcome is never guaranteed. If revising state law, the existing state statute precludes enactment of any regulations more stringent than PHMSA. Overturning this language may be controversial from an industry perspective. Performing annual leak surveys will increase Operations and Maintenance Costs to pipeline operators.

Additional supporting material:

Each operator should prepare and follow for each pipeline, a manual of written procedures for conducting operations, maintenance and integrity activities. Each operator should follow and keep records necessary to administer the procedures for the best practices. This manual should include procedures for the following, if applicable, to provide safety during maintenance and operations and integrity.

1. Operating and Maintenance

It should include but is not limited to:

1. Patrolling

The frequency of patrolling mains should be determined by the severity of the conditions which could cause failure or leakage, and the consequent hazards to public safety. Pipelines in places or on structures where anticipated physical movement or external loading could cause failure or leakage should be patrolled at intervals not exceeding 4 1/2 months, but at least four times each calendar year.

2. Leak Survey

Leak surveys should be conducted annually on all pipelines (Distribution, Gathering, Transmission). Leak surveys should be conducted with a leak detection instrument. Records for leak surveys should be maintained for the life of the pipeline.

Ohio's pathway to pipeline safety is an example of the state route to achieving this recommendation.

<http://www.puco.ohio.gov/puco/index.cfm/be-informed/consumer-topics/natural-gas-pipeline-safety-in-ohio/#sthash.fW0UAS4C.dpbs>

Issues to address (such as cost, environmental impacts):

This recommendation will manifest additional costs on pipeline owners/operators.

Pipeline Safety and Integrity Workgroup Recommendation #2

Require Leak Repair Schedules

Full recommendation:

Create a Best Practice and subsequent regulations to address leak repair scheduling of all pipeline leaks. The Best Practice would encourage all pipeline operators to repair all pipeline leaks as soon as possible, taking into consideration the risk to public/employee safety, environment, permitting (PennDOT/Environmental). The Best Practice would apply to all existing and new pipeline facilities. The new Commonwealth regulations would be dependent on PHMSA promulgating regulations associated with Production Pipelines and Class 1 Gathering Pipelines or the General Assembly modifying Act 127.

Relevant agencies:

PUC

Justification:

Pipeline leaks represent a failure of the pipeline system and contribute to hazardous conditions, public angst, and greenhouse emissions.

Actions that would be required to achieve recommendation:

PHMSA would need to adopt new regulations that provide for enforcement associated with Class 1 Gathering/Production Pipelines, or Pennsylvania modifies current statute to enact Class 1 Gathering/Production Pipeline Leak Detection requirement so that Class 1 Gathering and Production pipelines (not located on the well pad) become jurisdictional. Additionally, a Best Practice would need to be established that addresses a leak schedule for all pipelines. The leak schedule would require pipeline operators to repair leaks as soon as possible, taking into consideration the risk to public/employee safety, environment, permitting (PennDOT/Environmental). This will apply to all existing and new pipeline facilities.

Challenges to achieving recommendation:

PHMSA rulemakings can often last for years and the outcome is never guaranteed. If revising state law, the existing state statute precludes enactment of any regulations more stringent than PHMSA. Overturning this may be controversial from an industry perspective.

Additional supporting material:

Currently, pipeline operators follow the Gas Piping Technology Committee's (GPTC) best practices for leak classification. Generally, leak classification is described by three categories:

- Emergency leaks that are required to be fixed immediately;
- Leaks that are required to be repaired within 12 months and monitored every 6 months; and
- Leaks that are monitored but do not have to be fixed. The above recommendation provides for a Best Practice of fixing all leaks as practicable given permitting etc.

Issues to address (such as cost, environmental impacts):

This requirement will manifest additional costs on pipeline owners/operators.

Pipeline Safety and Integrity Workgroup Recommendation #3

Establish Publicly Available Pipeline Inspection Information

Full recommendation:

The establishment of an all Government (federal and state) pipeline inspection summary that will be made available to the public on a Commonwealth web site which includes appropriate links to PHMSA web site.

Relevant agencies:

PUC

DEP

Justification:

Transparency and keeping the general public informed.

Actions that would be required to achieve recommendation:

Formation of a dedicated webpage on the PUC or DEP website to disclose this information.

Challenges to achieving recommendation:

Internal procedures would need to be implemented at the PUC and/or DEP to maintain this website.

Additional supporting material:

PHMSA currently uploads its inspection results to its website.

Issues to address (such as cost, environmental impacts):

This will increase man-hours for the relevant agency issuing these reports and will require some initial costs for host website upgrading.

Pipeline Safety and Integrity Workgroup Recommendation #4

Require a Cathodic Protection Program

Full recommendation:

Establish a Best Practice, until federal or state regulations are created, associated with the design and implementation of a Cathodic Protection program that would apply to all metallic pipelines starting at the electrical isolation point at the well head. This will include external and internal corrosion control if required.

Relevant agencies:

PUC

Justification:

Cathodic protection is a low cost and practical method to protect people, assets, and the environment from corrosion. This proposed Best Practice is consistent with PHMSA standards and should be applied to Class 1 Gathering pipelines and Production pipelines that are not located on the well pad.

Actions that would be required to achieve recommendation:

PHMSA would need to adopt new regulations for Class 1 Gathering and non-well pad Production pipelines, or Pennsylvania would need to modify its current statute to enact enforcement of Class 1 Gathering/Production pipeline regulations. Additionally, the Pipeline Infrastructure Task Force would have to establish a Best Practice to ensure that all metallic pipelines are cathodically protected.

Challenges to achieving recommendation:

PHMSA rulemakings can often last for years and the outcome is never guaranteed. If revising state law, the existing state statute precludes enactment of any regulations more stringent than PHMSA. Overturning this may be controversial from an industry perspective.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

This requirement will manifest additional costs on pipeline owners/operators.

Pipeline Safety and Integrity Workgroup Recommendation #5

Require An Integrity Management Program (IMP) for Gathering Pipelines

Full recommendation:

The establishment of a Best Practice, until appropriate state and federal regulations are implemented, associated with the implementation of an IMP for all existing and new gathering/production pipelines in all Class locations. Plan should include:

- ILI assessments, this includes a post construction baseline, and a re-assessment interval of 10 years. Alternative assessments, such as hydrostatic testing or direct assessment can be used if the pipeline is not capable of accommodating ILI tools.
- Conduct a Risk Analysis Annually. Minimum data required; corrosion, seam type, pipe information, leak history, third party construction, operating conditions, outside forces, etc.
- Implement mitigation measures based on risk.

Relevant agencies:

PUC

Justification:

An Integrity Management Program is a risk assessment strategy that requires pipeline operators to determine their pipeline operating risks and subsequently plan to mitigate these risks. This program would identify areas where anomalies could pose a risk to people and the environment and allow timely remediation to ensure integrity of the steel pipe. In addition, this inspection would provide baseline inspection information on pipe deformation and internal and external corrosion. Inline inspection data would provide much needed data to conduct more effective risk analysis for future integrity decisions.

Actions that would be required to achieve recommendation:

A Best Practice would need to be established to encourage non jurisdictional gathering/production pipelines to participate in an IMP. Also, PHMSA would need to adopt new regulations for Gathering and non-well pad Production pipelines, or Pennsylvania modifies current statute to enact Gathering and non-well Production pipeline regulations.

Challenges to achieving recommendation:

PHMSA rulemakings can often last for years and the outcome is never guaranteed. If revising state law, the existing state statute precludes enactment of any regulations more stringent than PHMSA. Overturning this may be controversial from an industry perspective.

Additional supporting material:

Currently, all PHMSA jurisdictional transmission, and distribution pipelines are required to implement an IMP. These risk base programs provide for risk mitigation and therefore reduce pipeline failures.

Issues to address (such as cost, environmental impacts):

This requirement will manifest additional costs on pipeline owners/operators.

Pipeline Safety and Integrity Workgroup Recommendation #6

Authorize PA Public Utility Commission (PUC) Regulation of Non-Jurisdictional Pipelines

Full recommendation:

If recommendations from the PITF provide for addition safety regulation over non-jurisdictional pipeline operators, then the Task Force should also recommend to the Pennsylvania Legislature that authorization is needed for the PUC to implement regulations, increase PUC compliment, and assess all non-public utility pipelines to support the expanded responsibilities.

Relevant agencies:

PUC

Governor's Office

General Assembly

Justification:

This authority will be required to verify programs and monitor pipeline safety information to review effectiveness and enforcement of such programs.

Actions that would be required to achieve recommendation:

Legislative and Governor authorization.

Challenges to achieving recommendation:

The existing state statute precludes enactment of any regulations more stringent than PHMSA. Overturning this may be controversial from an industry perspective.

Additional supporting material:

If the PUC were to be given the legislative authority to enforce pipeline safety regulations associated with recommendations advanced by the PITF, such as requiring Class 1 Gathering to be jurisdictional, mapping, siting, etc., the General Assembly and the Governor would have to ensure that the PUC has the staffing resources and the financial resources and the legal authority to implement such programs.

Ohio's pathway to pipeline safety is an example of the state route to achieving this recommendation

<http://www.puco.ohio.gov/puco/index.cfm/be-informed/consumer-topics/natural-gas-pipeline-safety-in-ohio/#sthash.fW0UAS4C.dpbs>

Issues to address (such as cost, environmental impacts):

This requirement will manifest additional costs for additional personnel for compliance activities.

Pipeline Safety and Integrity Workgroup Recommendation #7

Require Best Practices and Standards for Production Lines Located Beyond the Well Pad and Gas Gathering Lines in Class 1 Locations

Full Recommendation:

In recognition of anticipated changes to the federal safety standards for gas gathering lines, the Pipeline Safety and Integrity Workgroup recommends that:

- 1) The Governor of the Commonwealth of Pennsylvania (Commonwealth) should send a letter to the Secretary of the USDOT and Administrator of the PHMSA requesting that new safety standards for gas gathering lines be proposed at the earliest possible date, but by no later than the publication date of the PITF's final report, and that those rules be finalized at the earliest possible date, but by no later than December 31, 2016, so that the citizens of the Commonwealth can be assured that these lines are safely designed, constructed, tested, operated, and maintained, and that operators are provided with certainty as to the regulations that will apply to existing and new gas gathering lines.
- 2) Until PHMSA issues new federal safety standards, as a best practice operators of gas production lines located beyond the well pad and gas gathering lines in Class 1 locations (*see* 49 C.F.R. §§ 192.5, 192.8, 192.9) should follow the regulations in 49 C.F.R. Part 192 for damage prevention (49 C.F.R. § 192.614), public awareness (49 C.F.R. § 192.615), and line markers (49 C.F.R. § 192.707), and participate in the Pennsylvania One Call Program (73 P. S. § 176 *et seq.*).
- 3) If PHMSA does not take appropriate action to establish new federal safety standards for production and gas gathering lines, the General Assembly should consider amending the provisions in the Gas and Hazardous Liquids Pipeline Act (Act 127), Act of Dec. 22, 2011, P.L. 586, No. 127, to provide the PUC) with the authority to establish safety standards for gas production lines located beyond the well pad and gas gathering lines in Class 1 locations. In determining whether PHMSA has taken appropriate action, the General Assembly should consider:
 - (a) Whether PHMSA proposes or finalizes new federal safety standards for gas gathering lines within the timeframes specified in Recommendation 1.
 - (b) Whether PHMSA's regulations require operators of gas production lines located beyond the well pad to protect metallic lines from corrosion, implement damage prevention and public awareness programs, install line markers, and participate in the PA1Call Program.

(c) Whether PHMSA's regulations require operators of gas gathering lines in Class 1 locations to:

- (i) Comply with the requirements for other gas gathering lines, including, but not limited to, the following: standards for the construction of new, replaced, or relocated lines, corrosion control requirements for metallic lines, and provisions for establishing maximum allowable operating pressure, conducting operation and maintenance activities, performing leak surveys, implementing programs for damage prevention and public education and awareness, and installing pipeline markers.
- (ii) Provide PUC with prior notice of major construction, reconstruction, or maintenance activities (*see 52 Pa. Code § 59.38*) and submit incident, safety-related condition, and annual reports.

In deciding whether to amend Act 127, the General Assembly should consider asking the Independent Fiscal Office to prepare a report that compares the public safety benefits with the costs and other economic impacts of authorizing PUC to establish safety standards for operators of gas production lines located beyond the well pad and gas gathering lines in Class 1 locations. The General Assembly should also consider whether PUC needs additional authority to conduct pipeline inspections or fund the cost of administering the gas pipeline safety program under the terms of its certification with PHMSA if Act 127 is amended.

Relevant Agencies:

Governor
General Assembly
PUC
Pennsylvania Independent Fiscal Office
USDOT
PHMSA

Justification:

PHMSA is responsible for prescribing and enforcing minimum federal safety standards for natural gas pipelines. PHMSA's federal standards apply to most pipelines in the United States, and they are generally the only safety requirements that apply to interstate pipeline facilities, with the exception of qualified one-call damage prevention laws. The states are allowed to assume responsibility for regulating the safety of intrastate pipeline facilities by submitting an annual certification to USDOT. With the exception of Alaska and Hawaii, all of the states have an entity that is certified to regulate intrastate gas pipelines. PUC is the state authority that regulates intrastate gas pipeline facilities in Pennsylvania.

Pipelines carry nearly all of the natural gas transported in the United States and are of special interest to the citizens of the Commonwealth as a source of critical energy infrastructure and economic development. When compared to other modes of transportation, pipelines are recognized as the safest means of transporting natural gas. Notwithstanding the pipeline industry's safety record, concerns with the safety of gas gathering pipelines have been raised in recent years:

- In a July 2011 report, the Governor's Marcellus Shale Advisory Commission recommended that PUC be given the authority to regulate the safety of gas gathering lines, and that such authority should include a mechanism for establishing standards for the design, construction, and installation of gas gathering lines in Class 1 locations.
- In August 2011, PHMSA published an advance notice of proposed rulemaking (ANPRM) asking the public to comment on whether the agency should change its regulations for gas gathering lines. PHMSA explained in the ANRPM that the agency established its current regulations in March 2006, and that those regulations require gas pipeline operators to use the provisions in the American Petroleum Institute (API) Recommended Practice 80, Guidelines for the Definition of Onshore Gas Gathering Lines (1st ed., April 2000) (API RP 80) to determine if a pipeline is an onshore gas gathering line. PHMSA further explained that if a pipeline meets the definition of an onshore gas gathering line, an operator must then determine if the line qualifies as one of the two types of regulated onshore gas gathering line under the federal rules. Citing recent developments, particularly the emergence of large-diameter, high-pressure gathering lines in the nation's shale plays, the limited applicability of the federal rules, and the difficulties of enforcing the provisions in API RP 80, PHMSA acknowledged that its regulations for gas gathering lines might no longer be appropriate.
- In a March 2012 report, Federal Government Accounting Office (GAO) recommended that PHMSA obtain data on federally-unregulated gas gathering lines and create a clearinghouse for sharing information on pipeline safety practices. In an August 2014 report, GAO further recommended that PHMSA "move forward with a Notice of Proposed Rulemaking to address gathering pipeline safety that addresses the risk of the larger-diameter, higher-pressure gathering pipelines, including subjecting such pipelines to emergency response planning requirements that currently do not apply."
- In a March 2015 letter to Congress that accompanied a report on the existing federal and state regulations for gathering lines, the Secretary of USDOT confirmed that PHMSA is considering whether to propose new regulations for gas gathering lines. The Secretary also indicated that PHMSA would analyze the economic impact, technical practicability, and other challenges of applying new regulations to gathering lines that are not currently subject to the federal rules when compared to public safety benefits, and that the agency would use a risk-

based assessment in determining whether to modify or revoke any existing exemptions for unregulated gas gathering lines.

- In April 2015, PHMSA sent a notice of proposed rulemaking (NPRM) that included provisions for the regulation of gas gathering lines to the Office of Management and Budget (OMB) for review. Although not yet released, USDOT projects that the NPRM will complete the OMB process and be published in the *Federal Register* in the coming months.

With due consideration for the safety record of the natural gas pipeline industry, the Pipeline Safety Workgroup has developed three recommendations to present to the Task Force for its consideration to address safety of gas gathering lines.

- The first recommendation is for the Governor to send a letter to the USDOT Secretary and PHMSA Administrator requesting that new federal safety standards for gas gathering lines be proposed at the earliest possible date, but by no later than the publication date of the Task Force's final report, and that those regulations be finalized by the earliest possible date, but by no later than December 31, 2016. The Governor should ask USDOT and PHMSA to act within these timeframes, so that the citizens of the Commonwealth can be assured that gas gathering lines are being safely designed, constructed, tested, operated, and maintained, and that operators have certainty as to the regulations that will apply to existing and new gas gathering lines. The PSIW is particularly concerned with the protracted nature of the federal rulemaking process, which has been underway for more than five years.
- The second recommendation is to propose that operators of gas production lines located beyond the well pad and gas gathering lines in Class 1 locations to implement certain best practices until PHMSA completes the federal rulemaking process. Operators of these lines, which are currently not regulated under the federal rules, should implement programs for damage prevention (49 C.F.R. § 192.614) and public awareness (49 C.F.R. § 192.615), install line markers at appropriate locations (49 C.F.R. § 192.707), and participate in the Pennsylvania One Call Program (73 P. S. § 176 et seq.). Many operators are already following these best practices, and they represent a generally-accepted approach for ensuring the safety of these lines on an interim basis.
- The third recommendation is for the General Assembly to consider amending Act 127 to provide PAPUC with additional regulatory authority if PHMSA does not take appropriate action to establish new federal safety standards for gas gathering and production lines. The PSIW has identified certain factors that the General Assembly should consider in making that determination, *i.e.*, whether PHMSA takes timely action to propose or finalize its new federal safety standards for gas gathering lines; whether PHMSA's regulations require operators of production lines located beyond the well pad to comply with certain minimum safety standards; and whether PHMSA's regulations require operators of gas gathering

lines in Class 1 locations to comply with the requirements that apply to other gas gathering lines and the reporting requirements that apply to other pipelines regulated by PUC. In deciding whether to amend Act 127, the PSIW is also recommending that the General Assembly consider asking the Independent Fiscal Office to prepare report that compares the public safety benefits with the costs and other economic impacts of providing PUC with the authority to regulate production lines located beyond the well pad and gas gathering lines in Class 1 locations. Finally, if Act 127 is amended, the PSIW is recommending that the General Assembly consider whether PUC needs additional authority to conduct pipeline inspections or fund the cost of administering the gas pipeline safety program under the terms of its certification with PHMSA.

Actions that would be required to achieve recommendation:

- Letter from the Governor to Secretary of USDOT and Administrator of PHMSA.
- Until PHMSA issues new federal standards for gas gathering lines, operators of gas production that are located beyond the well pad and gas gathering lines in Class 1 locations should comply with certain best practices.
- If PHMSA does not take appropriate action to establish new federal safety standards for gas gathering lines, the General Assembly should consider amending Act 127 to provide PUC with additional authority to regulate gas production lines located beyond the well pad and gas gathering lines in Class 1 locations.
- In deciding whether to amend Act 127, the General Assembly should consider whether to ask the Independent Fiscal Office to prepare a report that compares the public safety benefits with the costs and other economic impacts of such an action, and whether PUC needs additional authority to conduct pipeline inspections or fund the cost of administering the gas pipeline safety program under the terms of its certification with PHMSA.

Challenges to achieving recommendation:

- Protracted nature of the federal rulemaking process.
- Absence of sufficient safety-related data for gas production lines located beyond the well pad and gas gathering lines in Class 1 locations.
- Inability of PHMSA or PUC to ensure compliance with best practices.
- Potential limitations on PUC's authority to regulate gas production lines located beyond the well pad and gas gathering lines in Class 1 locations under Act 127.

Additional supporting material:

Pennsylvania Marcellus Shale Advisory Commission Report, July 2011.

Pipeline Safety: Safety of Gas Transmission Pipelines, 76 Fed. Reg. 53,086 (Aug. 25, 2011)

U.S. GOV'T ACCOUNTABILITY OFFICE, GAO/RCED-00-128, PIPELINE SAFETY: THE OFFICE OF PIPELINE SAFETY IS CHANGING HOW IT OVERSEES THE PIPELINE INDUSTRY (May 2000)

U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-12-388, PIPELINE SAFETY: Collecting Data and Sharing Information on Federally Unregulated Gathering Pipelines Could Help Enhance Safety (2012)

U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-13-168, BETTER DATA AND GUIDANCE NEEDED TO IMPROVE PIPELINE OPERATOR INCIDENT RESPONSE 8 (Jan. 2013)

U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-14-667 - OIL AND GAS TRANSPORTATION; Department of Transportation Is Taking Actions to Address Rail Safety, but Additional Actions Are Needed to Improve Pipeline Safety (2014).

PIPELINE AND HAZARDOUS MATERIALS SAFETY ADMIN., U.S. DEP'T OF TRANSP., STUDY ON THE IMPACT OF EXCAVATION DAMAGE ON PIPELINE SAFETY (2014)
DIANA FURCHTGOTT-ROTH & KENNETH P. GREEN, FRASER INSTITUTE, INTERMODAL SAFETY IN THE TRANSPORT OF OIL (Oct. 2013)

Issues to address (such as cost, environmental impacts):

- Potential costs for pipeline operators of complying with new safety standards established by PHMSA or PUC for gas production lines located beyond the well pad and gas gathering lines in Class 1 locations.
- Ensuring that PUC has sufficient funding to administer the gas pipeline safety program.

Pipeline Safety and Integrity Workgroup Recommendation #8

Establish Mapping/GIS for Emergency Response

Full recommendation:

The establishment of a Best Practice for Emergency response that pertains to:

- (1) Mapping pipelines - with a GIS Data Model and format compatible for data sharing;
- (2) Best Practices will specify a minimum horizontal accuracy requirement for GIS data of +/- 6.67 ft. for new line construction. For existing infrastructure, while it is highly desirable that it be mapped to that horizontal accuracy, it is recommended that existing infrastructure meet the 2014 PHMSA NPMS accuracy standards as a minimum. Any survey updates to existing infrastructure should meet the +/- 6.67 ft. horizontal accuracy standards.

Relevant agencies:

PUC
PA1Call
General Assembly
PEMA
County EMA
Public Safety Answering Point (PSAPs)
PA Geospatial Coordinating Board

Justification:

Mapping/GIS

1. Across the Commonwealth of Pennsylvania there is a variety of pipeline GIS data in various formats. Some Pennsylvania counties have no requirements for GIS Data collection or formatting. Some counties access the NPMS hosted on the PHMSA. In some cases there is an inability to readily share the data that is being collected due to differences in data schema and format. The PA1Call System (PA1Call) provides information sharing for all underground facilities and is associated with Damage Prevention in Pennsylvania. PA1Call sponsors a member mapping service that allows the members to map its underground facilities in the PA1Call data base. If PA1Call could provide real time mapping services and/or the option to download the most recent data every 24hrs. to emergency responders at no cost, PA1Call would be a natural fit as the Commonwealth's mapping repository for all pipeline data.
 - a. Further, it is imperative that this information interface with counties and 911 centers (PSAPs) in particular. In case of emergency, telecommunicators need this information at their fingertips, with ease of access in one location. Emergency response requires that emphasis be placed on real time data; PSAPs will need to have the option to download data directly to their systems.
2. GIS data formats tend to evolve as software evolves; and although there is a de facto GIS software standard in the Commonwealth, it is also recognized that as software evolves

other options may become the new standard for a GIS platform. Data exchange formats should be to open standards.

- a. All mapping of pipelines and related facilities should be as a minimum in a format compatible with the Open Geospatial Consortium (OGC) data sharing standards.
- 3.
- a. The PAMAP project as managed by DCNR had specific horizontal accuracy requirements; the PAMAP ortho-images have a horizontal scale accuracy of 1:2400 (<http://www.dcnr.state.pa.us/topogeo/pamap/imagery/index.htm>); the short version of which translates to a horizontal accuracy of +/- 6.67 ft. That is the language which is included in the Act 9 Rules and Regulation governing the addressing of unconventional wells'; it was argued during the finalizing of the rules and regulations that since PAMAP essentially created a base map with specific accuracy across the Commonwealth, that accuracy requirement should be the minimum accuracy in any document requiring mapping in the Commonwealth. <http://www.pabulletin.com/secure/data/vol43/43-4/132.html>

PA Code Chapter 25, Subchapter C – Environmental Protection Performance Standards, §78.55(e)(3)(ii).

- b. The case was made and accepted in the Act 9 Rules and Regulations that GPS coordinates expressed as decimal degrees to 6 decimal points is the only acceptable GPS coordinate for mapping purposes. This makes the format of GPS coordinates standard across the Commonwealth and eliminates much potential for error when multiple formats of coordinates are used.
- c. In 2014 PHMSA NPMS changed the positional accuracy standard to +/- 50 feet for most pipelines. Most pipelines, all natural gas gathering and Class 1 Area transmission pipelines do not fall under this classification, but rather, are mapped to a positional accuracy of +/- 100 feet. This new 100 foot standard is meant to accommodate lines in very rural areas. However, Pennsylvania's unconventional natural gas development is not in isolated rural areas, but rather areas that are rural communities and neighborhoods. With an eye to the future, and the immense pipeline network that is necessary to transport unconventional shale gas, the Commonwealth needs a more accurate standard. For example, +/- 50 feet can be the difference of one side or the other of a road; or a stream; or other boundaries in rural areas. Thus, it is imperative that mapping sufficiently represent the actual pipeline location to avoid errors in jurisdictional emergency response.

Actions that would be required to achieve recommendation:

- An agency such as PA1Call would need to be designated as the repository agency. Note: In regards to PA1Call, their board would need to agree to accept the responsibility.
- If PA1Call is agreeable to being designated as the repository agency, the General Assembly will need to provide authorization.
- GIS format requirement should be referred to the PA Geospatial Coordination Board (Act 178)

Challenges to achieving recommendation:

Additional supporting material:

1. Mapping/GIS

- a. PA1Call or another designated Commonwealth Agency should serve as the repository and distributor of as-built pipeline mapping. In lieu of a centralized Commonwealth repository; every operator of pipelines in PA will need to provide as built GIS data as soon as reasonably possible to both the Commonwealth and the counties in which their pipelines are located.
 - i. Real Time – It is imperative that 911 Centers throughout the Commonwealth be provided with near real time data.
 - ii. The central repository shall provide daily downloads to the county 911 centers (PSAPs).
 - iii. Timely information shall be available for county and municipal planning purposes.
 - b. GIS/GPS – data as provided must include GPS coordinates expressed in decimal degrees to 6 decimal points. In order to standardize GIS data, all GIS data for new construction must meet a minimum horizontal accuracy of +/- 6.67 feet.
 - c. All mapping of pipelines and related facilities should be as a minimum in a format compatible with the OGC data sharing standards. As the GIS data model and formats evolve, all agencies should be prepared to remain compatible with the current standards.
 - d. Additional data concerning pipeline features may be included in the GIS data layers with the understanding that it is restricted to Public Safety and related government entities and not available as a public data.
- <http://www.pabulletin.com/secure/data/vol43/43-4/132.html>
PA Code Chapter 25, Subchapter C – Environmental Protection Performance Standards, §78.55(e)(3)(ii).
 - PAMAP
<http://www.dcnr.state.pa.us/topogeo/pamap/index.aspx>

Issues to address (such as cost, environmental impacts):

- If PA1Call or another agency is designated, funding will need to be secured.
- If a centralized agency is not designated, that will require the operators to provide the information to both the Commonwealth and each county in which they are operating.

Pipeline Safety and Integrity Workgroup Recommendation #9

Designate PA PUC As Enforcement Agency for Underground Utility Line Protection Law

Full recommendation:

The Pennsylvania PUC be designated as the enforcement agency for the Underground Utility Line Protection Law (UULP) (PA Act 287) via a legislative change to UULP. The PUC is responsible for the regulation of all Public Utilities who are all members of the PA1Call System. The PUC is uniquely structured to be UULP enforcement agency since it is staffed with Administrative Law Judges, lawyers, and engineers needed to investigate and prosecute violations to the UULP. Additionally, the PUC's Gas Safety Division has a contractual arrangement with the USDOT PHMSA to enforce PHMSA's pipeline safety regulations as they pertain to Damage Prevention of Natural Gas and Hazardous Liquid Pipelines. Increased enforcement of the UULP will reduce the underground facility damages which are the highest risk to pipeline failures.

Relevant agencies:

PUC
PA1Call
General Assembly
Department of Labor and Industry

Justification:

Natural gas pipeline failures resulting from damaged facilities are the number one safety issue for all pipelines in the Commonwealth and for all pipelines in the nation. Approximately 2,000 underground gas pipelines are damaged per year as a result of a violation of the UULP. The Commonwealth averages two reportable incidents (explosions) per year caused by damaged pipelines. Increased enforcement of the UULP will reduce the number of underground damages and will reduce the risk of reportable incidents to the Commonwealth.

Actions that would be required to achieve recommendation:

Legislative changes to the UULP (Act 287)

Challenges to achieving recommendation:

Transferring the enforcement authority from Labor and Industry to the PUC.

Issues to address (such as cost, environmental impacts):

PUC would require legislative authority to assess the PA1Call members for enforcement.

Pipeline Safety and Integrity Workgroup Recommendation #10

Enhance Public Awareness via Mapping/GIS

Full recommendation:

The establishment of a Best Practice associated with a Public Awareness Program in regards to public accessible mapping/GIS. The Awareness Program should focus on increased transparency. The gathering fields should have the transparency of public awareness, public input and public involvement that is commonly seen among FERC transmission projects in all class locations. The purpose of this recommendation is to increase the public's knowledge and awareness regarding gathering line operator's practices through the use of mapping pipeline location. This recommendation recognizes that there must be a balance between providing information to the public and protecting critical infrastructure.

Mapping/GIS

- a. It is recommended that a Public Pipeline Portal be developed. This portal should provide access to all pipeline information available through the applicable Pennsylvania's Right to Know Law and the Public Utility Confidential Security Information Disclosure Protection Act. The portal should include links to the operator's appropriate webpage and include links to each county websites where they exist and if the county deems it appropriate.
- b. The Pennsylvania Geospatial Coordinating Board should make a recommendation to Office of Administration and the Legislature on the ideal agency to host the Public Pipeline Portal or to recommend other options in regards to hosting the Portal. Act 178 provides for the following:

Section 432.1. State Geospatial Coordinating Board.--(a) There is established a State Geospatial Coordinating Board within the Governor's Office of Administration. The board is established to provide advice and recommendations to the Governor and the citizens of this Commonwealth on geospatial issues and provide uniform data standards, coordination and efficiency in geospatial policy and technology issues among Federal, State and local government agencies, academic institutions and the private sector.

In as much as the State Geospatial Coordinating Board is charged with the following:

- (3) Define and prioritize strategic opportunities where maps and spatial analysis activities could enhance the business of government and provide more cost-effective services to citizens. This paragraph may include recommendations of specific geospatial technology investments in this Commonwealth.

It is appropriate that this Coordinating Board be engaged in the process of establishing a Public Pipeline Portal.

A model template for this portal may be found by referring to the the Pennsylvania Pipeline Mapping System (PPMS) similar to the PHMSA National Pipeline Mapping System and Chester County created PNP/PIC which adopt protocols for mapping capabilities that promote and achieve specific, measurable, attainable, risk informed, and timely information gathering, maintenance and distribution of pipeline infrastructure specific mapping in order to ensure vertical team integration of decision makers and promote statewide access to pipeline infrastructure location that promotes pipeline safety.

- c. If PA1Call is designated as the repository agency for pipeline mapping, a daily download of updates should be provided to the Public Pipeline Portal (PPP). The PPP will be made available on the various state agencies websites which have involvement with pipelines across the Commonwealth.

Should the Commonwealth be unable to fully develop and sufficiently maintain the PPP, then mapping becomes the responsibility of each gathering line operator within the Commonwealth. The following is an example of such a web portal:

http://www.marathonpipeline.com/Where_We_Operate/

Relevant Agencies:

PUC

PA1Call

Pipeline Operators

County Commissioners Association of Pennsylvania (CCAP)

Office of Administration

PA Geospatial Coordinating Board

Justification:

The public's need for basic information about basic pipeline data is a matter of public interest and safety. When the public is more aware of pipelines around them, they are more apt to avoid encroachment and activities that may create certain unsafe situations. This information also satisfies disclosure for those purchasing property to have awareness there is a pipeline in the vicinity and by accessing the county link or ordinance may discover what local restrictions may be placed near the pipeline of interest. This assists in avoiding any confusion regarding future development.

Actions that would be required to achieve recommendation:

A Commonwealth Agency would need to develop and maintain the PPP. This may require legislative or executive action to accomplish the task. Alternatively, Pipeline Operators would need to create their own public viewer available on their website if a Commonwealth Portal is not established.

Challenges to achieving recommendation:

- There may be problems creating the interworking between PA1Call and the hosting agency to develop the protocol.
- The hosting agency may need legislative guidance regarding adequate public disclosure.

- With gathering lines frequently changing ownership, the Pipeline Operators public viewers may have issues during mergers and acquisitions.

Additional supporting material:

Act 178

<http://www.legis.state.pa.us/cfdocs/legis/li/uconsCheck.cfm?yr=2014&sessInd=0&act=178>

Enterprise Products Pipeline Viewer Presentation, 2012 Pipeline Safety Trust Annual Conference

2013 GAO Pipeline Permitting: Interstate and Intrastate Natural Gas Permitting Processes Include Multiple Steps and Time Frames Vary

Chester County Pipeline Notification Protocol and Pipeline Information Center as adapted from PHMSA's PIPA.

Issues to address (such as cost, environmental impacts):

- Clarification of Pennsylvania's Right to Know Law and the Public Utility Confidential Security Information Disclosure Protection Act in regards to pipelines as critical infrastructure.
- Cost: To meet this recommendation, either the hosting agency of PPP or the industry is going to require designated funds. An option is for all Pipeline Operators to participate and provide a stipend relevant to their pipeline miles.

Pipeline Safety and Integrity Workgroup Recommendation #11

Create A Public Education Program on Gathering Systems

Full recommendation:

The establishment of a Best Practice associated with a Public Education Program. The Education Program should focus on increased transparency within the gathering fields. The gathering fields lack the transparency of public awareness, public input and public involvement that is commonly seen among FERC transmission projects in all class locations. The purpose of this recommendation is to increase the public's knowledge regarding gathering line operator's transparency in the areas of maps, education and pipeline location by guiding industry with Best Practices. This recommendation attempts to find the balance between too much transparency and information and insufficient transparency and information.

Education

As a Best Practice, the Pipeline Operator should embark on a Community Outreach program that should occur prior to land agents meeting with landowners regarding a proposed gathering system or segment. The operator should provide a community open house similar to what is provided during the FERC pre-filing on a regulated transmission pipeline. The open house must be located within the municipality/municipalities and counties of the proposed gathering system operation.

As a Best Practice Best Practice, information should be provided at community open houses and should include but are not limited to the following:

- Map of proposed routes, including access roads and valve locations;
- The operator provides at the community open house particulars regarding the 'perfect route' and 'alternative routes';
- Information along the route as to the proposed pipeline's name, products transported, diameter and operating pressure;
- Information of unusual occurrences along the gathering line and who to call;
- Information of nearest office and control room;
- Information on integrity management, including prescribed response time;
- Information regarding emergency response during a gathering line failure; Information concerning construction, pipeline safety, right-of-way (ROW) maintenance, invasive species control;
- Information regarding PA1Call and damage prevention;
- Operator's responsibility regarding ROW issues;
- Landowner's responsibility regarding ROW issues;
- Consultation Zones- If there is either a county or local ordinance; a display indicating when to consult with the operator concerning development nears the gathering lines. If there is no county or local ordinance; the operator provides a consultation zone policy based on ROW width, pipeline diameter, pressure and potential impact radius; and
- Construction and operational time table.

Relevant agencies:

Townships
Emergency Response
Fire Department
PA1Call

Justification:

In the pipeline gathering fields, it is not uncommon for a pipeline to be routed along property boundaries with no formal notice, contact or other communication opportunities for landowners. Sometimes landowners are not fully aware that if they were to allow a gathering line on their larger property, it would keep pipeline infrastructure away from small properties where the impact is greater. Understanding of this issue alone is of value to gathering Pipeline Operators attempting to route pipelines away from rural populations. Some local governments and counties, such as Wyoming County, PA, have ordinances that dictate setbacks and restrict land-use on future subdivisions along pipeline ROWs. The ordinance is restrictive to the landowner, even if the ROW is not on their property. With provisions of development based on edge of ROWs and ROWs commonly following property boundaries, depending on the type of development and associated setback off the edge of the ROW, potentially a property owner could have a property that their plans for future land use will not be in compliance with the county or local ordinance. Public education focusing on development and living along pipelines provide a good alternative to avoiding encroachments and problems.

During the FERC pre-filings, Pipeline Operators host open house with lots of staff and information and are well attended by the interested public. Those living along gathering line routes have the same interest and concerns but if they are not the hosting landowner, they have very little or no opportunity to interact with the gathering line operator.

By providing the "perfect route" proposal along with alternatives, communities may see the benefit of how the operator is striving to route the gathering line away from rural populations, schools and hospitals. Sharing this information with the community, while the Pipeline Operators generally dislike doing this due to ongoing negotiations, in some cases will actually help them succeed with their preferred routing. Everyone wants safe pipelines with the least disruptive routes. Sharing information may help make that a reality.

People want to know about the pipeline near their home. They want to know how near they may be to the potential impact radius. They want to know who to call, what to look for, how the pipeline is monitored for safety and the location of the operator's control room. They want to feel safe around pipelines, so by sharing emergency response information and even inviting the fire department to attend and talk with residents about their training and preparedness will go a long way in assisting people to understand pipelines and their associated risks.

Third party damage is a real concern along rural gathering lines. It is not unusual for rural families to own backhoes, tractors, quads and other equipment that have the potential to come into contact with an active gathering line. Learning about damage prevention and the role of PA1Call is of great benefit.

Not only landowners, but community members as well are concerned about the ROWs commonly seen in their areas. They are interested in knowing who and how they are maintained and what operator's and landowner's responsibilities may be.

An open house is a good opportunity to share with the public any existing ordinances that pertain to consultation zones along pipelines. This is a good opportunity to invite the county or municipal planning department to be a participant in the open house. It is a good way to get people thinking about planning along pipelines. In the absence of an ordinance pertaining to consultation zones, a Best Practice for an operator is to establish an in house consultation zone policy and actively engage those property owners whose property falls within the zone. Education is a potential pathway to avoiding pipeline encroachments.

The 2010 Pipelines and Informed Planning Alliance (PIPA) Report, Appendix F notes that open houses for Transmission Pipeline Operators are beneficial as they assist the public in understanding risks. For an intensive gathering line network, the opportunities and benefits are replicated.

Lastly, people are very interested in the construction time table. Those living along Horizontal Directional Drilling (HDD) activity may have questions about noise and the operation itself. They want to know the hours the activity will be occurring. They want to know who to call in case they experience impacts during construction.

Community open houses for an entire gathering system or along new segments provide opportunities for awareness that will put more eyes on the gathering lines noticing symptoms of concern and better understanding and awareness of the importance of calling 811 before digging. Rural residents have lacked this type of outreach and more than a few still lack understanding that gathering lines have low frequency, high intensity events where gathering lines may fail, may explode and may impact property and lives.

Actions that would be required to achieve recommendation:

Pipeline Operators would have to provide an open house in the appropriate hosting municipalities.

Pipeline Operators would need to include the jurisdictional fire department and the jurisdictional planning department.

Challenges to achieving recommendation:

This is a radical change to what has been commonly done in the gathering fields. Pipeline Operators may be reluctant to change. Not many gathering Pipeline Operators are involved in the PITF process, so they may feel they don't have ownership in the process.

Additional supporting material:

- Wyoming County SALDO – Pipelines, adopted June, 2011
- 2010 Pipelines and Informed Planning Alliance (PIPA) Report, Appendix F

Issues to address (such as cost, environmental impacts):

The outreach costs are borne by the pipeline operator.

Pipeline Safety and Integrity Workgroup Recommendation #12

Enhance Public Awareness of Pipeline Location

Full recommendation:

The establishment of a Best Practice associated with a Public Awareness regarding Pipeline Location. The Public Awareness program should focus on increased transparency within the gathering fields. The gathering fields lack the transparency of public awareness, public input and public involvement that is commonly seen associated with pipeline sitings with FERC transmission projects in all class locations. The purpose of this recommendation is to increase the public's knowledge regarding gathering line operator's transparency in the areas of maps, education and pipeline location by guiding industry with Best Practices.

Pipeline Location

A Best Practice should be established to site gathering lines with understanding of the community. The Pipeline Operator is fully aware of and provides information at the public input meetings regarding any local rules they need to follow. As much as possible, the Pipeline Operator should avoid areas where a gathering line failure could present unique challenges to emergency response and the public. An example of such areas that would be excluded from gathering line sitings would include placing a school or hospital within the potential impact radius of a non-odorized natural gas gathering line.

Pipeline Operators who reach out to local watershed associations meet the Best Practice concerning local environmental and conservation issues that may be of concern to the local community. Example of Best Practices would be:

If requested, Pipeline Operators should meet directly with local watershed groups where information is exchanged such as unstable features within the watershed that may present problems in gathering line crossings.

Pipeline Operators should provide the watershed association with information regarding environmental and safety practices followed while operating within locations of concern.

Pipeline Operators should provide information concerning special features including but not limited to; threatened, endangered and candidate species, exceptional and high quality waters along with mitigations and offsite mitigation locations offsetting within and outside of the watershed.

Pipeline Operators should provide details concerning the mitigation locations and measures to be taken.

As a Best Practice, Pipeline Operators should odorize gathering lines that places the public schools, hospitals or senior housing either in the potential impact radius or when the edge of the ROW is within 1,000 feet of the school or hospital.

As a Best Practice, a Pipeline Operator should provide a detailed, uniquely specific Incident Action Plan for gathering lines routed near public schools, hospitals or senior citizen housing when the potential impact radius is within 2,500 feet of the school or hospital. The Incident Action Plan should be filed with the local fire department and county Emergency Management Agency (EMA).

As a Best Practice, the local fire department should be involved with the pipeline operator in the process of preparing the detailed, uniquely specific Incident Action Plan.

Relevant agencies:

Pipeline Operators

Municipalities

Watershed associations

Local fire department

County EMA

Justification:

Pipeline Operators need to be aware of unique situations with pipeline locations in the communities hosting them. Unregulated gathering lines have very little oversight and virtually no opportunities for public involvement. The operator needs better understanding of the communities they operate within in order to be a good neighbor with a tool box of Best Practices.

One Best Practice previous mentioned is the use of open houses. Open houses provide unique situations where the public is able to gain a variety of information; not just from the operator, but also the appropriate planning department and the community's first responders. These types of open houses may alert the operator to unique challenges that concern the community, for example, siting a gathering line on school property where the emergency exits send children right out to the gathering line right-of-way. Additionally, many gathering lines lack odorization, so a very important signal that something may be amiss with the pipeline is missing from protecting children in a most vulnerable situation in the case of a potential pipeline failure.

Pipeline Operators may realize great assistance and benefit by reaching out to the community's active watershed association. As a prime example of this, the Mehoopany Creek Watershed Association (MCWA) repeatedly made efforts to meet with the gathering operator in process of permitting their first crossing in a very unstable glacial till watershed. The MCWA had concerns based on the unstable nature of the watershed and the crossing location where they had intended to begin a stream restoration project in upcoming years. The MCWA didn't want to adapt having to do a greater amount of stream restoration because the little forested buffer that remained was removed by the gathering operator. The MCWA was also concerned about their future project as they would also be working in that same section of the stream and possibly need to work around a trenched gathering line. The MCWA was very concerned about the unstable nature of the watershed (glacial till soils) as inches of rain moves a great deal of sediment and totally changes the stream bed. Swimming holes are filled in while other new areas open up; concerning the MCWA was the depth of cover of the trench would not be enough to prevent a flood event from not exposing the gathering line and creating a public safety issue in the midst of a flood event. Like any organization, MCWA has members who are responsible for water quality sampling,

coordinating litter pickup, grants, stream liming and unconventional drilling activity within the watershed. The member responsible for following unconventional drilling activity regularly corresponded with the operator, attempting to have dialogue over this particular stream crossing. It took six months of persistence and finally the operator agreed to a meeting. The MCWA had their engineer on hand and all the key people from the gathering operator were present. The MCWA advocated that HDD be employed for this stream crossing. The operator was fairly intent on a trenched crossing. They did become more aware of the challenges within the watershed on the two branches of the main creek and the main creek. That first crossing and several since have all been HDD.

Connection for Oil, Gas & Environment in the Northern Tier (COGENT) contacted another operator about a stream crossing of concern. There was an area prone to slide where a gathering line of concern had already been constructed and in operation with no dialogue despite repeated requests. The DEP has no authority over sitings even when they are in locations of concern, such as areas prone to slide in glacial till soils. COGENT repeatedly contacted the operator proposing to cross both the present operating gathering line, area prone to slide and stream. Finally, COGENT contacted the operator and advised, you want to cross that area. We're not too keen on how you want to do it. Please take this opportunity to spend time with us in the field and see what we are talking about. Eventually, prior to construction of the new proposed gathering line that area prone to slide did exactly that.

The second operator planning the stream crossing contacted COGENT and spent the day in the field meeting with both COGENT and the MCWA who is actively involved in a similar unstable watershed. Stream restoration options were discussed. The operator continued with their plans to trench across the stream, but they modified their plans for a deeper trench and included streambank restoration as much as possible in the limit of disturbance along with planting trees as well.

Both of these examples justify that success may be experienced when meeting with those knowledgeable and concerned about pipeline locations in their vicinity. There is great benefit in engaging those knowledgeable, organizations willing to make suggestions for the better of gathering line locations and construction. In both of these situations, the operator lost a minimum of six months and while they both made improvements, more could've been achieved had they had the time.

Therefore, a Best Practices mechanism to engage watershed associations is very worthwhile. Watershed associations care for the stream, advocate on behalf of the stream and are the most actively engaged on local watershed issues. Gathering Pipeline Operators need to take advantage of meeting with these local community experts.

Gathering lines located near schools create unique challenges in rural areas where there are limited first responders, some first responders are now employed by industry and their emergency role will be with their employer rather than their volunteer unit, school bus drivers are also the local first responders and a township supervisor may also be active in the fire department. In rural areas, people active in the community often fill many roles. So in the event of a gathering line failure near a school, it's all hands on deck. It is not the time to plan, but rather

it is time to have a plan in hand. Incident Action Plans (IAP) are often employed as plans tailored for unique hazards first responders may find themselves responding. The plan also provides opportunities for the fire department to review the IAP so they are adequately prepared in the case of a most unfortunate event as a pipeline failure near a school.

Traditionally, the IAP is prepared by the fire department or they may contract a professional service. These plans are expensive and with budgets being tight, and volunteers not as available as in decades ago, often despite the need of an IAP, they may not have one. The operator is able to provide a great service here by partnering with the fire department and paying/preparing the IAP. At the open house, the operator and fire department is able to share with parents and teachers in the event of a gathering line failure how the evacuation would work. The concept of IAP with its benefits is transferable to cases of senior housing units and hospitals. Gathering lines are located either on school, senior housing properties or properties or near school, hospital or senior housing properties that may be of exceptional importance during an event of a pipeline failure. One of the most commonly utilized methods for pipeline safety is the use of odorant in natural gas pipelines. The detection of odorant is the first signal of a pipeline failure. An operator adhering to Best Practices will automatically odorize all gathering lines according to the recommendation.

Actions that would be required to achieve recommendation:

- Pipeline Operators conduct open houses that include participation with the local fire department.
- Pipeline Operators engage the active watershed association (if there is one).
- Pipeline Operators odorize gathering lines within a specified distance from schools, hospitals and senior housing.
- Pipeline Operators partner with the local fire department to create a unique and specific Incident Action Plan for all schools, hospitals and senior housing within the fire departments jurisdiction near gathering lines.

Challenges to achieving recommendation:

Pipeline Operators need to understand that in rural areas where less people reside, open house meeting attendance will also be low numbers. Generally, those in rural areas living within the gathering fields are very interested in information regarding the development and transportation of the resource. Sometimes attendance of 40 people is a crowd. Those 40 people all know everyone; one family member may attend and share what they learn with several families. So, it's not so much how many attend, but more so, what information is being provided. If the operator publicizes that they are going to have maps available and talk about safety or discuss a pipeline that is located near the school, people will attend.

Sometimes there is a disconnect between the pipeline engineers and the watershed association. If the engineer hasn't experienced unstable glacial till soils, tremendous amounts of rain and subsequent flooding along with other localized and unique issues they may not be aware of what an excellent resource the local watershed association may be.

The operator may be reluctant to odorize only particular gathering lines that are near schools, hospitals and senior housing.

The operator may be reluctant to partner with the local fire department to create an IAP.

Additional supporting material:

Wyoming County, PA SALDO (Pipelines) adopted June, 2011.

Issues to address (such as cost, environmental impacts):

Pipeline Operator cost associated with hosting open house.

Pipeline Operator cost should a watershed association make recommendations for construction or route changes.

Costs associated with odorization.

Costs associated with developing IAPs.

Pipeline Safety and Integrity Workgroup Recommendation #13

Develop Public Education Program for Emergencies

Full recommendation:

The establishment of a Best Practice associated with the development of a Public Education Program for Emergencies that would provide for increased transparency between Pipeline Operators and hosting communities. The gathering fields lack the transparency of community outreach, input and involvement that is commonly seen among FERC projects in all class locations. With the number of new regulated pipeline projects across the Commonwealth there is a need for greater transparency in community outreach. The purpose of this recommendation is to increase infrastructure transparency in the areas of maps, education and pipeline location by guiding industry with best practices.

For purposes of this document “infrastructure” refers to gathering lines, gathering line segments, transmission pipelines, compressor stations and pumping stations.

1. Community Outreach
 - a. Prior to contacting land agents to meet with landowners regarding infrastructure, the best practice regards community outreach. The Pipeline Operator provides a community open house. The open house should be located near the municipality/municipalities and counties of the proposed infrastructure.
 - b. Information to be provided at community open houses include but are not limited to the following:
 1. Map of proposed pipeline routes, including access roads, compressor stations, pump stations and valve locations.
 - a. A discussion of the ‘preferred route’ and ‘alternative routes’.
 2. Information along the route as to the proposed pipeline’s name, products transported, diameter, operating pressure and PIR (potential impact radius).
 3. Information of possible indicators of an incident along the infrastructure and who to call.
 4. Information of nearest office and control room.
 5. Information on integrity management, including prescribed response time.
 6. Information regarding emergency response during a pipeline failure.
 7. Information concerning construction, pipeline safety, ROW maintenance, invasive species control.
 8. Information regarding PA1Call and damage prevention.
 9. Pipeline Operator’s responsibility regarding ROW issues.
 10. Landowner’s responsibility regarding ROW issues.
 11. Consultation Zones.
 - a. Discuss Consultation Zones: As stated in PIPA, two key practices address the development and implementation of “consultation zones” and “planning areas” when making decisions regarding land use planning and development near transmission pipelines:

1) Who: Participants can be local governments, property owners/developers, transmission pipeline Pipeline Operators and state real estate commissions.
2) Why: PIPA's goal is to reduce risks and improve the safety of affected communities and transmission pipelines through actions that taken by key stakeholders relative to proposed changes in land use or new development adjacent to existing transmission pipelines. As example, the PIC established Consultation Zones are delineated on all maps and serve to proactively indicate the area in which Pipeline Operators, landowners and developers should contact the county planning commission when Pipeline Operators are planning new or expanding pipelines or developers or landowners are planning land use in proximity to existing ROWs.

- b. If there is either a county or local ordinance; a display indicating when to consult with the Pipeline Operator concerning development near the pipelines.
- c. If there is no county or local ordinance; the Pipeline Operator provides a consultation zone policy based on ROW width, pipeline diameter, pressure and potential impact radius.

12. Construction and operational time table.

- c. Notification to citizens (via robocall) and local officials (direct call) of planned blowdowns shall be made 24 hours prior to planned blowdown.
 - 1. Consider http://www.epa.gov/gasstar/documents/ll_compressoroffline.pdf
 - 2. Consider adding recommendations from recent EPA release.
 - 3. Consider public education program re: capture of blowdown for reuse / recycling/ methane emission reduction. Recommendations are compliant with principles of SMART Planning, USACE, PHMSA (PIPA).

Relevant agencies:

County
Townships
Emergency Response
Fire Department
PA1Call

Justification:

A "one-size-fits-all" public awareness program across all pipeline systems is not the most effective approach. 49 CFR Section 192.616(b) requires that an Pipeline Operator assess the unique attributes and characteristics of its pipeline in developing its public awareness program. In the gathering fields, it is not uncommon for a pipeline to be routed along one's property boundary with no formal notice, contact or other communication opportunities. Sometimes landowners aren't fully aware that if they were to host a gathering line on their larger property, it

would keep pipeline infrastructure away from small properties where the impact is greater. Understanding of this issue alone is of value to gathering Pipeline Operators attempting to route pipelines away from rural populations. Some local governments and counties, such as Wyoming County, PA have ordinances that dictate setbacks and restrict land-use on future subdivisions along pipeline ROWs. The ordinance is restrictive to the landowner, even if the ROW isn't on their property. With provisions of development based on edge of ROWs and ROWs commonly following property boundaries, depending on the type of development and associated setback off the edge of the ROW, potentially a property owner could have a property that their plans for future land use will not be in compliance with the county or local ordinance. Beyond the gathering fields, the expansion of pipeline infrastructure throughout Pennsylvania mirrors these issues. Community outreach focusing on development and living along pipelines provides a good alternative to avoiding encroachments and problems.

During the FERC pre-filings, pipeline operators host open houses with lots of staff and information and are well attended by the interested public. Those living along gathering line routes have the same interest and concerns but if they are not the hosting landowner, they have very little or no opportunity to interact with the gathering line Pipeline Operator.

By providing the "preferred route" proposal along with alternatives, communities may see the benefit of how the Pipeline Operator is striving to route the gathering line away from rural populations, schools and hospitals. Sharing this information with the community, while the Pipeline Operators generally dislike doing this due to ongoing negotiations, in some cases will actually help them succeed with their preferred routing. Everyone wants safe pipelines with the least disruptive routes. Sharing information may help make that a reality.

People want to know about the pipeline near their home. They want to know how near they may be to the potential impact radius. They want to know who to call, what to look for, how the pipeline is monitored for safety and the location of the Pipeline Operator's control room. They want to feel safe around pipelines, so by sharing emergency response information and even inviting the fire department to attend and talk with residents about their training and preparedness will go a long way in assisting people to understand pipelines and their associated risks.

Third party damage is a real concern along all pipelines. It is not unusual for rural families to own backhoes, tractors, quads and other equipment that have the potential to come into contact with an active gathering line. Third party damage in suburban areas is a concern due to pipeline/community sprawl; each encroaching on the other. Learning about damage prevention and the role of PA1Call is of great benefit.

Not only landowners, but community members as well are concerned about the ROWs commonly seen in their areas. They are interested in knowing who and how they are maintained and what Pipeline Operator's and landowner's responsibilities may be.

An open house is a good opportunity to share with the public any existing ordinances that pertain to consultation zones along pipelines. This is a good opportunity to invite the county or municipal planning department to be a participant in the open house. It is a good way to get

people thinking about planning along pipelines. In the absence of an ordinance pertaining to consultation zones, a best practice for a Pipeline Operator is to establish an in house consultation zone policy and actively engage those property owners whose property falls within the zone. Education is a potential pathway to avoiding pipeline encroachments. The 2010 PIPA Report, Appendix F notes that open houses for transmission pipeline operators are beneficial as they assist the public in understanding risks. For an intensive gathering line network and transmission pipelines, the opportunities and benefits are replicated.

Lastly, people are very interested in the construction time table. Those living along HDD activity may have questions about noise and the operation itself. They want to know the hours the activity will be occurring. They want to know who to call in case they experience impacts during construction.

Community open houses provide opportunities for awareness that will put more eyes on the infrastructure noticing symptoms of concern and better understanding and awareness of the importance of calling 811 before digging.

Actions that would be required to achieve recommendation:

- Pipeline Operator provides an open house in accordance with the recommendations.
 - Includes the emergency response providers
 - Includes the jurisdictional planning department
- Pipeline Operators buy into a different approach to community outreach.
- Public buy in - trust factor.

Challenges to achieving recommendation:

- This is a radical change to what has been commonly done in the gathering fields. Pipeline Operators may be reluctant to change. Not many gathering Pipeline Operators are involved in the PITF process, so they may feel they don't have ownership in the process.
- Pipeline Operator accepts a different approach to community outreach.
- Public buy in - trust factor.

Additional supporting material:

- Wyoming County SALDO – Pipelines, adopted June, 2011.
- 2010 Pipelines and Informed Planning Alliance (PIPA) Report, Appendix F.
- Consultation Zones – PIC Interactive Map System.

Issues to address (such as cost, environmental impacts):

The outreach costs pretty much fall on the Pipeline Operator. This cost is an appropriate cost of doing best practices in business. It is a reasonable cost that will have value in the years to come.

Public Participation Workgroup Recommendation #1

Establish Statewide Pipeline Information Resource Center

Full recommendation:

Pennsylvanians deserve a comprehensive, robust and trusted statewide resource to find accurate information on pipelines in the Commonwealth. Pennsylvania should develop and maintain a statewide information resource center consisting largely of digital communications including a website, general email box, automated phone number and other electronic subscriber resources such as Twitter and FaceBook. A variety of informational materials could be developed, maintained and downloaded from the website or ordered on the phone. This resource center would serve as the primary resource for the public to learn about pipeline development, regulatory oversight, opportunities for public input, and active pipeline projects. Critical to the value of the website would be the ability for users to access consolidated information aimed a key stakeholder groups such as landowners, local government officials and emergency responders.

Realizing that a comprehensive repository of digital information could have a long lead time to implement, the Public Participation workgroup recommends that, in the interim, the attached checklists for landowners and public officials be published on one or several appropriate agencies' websites and that an informational booklet be developed and distributed to potentially impacted landowners that would cover topics including the planning, developing and monitoring of pipeline projects. This booklet would be similar to the Federal Energy Regulatory Commission's (FERC) publication *An Interstate Natural Gas Facility on My Land: What do I Need to Know?* but would include an overview of all types of pipeline projects. Additionally, to ensure that stakeholders are aware of developments, pipeline companies should develop and distribute to stakeholders pertinent information regarding planned pipeline projects including appropriate contact information for the company.

Note: The public participation workgroup is aware that other workgroups are also recommending digital communications and resources for various stakeholders. We feel this recommendation could possibly be expanded to encompass these additional recommendations.

Attached Supporting Documents

- Draft outline for informational topics/resources
- Landowners' Checklist for Pipeline Projects
- Public Officials Checklist for Pipeline Projects
- FERC's publication *A Interstate Natural Gas Facility on My Land: What do I Need to Know?*

Relevant Agencies:

FERC

DEP

Pipelines Hazardous Materials Safety Administration (PHMSA)

Pennsylvania Department of Transportation (PennDOT)

Pennsylvania Emergency Management Agency (PEMA)
Pennsylvania Public Utility Commission (PUC)
County Conservation Districts
Local and Regional Planning Commissions
Local Emergency Management Agencies
Counties and municipalities

Justification:

A statewide interactive website managed and maintained by a state agency would ensure a comprehensive outlook on the impact of pipelines in the Commonwealth.

Actions that would be required to achieve recommendation:

- Review best practices of interactive websites (pipeline industry and beyond).
- Identify funding opportunities for development and maintenance.
- Recommend a governance structure to manage the website, collect data and verify its contents.

Challenges to achieving recommendation:

- State-agency ownership
- Funding/Resources
- Time needed to deploy
- Project governance
- Accessibility/Standards
- Security of data
- Branding/Design

Draft Outline for State-Wide Information Resources

Note: Much of the information that we recommend to include on a statewide website/information resource already exists on other sites. Although links to this information would be the easiest way to incorporate the majority of information, it may be best for the owning agency to re-create some resources and customize for Pennsylvania and its citizens to avoid the perception of endorsing specific groups, special interests etc.

Major Topics, Graphics, Videos, Primers:

Natural Gas 101

Pipelines 101: generic enough to cover different commodity types

Types of Pipelines and regulatory/permitting process for each type

Pipeline Safety

What to do in an Emergency

Pipeline Construction

Pipeline Routing

Public Awareness Programs

Glossary of Terms

Relevant Agencies and overview of their role in pipeline projects

Energy value chain and the interdependencies of each component

List of active pipeline projects and brief description (with links to company websites)

Audience Portals/Examples of what might be included for different audiences

Landowners:

INGAA's Commitment to Landowners

Landowner checklist

Link to FERC's "A Natural Gas Facility on My Land: What do I need to know?"

Sample easement agreements

FAQs

Local officials:

Local official checklist

Links to active pipeline project websites

Links to PHMSA

PUC

FERC

DEP

Department of Conservation and Natural Resources (DCNR)

Pennsylvania Fish and Boat Commission (PFBC)

Pennsylvania Historic and Museum Commission (PHMC)

Emergency Management/Emergency Responders:

Online training resources

Links to available mapping

Emergency responder organizations in PA

Citizens:

Links to PHMSA

PUC

FERC

DEP

DCNR

PFBC

PHMC

Links:

Active pipeline project websites

PHMSA

PUC

FERC

DEP

DCNR

PFBC

PHMC

Conservation Districts

Penn State Ag Extension

PHMSA for regulations, safety and compliance information

U.S. Energy Information Administration (EIA)

Marcellus Shale Coalition

Pipeline Safety Trust

Downloadable documents/Printed information:

Checklists

Informational booklet

Landowners' Checklist for Pipeline Projects

What Do I Need to Know?

The location of existing and new pipeline infrastructure is important to Pennsylvania and its property owners. Landowners who may be affected by a pipeline project on their property need to be aware of the regulatory and permitting procedures, the rights they have in the processes, how the location of pipeline facilities is decided and the safety and environmental issues that may be related to the facilities. This checklist is designed to help guide property owners who may be affected by new pipeline projects. This is not an all-inclusive list of questions and some questions may not apply depending on the type of project. This is not intended to be a legal document or give legal advice. If necessary, landowners should consult with an attorney regarding potential encumbrances to their property.

Note: The FERC publishes a comprehensive guide for landowners about the siting of interstate natural gas facilities. Although this guide is written specifically for interstate natural gas pipeline projects, landowners may find much of the information useful for other types of pipeline projects.

General/Background Information

1. What is the name of the pipeline company proposing the project?
2. What is the scope of the project?
3. Why is the project being proposed?
4. Why is the company looking at routing the project in this area?
5. If applicable, what is the name of the contract land company, i.e., who do the contract land agents work for?
6. What type pipeline is being proposed? Interstate, intrastate, or distribution?
7. What type of commodity would be carried? (e.g., natural gas, natural gas liquids, oil)
8. Is the representative familiar with the differences between the regulatory and operational processes associated with each type of pipeline?
9. Is the representative familiar with the regulatory processes related to the proposed project? If so, what are the major milestones and timeline for the project?
10. How many years has the company been in business?
11. How many years' experience does the company have in building and operating this type of pipeline?
12. Does the company have any references from the area that can be contacted?
13. What entity regulates the operation of the pipeline once it's in-service?

Survey Information

1. Where on my property is the company proposing the place the pipeline?
2. How did the company select this location?
3. What is the timeline for the project and easement acquisition?
4. How much input do I have in the placement of the pipeline on my property?
5. What does survey permission mean?
6. Can I be present during surveys?
7. What types of surveys are to be conducted?
8. What is the timing and duration for each type of survey crew?

9. What should I expect to see on my property after the crew is finished? (e.g., stakes, cleared brush).
10. What is the benefit to the landowner of granting survey permission?

Easement Acquisition Information

1. What is an easement?
2. What easement rights is the company asking to purchase?
3. What is the difference between a temporary easement and a permanent easement?
4. Will I retain fee ownership of the easement?
5. How can I use the easement after the pipeline is in service?
6. What are the restrictions related to the easement?
7. Will the facilities be buried on my property? How deep?
8. Is the company proposing any above ground facilities on my property?
9. What compensation is offered to the landowner for the easement rights, temporary (construction corridor) work space, crop damages, restoration and reclamation?
10. How is compensation determined?
11. Is the company seeking easement rights for one line or multiple lines?
12. Is the company offering to option the easement rights or purchase them?
13. Is the compensation a one-time payment?
14. How does the company compensate for crop loss and crop damage?
15. How does the company compensate for lost timber?
16. Will I be able to obtain a property plat/survey showing the easement on my property?
17. Is the company bonded and insured?
18. Is there a weight restriction associated with operating equipment over the pipeline?
19. How can I ensure the pipeline is buried deep enough to not interfere with the continued use of my land including deep tilling, operating farm and ranch equipment, trucks, trailers, wagons, or any equipment unique to the land use on my property?
20. Does the easement agreement contain an indemnification clause?
21. If so, does the company hold the landowner harmless of any liability related to the operation of the pipeline?
22. Will the company pay for my legal expenses if I choose to consult with an attorney?
23. What happens if the landowner and the company cannot reach an agreement?

Construction Information

1. How wide will the construction corridor be?
2. How long does the company anticipate construction activities on my property?
3. Will these activities occur in sequence or will there be gaps during construction activities?
4. How long will the ditch be open on my property?
5. What will the company do to ensure the safety of my family, my livestock, etc during construction?
6. What if I have problems with restoration issues during construction, restoration or maintenance activities?

7. What best management practices are used related to soil segregation, soil compaction, moisture conductivity, soil fertility and acidity, re-vegetation, debris cleanup during and after construction.
8. What happens if the restoration of my land does not return it to pre-construction conditions?
9. Can I specify seed mixtures?
10. What happens if the crop yield is not back to pre-construction conditions within a specified time?
11. Who inspects the construction activities?
12. Who can I call if I have a problem during construction?

Operations Information

1. Who is responsible for the operation, safety and maintenance of the pipeline after it's in service?
2. At what pressure will the pipeline be operated?
3. What is the maximum allowable pressure for the pipeline?
4. Does the product being carried have a smell?
5. Can the company access the easement without my permission after the pipeline is in service?
6. What happens if the company needs to dig up the pipe for any reason?
7. Will I be compensated for damages if the company needs to dig up the line for any reason?
8. What happens to the pipe if the company decides to abandon the line?
9. Who can I contact about the pipeline on my property?

Environmental Information

1. What types of permits are required for the project?
2. Which agencies review the required permit applications?
3. How do I make my voice heard during the permitting processes?
4. Is there a deadline for comments?
5. Which agencies ensure compliance with the permit requirements?
6. Does the company employ best management practices related to restoration and reclamation? If so, what are they?

Public Officials' Checklist for Pipeline Projects

What Do I Need to Know?

Public outreach/stakeholder engagement is much more than mere notification. It is an opportunity to educate and provide information regarding pipeline projects. Keeping local officials and community leaders informed about a project helps ensure they are knowledgeable about a company's plans to interact with their constituents.

This checklist is designed to help guide local officials whose communities may be affected by new pipeline projects. This is not an all-inclusive list of questions and some questions may not apply depending on the type of project. Often, initial project briefings occur while the commercial viability and scope of a project are still under development. Please be aware that the company may not have answers to all of the questions included on this checklist at the beginning of a project. Many of these questions will be answered over time with continued communication and coordination with the pipeline company.

This checklist is not intended to be a legal document or give legal advice. Local officials should consult with their solicitor, if necessary.

Relevant Groups

- Township Supervisors/Mayors
- Township Council Members
- County Commissioners
- Planning Commissions
- Zoning Boards
- Township managers
- Emergency Management Officials/VFDs
- Local Police Departments
- Township road Masters
- Regional Government
- 811 representatives

Background/Initial Information

1. What is the name of corporation?
2. What is the name of the project?
3. What type of project is this? (transmission, gathering, liquids)
4. How many years has the company been in business?
5. How many years' experience does the company have in building and operating this type of pipeline?
6. Can you provide a brief description of the project including scope, regulatory process, and timeline?
7. What are the regulating agencies that have authority over the project and how can I contact them?
8. Why is the project being proposed? What is the purpose and need for the project?
9. Can you provide an overview of the location, size and type of facilities that are planned for the project overall and specifically for our county/township/borough?

10. Are there any aboveground facilities planned for our county/township?
11. Can you provide a brief overview of the regulatory process associated with this project?
12. What is the role of local officials in the process?
13. Where is the project located? Where specifically in my county/township?
14. What are the potential impacts of the project on my local community e.g., miles of pipe, number of potentially impacted landowners/tracts, etc.?
15. When will you start contacting potentially affected landowners?
16. How will potentially affected landowners be contacted?
17. What types of surveys will be conducted and when? (civil, environmental, cultural, geotechnical)
18. Can you provide a brief description of the survey methodologies that will be used? Special equipment?
19. Have you identified areas of congregation (places of worship, schools, etc) in our community and how close are they to your proposed route?
20. How sure is the company about the proposed route?
21. What changes to the project/route/timeline does the company anticipate as the project moves through the regulatory process?
22. How will we be notified of these changes?
23. What is the name of the project manager(s) and their contact information?
24. Are there any other pertinent contact telephone numbers?
25. What are the names of consulting companies that have landowner contact?
26. What are the potential benefits and impacts of proposed project (environmental, economic, jobs, economic development)?
27. Is there a project website? Can we link to the project website from our county/township website?
28. Where can I go for projects updates and more information about the project?
29. What is the procedure for questions and answers?
30. What are the opportunities for input/public participation?
31. Are there any proposed public events? If so, when/where?
32. How does the company coordinate with local emergency responders?
33. What do you do in the event of a pipeline emergency?

Permitting Phase

1. What permits/certificates/approvals does the company have to obtain to construct the project?
2. How far along is the company in the regulatory/permitting process?
3. What happens if you find sensitive environmental resources in our area?
4. What type of road permits do you anticipate needing?
5. Will roads be restored to pre-construction condition?

Construction Phase

1. What are the corridor widths? (construction/temporary easement and permanent easement)
2. How long does the company anticipate construction activities in our community?
3. Will construction activities occur in sequence or will there be gaps during construction activities?
4. What will the company do to ensure the safety of the public during construction?

5. Who inspects the construction activities?
6. Who can we call about problems during construction?

Operations Phase

1. Do we have any operations personnel in the county/township? Who are they?
2. What entity/agency regulates the operation of the pipeline once it's in-service?
3. How is the pipeline maintained once it's in service?
4. What are your notification procedures for planned and unplanned maintenance activities?
5. How often would the pipeline in our county/township be inspected?
6. How is the pipeline inspected? And how often?
7. Do you notify the local community and landowners when inspections occur?
8. Are there any future plans and projects on the horizon?

Public Participation Workgroup Recommendation #2

Adopt Guidelines for Public Participation

Full recommendation:

Public participation is a critical component for pipeline project design, construction and operation. Pennsylvania believes that early and continuous involvement of all stakeholders can help develop better overall pipeline project solutions. An exchange of information between pipeline companies and stakeholders early in the planning of projects promotes meaningful participation in the process. Stakeholders may include any formal or informal group, organization, agency, elected officials, community leaders, and landowner or identified individual who has involvement in the regulatory and permitting processes or interest in the outcome of the project.

The Commonwealth should adopt guidelines for public participation that promote two-way communication between pipeline companies and stakeholders and that consider public input into the planning, construction and operation of pipelines and associated infrastructure.

Attached Supporting Documents

Note: The Public Participation workgroup feels strongly that the Commonwealth should adopt guidelines for public participation that explain the behaviors and best practices expected from pipeline companies with existing and/or planned operations in Pennsylvania. However, the workgroup could not come to consensus on a guidelines document. Therefore, the group is submitting two versions of a draft document for the Commonwealth to use as a template for the development of a guidelines document.

Guidelines for Public Participation for Pipeline Companies Operating in Pennsylvania:
DRAFT: VERSION 1

Guidelines for Public Participation for Pipeline Companies Operating in Pennsylvania:
DRAFT: VERSION 2

Guidelines for Public Participation for Pipeline Companies Operating in Pennsylvania

DRAFT: VERSION 1

Public participation is a critical component for pipeline project design, construction and operations. Pennsylvania believes that early and continuous involvement from all stakeholders can help develop better overall pipeline project solutions. An exchange of information between pipeline companies and stakeholders early in the planning of projects promotes meaningful participation in the process. Stakeholders may include any formal or informal group, organization, agency, elected official, community leader, and landowner or identified individual who has involvement in the regulatory and permitting processes and/or interest in the outcome of the project.

The Commonwealth should adopt guidelines for public participation that promote two-way communication between stakeholders and pipeline companies and that help ensure the incorporation of feedback into the planning, construction and operation of pipelines or associated infrastructure within Pennsylvania.

When considering, companies should adopt the following guidelines:

Early and Continuous Involvement

Pipeline companies should engage with and promote awareness to affected stakeholders early in the project planning process and continue outreach throughout the operation of the pipeline. Pipeline companies should communicate with stakeholders during the planning process to educate communities about the potential benefits and impacts of the project, as well as the company's commitment to the safety and security of their pipeline systems.

Good Faith Actions

Enabling the public to be actively engaged in the planning of pipeline projects through early and continuous access to information and input into the process builds trust and demonstrates a good faith effort on the part of pipeline companies to engage in public participation.

Pipeline companies should strive to understand stakeholder issues and respect differing viewpoints. Understanding the range and diversity of stakeholder issues and accepting that not all stakeholder issues can be resolved to individual stakeholder's satisfaction, pipeline companies should act in good faith to address concerns in a timely, honest, fair and reasonable fashion.

Respect and Trust

Positive, lasting relationships are built on mutual respect and trust. Pipeline companies should strive to understand issues from the stakeholder's perspective and help those stakeholders understand the processes associated with building pipeline infrastructure. Pipeline companies should recognize that stakeholder engagement should be a two-way communication of ideas.

Accurate and Timely Information

During initial project briefings pipeline companies should provide stakeholders with information regarding the location and scope of the project, the purpose and need for the project, and the processes in place governing easement acquisition, certification, construction, operation and maintenance of pipeline facilities as well as the importance of energy infrastructure. Other opportunities for education from the company and input from stakeholders could include formal meetings, land agent relationships, written notifications and newsletters, digital and electronic project updates, frequently asked questions on company website.

Respect for Regulatory Processes and Procedures

Final approval for pipeline projects is not a certainty and interactions with stakeholders should reflect that understanding. Prior to project approval, regardless of the project-specific regulatory process and procedures, actions taken to execute a project are at the company's risk. Pipeline companies should communicate clearly the processes and procedures needed to obtain the appropriate certificates and permits needed to construct, operate and maintain a pipeline system.

Commitment to Safety and Compliance

Pipeline safety is a responsibility shared by all stakeholders. Community and pipeline safety is improved through active stakeholder participation, especially with regard to public awareness, damage prevention, risk-informed land use planning, and emergency management efforts. Pipeline companies must comply with the specific rules, regulations, process and procedures that govern the safe operation of their pipeline systems and should help educate stakeholders on their roles in ensuring pipeline safety.

Responding to Issues

Pipeline companies should make every effort to respond to stakeholder concerns in a timely fashion. To enhance direct communications and timely responses, pipeline companies should educate stakeholders about the various channels available for stakeholders to communicate with pipeline companies including phone, email, social media, project and company websites, and other channels as available.

Commitment to Training

Pipeline companies should strive for continuous improvement in project execution. With the demand for natural gas increasing and many companies and stakeholders invested in the industry, pipeline companies should train their representatives to interact positively and productively with interested stakeholders in conveying information and addressing stakeholder concerns.

Industry Ambassadors

Each pipeline company employee and representative is an ambassador for the industry. Pipeline companies should ensure their employees and representatives interact with stakeholders in accordance with these guidelines.

Guidelines for Public Participation for Pipeline Companies Operating in Pennsylvania

DRAFT: VERSION 2

Public Participation is a critical component for pipeline project design, construction and operations. Pennsylvania believes that early and continuous involvement of all stakeholders can help develop better overall pipeline project solutions. An exchange of information between pipeline companies and stakeholders early in the planning of projects promotes meaningful participation in the process. Stakeholders may include any formal or informal group, organization, agency, elected officials, community leaders, and landowner or identified individual who has involvement in the regulatory and permitting processes or interest in the outcome of the project.

The Commonwealth should adopt guidelines for public participation that promote two-way communication between stakeholders and pipeline companies and incorporate public input into the planning, construction and operation of pipelines and associated infrastructure.

Included in the guidelines would be the Commonwealth seeking the following from pipeline companies:

Early and Continuous Involvement of Public

1. Contact public early in the planning of projects. Public would include stakeholders described above.
2. Hold an initial informal briefing meeting with municipal and county officials to discuss, for example, need for the project, routes being considered, information on surface infrastructures, timeline of project, contact persons including project manager, role of land agents, particular local conditions, safety concerns.
3. Conduct initial project briefings with stakeholders while company is considering possible routing of a pipeline project to provide information including proposed routing, product to be transported, location of surface facilities such as compressor stations, and timeline of project. Include easement acquisition as a topic and the role of land agents. Provide for a Question and Answer portion of each meeting to address questions of construction, operation, maintenance and safety.
4. Provide timely updates to stakeholders on a project including additional public meetings.

Accurate and Timely Information

1. Pipeline companies should make every effort to provide information to stakeholders in a timely fashion. To enhance direct communications and timely responses, pipeline companies should educate stakeholders about the various channels available for stakeholders to communicate with pipeline companies including phone, email, social media, project and company websites, and other channels as available.

2. Pipeline companies should set up a communication process to include tracking answers to stakeholder questions.

Good Faith Actions

Enabling the public to be actively engaged in the planning of pipeline projects through the actions set forth in these guidelines builds trust and demonstrates a good faith effort on the part of pipeline companies to engage in public participation.

Respect for Regulatory Processes and Procedures

Final approval for pipeline projects is not a certainty and interactions with stakeholders should reflect that understanding. Prior to project approval, regardless of the project-specific regulatory process and procedures, actions taken to execute a project are at the company's risk. Pipeline companies should communicate clearly the processes and procedures needed to obtain the appropriate certificates and permits needed to construct, operate and maintain a pipeline system.

Commitment to Safety and Compliance

Pipeline safety is a responsibility shared by all stakeholders. Community and pipeline safety is improved through active stakeholder participation in a dialogue with pipeline companies, especially with regard to public awareness, damage prevention, risk-informed land use planning, and emergency management efforts. Pipeline companies must comply with the specific rules, regulations, process and procedures that govern the safe and environmentally sound operation of their pipeline systems and should help educate stakeholders in their roles to promote pipeline safety.

Commitment to Training

Pipeline companies should strive for continuous improvement in project execution that includes two-way communication between stakeholders and pipeline companies. With the demand for natural gas has come a substantial increase in the number of pipelines being constructed in Pennsylvania. Pipeline companies should train their representatives including their land agents to interact positively and productively with stakeholders in conveying information and addressing stakeholder concerns.

Industry Ambassadors

Each pipeline company employee and representative is an ambassador for the industry. Pipeline companies should ensure their employees and representatives interact with stakeholders in accordance with these guidelines.

Public Participation Workgroup Recommendation #3

Amend General Information Form to Require Information on Public Participation

Full recommendation:

The DEP should amend the General Information Form to include a question related to whether pipeline companies have prepared a public participation plan.

Relevant agencies:

DEP

Justification:

The addition of this question on the General Information Form helps increase the awareness of the importance of public participation in the permitting of pipeline projects.

Actions that would be required to achieve recommendation:

DEP policy change and updating standard operating procedures.

Public Participation Workgroup Recommendation #4

Form Pipeline Advisory Committee

Full recommendation:

The Commonwealth should form a Pipeline Advisory Committee to provide technical advice and guidance regarding policies, procedures and best management practices that could be implemented to enhance the development, management and maintenance of safe and reliable pipeline infrastructure in the Commonwealth. This committee could include state and local officials, pipeline industry experts, landowners, and members of the public.

Alternate recommendation:

Note: Recognizing that forming a Pipeline Advisory Committee may have a long lead time and involve legislation, the public participation workgroup offers an alternate recommendation to be used in the interim or in place of the above recommendation.

The DEP maintains numerous existing advisory committees. These committees provide valuable input to DEP regarding policy making and regulatory development. DEP should consider adding members of the general public, Non-Government Organizations (NGOs) interested in pipeline development and representatives of the pipeline industry to existing committees including, but not limited to, Water Resources Advisory Committee and the Air Quality Technical Advisory Board to provide technical advice and guidance regarding policies, procedures and best management practices that could be implemented to enhance the development, management and maintenance of safe and reliable pipeline infrastructure in the Commonwealth.

Public Participation Workgroup Recommendation #5

Require Publication of Intent to Apply for DEP Permits Associated with Pipeline Development

Full recommendation:

The DEP should require that applicants for DEP permits be required to publish their intent to apply, including the type of project and location, in a daily or weekly paper of general circulation in each county in which the project would be located for at least 3 days in advance of submission. Proof of publication should be provided along with the application.

Relevant agencies:

DEP

Justification:

DEP applications are currently noticed only the *Pennsylvania Bulletin*. This recommendation is similar to the FERC's notification requirements found in 18 CFR 157.6 (d)(1)(iii) for applicants seeking a Section 7 Certification for interstate natural gas pipeline projects. In some cases, especially in the case of many DEP general permits, the general public is unaware of an applicant's intent to seek permits for pipeline infrastructure development. By publishing a notice of a company's intent to apply for permits in local newspapers, the public would be afforded a better opportunity for public comment. The workgroup's intent is to expand DEP's existing notification requirements.

Actions that would be required to achieve recommendation:

This recommendation will likely require either regulatory changes or modifications of existing general permits. Applicants should be strongly encouraged to take this step until regulatory changes or general permit modifications are complete.

Public Participation Workgroup Recommendation #6

Issue Annual Report Implementations on the PITF Recommendations

Full recommendation:

The DEP, cooperating with other relevant agencies, should issue a report detailing the progress in implementing the recommendations of the Task Force one year after the Task Force report is finalized. Then, every two years thereafter, DEP should update the report, and include additional information regarding build-out of the state's pipeline infrastructure.

Relevant agencies:

DEP

Justification:

Regular information about the status of the recommendations of the Task Force and pipeline development generally will increase the public's ability to engage with this issue.

Actions that would be required to achieve recommendation:

Legislation would be required to make issuance of a report mandatory; however either DEP Secretary or Governor could direct issuance of a report.

Challenges to achieving recommendation:

Staffing and Budgetary constraints.

Siting and Routing Workgroup

Introduction

The Siting and Routing workgroup submits the following recommendations for consideration for future oil and gas pipeline projects in the Commonwealth. The members of our workgroup represented stakeholders from oil and gas companies, environmentalists and government agencies. These recommendations are the result of weeks of deliberation about the best ways to balance pipeline development with environmental conservation and community needs.

Siting and routing can be disruptive to the surrounding communities and environment. Our recommendations contend that planning is a critical component of any pipeline siting and routing process. All stakeholders should consider development choices that avoid and minimize impacts to communities, habitats, water and wildlife. This is not to say that mitigating impacts is possible in all situations. However, in those instances where impacts may be mitigated our workgroup strongly encourages stakeholders to do so.

Pennsylvania's incredible geological and environmental diversity makes siting and routing a very complicated process. As a consequence, there are instances where local and state regulations conflict and make it difficult to finish a project in a timely manner. Our workgroup proposes the creation of a statewide technical review committee to review applications crossing multiple Department of Environmental Protection (DEP) regional boundaries to give consistency and timeliness to every review. This committee could also provide guidance to oil and gas companies when they are receiving conflicting directions from multiple state agencies.

Similarly, many of our workgroup members have received conflicting guidance from staff within DEP. The DEP's regional office staff understand the environmental and geological nuances of different portions of the state. Again, this sometimes results in conflicting guidance from the regional and the central DEP offices. To reconcile these differences, our workgroup recommends creating a DEP Plans and Procedures Manual to serve as a reference for staff and stakeholders across the Commonwealth.

The Commonwealth and stakeholders also need to define the term "cumulative impact" with respect to intrastate pipeline projects. Intrastate and interstate pipelines have different cumulative impacts and different processes to mitigate those impacts. Currently only interstate pipelines must undergo a stringent cumulative impact assessment through the Federal Energy Regulatory Commission (FERC). We propose the creation of an interdisciplinary taskforce to examine what cumulative impacts mean for intrastate pipelines. The taskforce would study research projects, case studies, best management practices, planning tools, and mitigation programs to come up with appropriate policy recommendations for intrastate pipelines.

Our other recommendations discuss the PA1Call system, the need for more data availability, using third party consultants to aid DEP staff, and continuing successful stakeholder engagement practices for pipeline developers. We hope these recommendations will encourage helpful dialogue and the creation of practical policies that will help grow Pennsylvania's economy and preserve our natural resources.

Siting and Routing Workgroup Recommendation #1

Utilize Planning Process Appropriate for the Scale of the Pipeline Project

Full recommendation:

Planning at an appropriate scale should be the foundation for a pipeline project with the overarching goal of avoiding and minimizing local and cumulative impacts to communities, habitats, water and wildlife. Planning at the appropriate scale can influence infrastructure placement and design to avoid potential adverse impacts, and to achieve more effective, integrated management of resources and ecosystems. When developing infrastructure, pipeline companies and public agencies should consider the range of tradeoffs in costs and impacts by incorporating social, economic, and environmental data at relevant scales. This planning approach needs to be flexible to account for different project scales, regulatory requirements, environmental and geological conditions, landowner preferences, cultural resources and community values. Pipeline companies should utilize practices appropriate for the individual project that can reduce the impacts from land use changes. Depending on the type of project, this approach should consider using existing corridors, co-locating with other infrastructure, or combining projects when feasible to minimize new disturbance. When co-location of infrastructure or use of an existing corridor is impossible, or would cause a greater impact than a new corridor, then an approach that minimizes corridor width and incorporates vegetation management that creates habitat for wildlife might be more appropriate. In other cases, planning corridors for multiple uses or future re-use for another type of pipeline could be the best approach.

Relevant agencies:

Planning should be a collaborative process among the industry, stakeholders and landowners, as well as the relevant local, state and federal governing bodies.

Justification:

Pipelines and other types of linear infrastructure can have significant impacts on soil, water, habitat and aesthetics, and become permanent features on the landscape. A planning approach to siting this infrastructure that looks at the full scope of planned projects, including assessing existing infrastructure, and alternatives when making decisions about siting new infrastructure can result in reduced cumulative impacts.

Actions that would be required to achieve recommendation:

A planning process would need to be considered by pipeline companies and county and local governments to achieve this recommendation. These governments could pursue a planning process with appropriate zoning or other ordinances. Industry should also consider the use of the best available analytical tools and spatial data needed for effective planning of new infrastructure. An example of this type of planning tool is [EnSitu](#), The Nature Conservancy's Appalachian shale siting tool, which integrates ecological data with development cost analyses to create alternative shale infrastructure layouts (well pads, access roads, and gathering pipelines) that help reduce environmental impacts.

Challenges to achieving recommendation:

Potential longer approval time that could impact the overall cost of a project and the cost of analytical tools.

Additional supporting material:

The Nature Conservancy's EnSitu tool:

<http://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/pennsylvania/the-nature-conservancys-shale-siting-tool-summary.pdf> . Also see our recommendation about data availability. Lycoming County's Planning Commission's Planning process.

Issues to address:

Access to analytical tools. Access to planners who could recommend the appropriate ordinances.

Siting and Routing Workgroup Recommendation #2

Create an Inter-Agency Coordinating Committee to Resolve Conflicting Construction Requirements

Full recommendation:

Establish an inter-agency coordinating committee comprised of representatives of various Commonwealth agencies involved in reviewing pipeline applications to resolve construction time restrictions and mandatory installation practices that conflict or are inconsistent with the direction and guidance provided by another Pennsylvania agency.

Relevant agencies:

DEP

PFBC

Department of Conservation and Natural Resources (DCNR)

Department of Agriculture (Ag)

Pennsylvania Game Commission (PGC)

Pennsylvania Historical and Museum Commission (PHMC)

Pennsylvania Department of Transportation (PennDOT)

Justification:

Timely implementation and processing of disparate policy and regulatory directives from multiple Pennsylvania agencies having jurisdiction over some portions of pipeline project development in the Commonwealth.

Actions that would be required to achieve recommendation:

Coordination between Commonwealth agencies to resolve conflicting regulations or practices that inhibit the pipeline development process and make compliance of all agency directives by the pipeline develop extremely difficult if not impossible.

Challenges to achieving recommendation:

Balancing the specific missions and regulatory mandates imposed on the various Pennsylvania agencies having jurisdiction over some portions of pipeline project development in the Commonwealth.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Examples include:

1. PGC vs DEP
 - a. Route tree clearing restrictions to accommodate bats during summer months forces construction to start in winter months, which makes complying with DEP Erosion and Sediment Control General Permit (ESCGP2) and Clean Streams regulations/rules more difficult.

2. PennDOT and Townships

- a. If it is the case that PennDOT will not issue open cut permits for pipeline crossings operators are required to auger drill or Horizontal Directional Drilling (HDD) crossings which requires them to excavate significantly more earth, which makes compliance with DEP ESCGP2 regulations/rules more difficult

3. PennDOT/Township's/Landowner's vs. DEP

- a. Regarding temporary or permanent access roads, a more integrated and streamlined approval process between all agencies involved is necessary. Operators submit proposed access roads to the DEP as part of the ESCGP-2 process. Once approved, they then submit the proposed road location to PennDOT or the Township for their approval. If the road does not meet site distance requirements or if a township will not approve the driveway location, a DEP major modification is required.

Siting and Routing Workgroup Recommendation #3

Create Statewide Technical Review Committee Within DEP for Multi-Region Pipeline Applications

Full recommendation:

Create a statewide technical review committee within at the DEP that would consolidate the review process of each pipeline application including all permits, cross County and DEP Region boundaries required to be reviewed and approved by the DEP on its own or under federal delegated authority. This recommendation is intended to improve communication between various DEP Regions and County Conservation Districts for pipeline projects that. A single point of contact by the DEP should be established for each pipeline project shortly after the application is filed with the DEP and communicated to the applicant. The assigned DEP contact's responsibilities would include general coordinating with the applicant, managing the review schedule within the DEP, leading all pre-application and related meetings with the applicant as well as internal DEP discussions, reviewing the application for completeness and technical comments for consistency, and coordinating reviews and approvals with appropriate DEP Regional and Conservation District staffs.

Relevant agencies:

DEP

County Conservation Districts

Justification:

Regional interpretations of DEP regulations and policy are not always consistent throughout the DEP Regions. These inconsistencies may result in additional and unnecessary meetings, excessive and potentially duplicative time and resources of DEP staff, the applicant and other stakeholders, as well as potentially inconsistent applications between Regions on the same pipeline project. This recommendation is intended to increase the likelihood of greater efficiency and coordination in the review of pipeline applications, and minimize unnecessary inconsistencies among the DEP regions when evaluating pipeline applications. The goal is to encourage the DEP to formulate and communicate a single message about pipeline projects to the applicant and the public generally.

Actions that would be required to achieve recommendation:

The establishment by the DEP of a policy (i) indicating that the DEP's Central Office should be contacted for all multi-Region pipeline projects and (ii) forming the statewide committee within the DEP as outlined in this recommendation.

Challenges to achieving recommendation:

None anticipated once the aforesaid policy has been developed and implemented.

Additional supporting material:

See Resolve Conflicting Construction Restrictions and Considerations recommendation.

Issues to address (such as cost, environmental impacts):

No additional costs are anticipated at this time.

Siting and Routing Workgroup Recommendation #4

Explore the Creation of a Taskforce of Affected Stakeholders to Study the Creation of a New Regulatory Entity, or Empower Existing Regulatory Entity to Review and Approve the Siting and Routing of Intrastate Gas Transmission Lines

Full recommendation:

An interdisciplinary group of state and local government, industry and stakeholder groups should be formed to define and analyze the full scope of cumulative impacts from pipeline development in Pennsylvania. In addition to defining the scope of cumulative impacts, this committee should identify metrics appropriate for measuring these impacts, and make recommendations for avoiding, reducing and mitigating cumulative impacts. The types of actions considered by this group should include, but aren't limited to new research projects, case studies, best management practices, landscape scale planning tools, mitigation programs, and policy recommendations.

Relevant agencies:

Office of the Governor
Pennsylvania General Assembly

Justification:

This recommendation would facilitate the development, construction and operation of intrastate transmission pipelines from the source of oil and gas supply into portions of Pennsylvania where gas and oil demand is high.

Actions that would be required to achieve recommendation:

Legislative authorization would be required.

Challenges to achieving recommendation:

Stakeholder consensus and scope of authority

Additional supporting material:

N/A

Issues to address (such as cost, environmental impacts):

N/A

Siting and Routing Workgroup Recommendation #5

Create DEP Plans and Procedures Design Manual for Pipeline Construction

Full recommendation:

The DEP, with input from pipeline industry representatives and other stakeholders, should develop and publish a DEP Plans and Procedures Design Manual for Pipeline Construction (Manual). The Manual will establish standards and procedures for the filing and review of pipeline applications and obtaining the necessary permits and approvals, primarily before the DEP, and will additionally serve as a reference guide for the general public, Non-Government Organizations (NGOs) and stakeholders.

Relevant agencies:

DEP

U.S. Army Corps of Engineers (USACE)

Conservation Districts

Justification:

Pennsylvania is facing the largest infrastructure build out since the development of the Interstate Highway System. However, the lack of standards specific to the pipeline industry has led to inconsistent and varied regulatory policies and interpretations among the Conservation Districts, DEP Regions and individual reviewers within DEP Regions. The establishment of industry-specific guidance would allow pipeline applicants to understand all of the regulatory and policy requirements early in the process, reduce permit review comments by eliminating or significantly reducing individual and DEP Regional interpretations, reduce permit review time by establishing clear standards and clear expectations, and provide the general public a guide to understanding the pipeline permitting and application process. This recommendation is based in part on PennDOT's numerous (over 50) publications that guide the transportation industry in the Commonwealth. The publications include the establishment of engineering standards, environmental procedure and reporting requirements, as well as policy definitions. These documents provide a foundation to promote the efficient planning, development, permitting, construction, and maintenance of our transportation system. While the PennDOT documents are not applicable to pipelines, they provide a good example of what should be replicated by and within the DEP. The development of similar documents by the DEP in the form of a comprehensive Manual would eliminate (or at least substantially mitigate) interpretative variability, provide permit review consistency, and create clarity for both applicants and all other stakeholders.

Actions that would be required to achieve recommendation:

DEP, with industry and other stakeholder input, must develop the Manual timely and submit it for public and stakeholder review and comment before being finalized.

Challenges to achieving recommendation:

(i) Developing and issuing the Manual in a timely manner and (ii) acknowledging and accommodating legitimate regional differences in developing the standards in the Manual and

providing for appropriate DEP regional discretion in the pipeline application and permitting process any recommendation.

Additional supporting material:

<http://www.dot.state.pa.us/public/PubsForms/Publications/PUB%2012.pdf>

Issues to address (such as cost, environmental impacts):

Siting and Routing Workgroup Recommendation #6

Create Third Party Consultant Staffing at DEP

Full recommendation:

To expedite the review and consideration of pipeline applications and permits by the DEP, the DEP should retain independent third-party consultants to assist it in its review of submitted pipeline permit applications. The Consultants will be retained and trained by the DEP and fully accountable to the DEP. Their responsibilities will include determining that pipeline and permit applications are administratively complete and technically sound.

Relevant agencies:

DEP

Justification:

Improve DEP's administrative efficiency and timely approval of pipeline applications and permits.

Actions that would be required to achieve recommendation:

DEP's willingness to hire, retain, train and utilize third party consultants, and developing the process for obtaining qualified third party consultants.

Challenges to achieving recommendation:

Finding a funding source and administering the program.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Cost of the program.

Siting and Routing Workgroup Recommendation #7

Expand PA1Call for All Classes of Pipelines

Full recommendation:

All pipeline owners and operators must participate in the PA1Call system to the extent practicable.

Relevant agencies:

Justification:

To improve safety and assist in siting and routing of all pipelines in Pennsylvania broader participation in the PA1Call system is necessary and in the public interest.

Actions that would be required to achieve recommendation:

Legislative action.

Challenges to achieving recommendation:

It may not be possible to have all existing pipelines in the Commonwealth located and submitted to the PA1Call system because of lack of documentation on pipeline locations, absence of cost-effective technology for locating older pipelines, etc. Accordingly, some accommodations may be necessary, although the goal should be to require all new pipelines installed in Pennsylvania to participate in PA1Call and as many of the legacy pipelines that can be reasonably, practicably and cost-effectively located.

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Siting and Routing Workgroup Recommendation #8

Pipeline Developers Should Engage with Private and Governmental Stakeholder Engagement and Educate Landowners

Full recommendation:

Pipeline developers should (i) continue their current practice of meeting early in the pipeline application process with permit agencies, counties, municipalities, impacted landowners and other stakeholders to share and exchange as much information as possible about the pipeline project, and (ii) develop and provide to impacted and adjacent landowners educational materials intended to inform them about the proposed pipeline project so they can make sound decisions about the project.

Relevant agencies:

DEP

PennDOT

DCNR

Ag

Justification:

The sooner pipeline developers, agencies, impacted municipalities and landowners, and other stakeholders meet and exchange relevant information about the proposed pipeline project, the easier it will be for everyone to understand their concerns and needs with respect to the pipeline project. Early planning will establish strong lines of communication between all types of stakeholders and create accountability if and when specific issues arise during the project. The more educated impacted landowners are about a pipeline project the easier it may be to engage in mutually productive discussions about the project's impacts, costs, safety, among other things.

Actions that would be required to achieve recommendation:

Creation and dissemination of materials to educate landowners.

Challenges to achieving recommendation:

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Siting and Routing Workgroup Recommendation #9

Invest in Digital Infrastructure to Improve Data Availability

Full recommendation:

The Commonwealth, in partnership with academic, industry and community stakeholders should create or upgrade the tools and platforms necessary to facilitate transparent and streamlined data sharing to support comprehensive planning, project siting, and community participation in these processes. Subject to security and privacy constraints, agencies charged with maintaining data and information regarding ecological and cultural resources should make those data publically available to facilitate planning and siting. Similarly, industry and utilities should make data regarding existing and planned infrastructure publically available to support comprehensive planning and public participation.

Relevant agencies:

DCNR

PGC

DEP

PennDOT

Pennsylvania Fish and Boat Commission (PFBC)

Pennsylvania State University

Industry groups

Local county/municipal GIS departments

GIS Pros (County GIS Professionals)

Pennsylvania Mapping and Geographic Information Consortium (PA MAGIC)

Justification:

Information infrastructure and data sharing in Pennsylvania currently does not support a timely, efficient, or transparent planning or permitting processes, which reduces the effectiveness of our state agencies, impedes comprehensive planning and public participation, and does not allow for optimal siting decisions to reduce impacts to communities and the environment.

Actions that would be required to achieve recommendation:

Investments in training and outreach on using DCNR's updated Pennsylvania Natural Diversity Index (PNDI) permitting tool and newly created Conservation Explorer planning tool will speed the adoption and use of these tools. Exploring options for adding additional data to Conservation Explorer or creating a complementary spatial planning tool for DEP permitting will encourage coordination and integration among agencies on permitting requirements and improve the planning process. Pennsylvania State University's Spatial Data Clearinghouse (PASDA) could be used as a repository for additional downloadable datasets from these online planning tools to facilitate planning efforts by industry, as well as local government and stakeholders. Datasets on existing infrastructure should be created and maintained by the Commonwealth to improve planning and siting efforts. Making data from governmental agencies relevant to siting and planning, as well as data on existing infrastructure publically available through web-based planning tools and for download will improve planning on multiple levels, as well public

participation and transparency. The coordination of this effort could occur through the Office of Administration's Geospatial Technologies Advisory Committee.

Challenges to achieving recommendation:

Additional supporting material:

Issues to address (such as cost, environmental impacts):

Workforce and Economic Development Workgroup

Introduction

The Commonwealth must leverage our abundant natural gas resources to enhance workforce and economic development growth opportunities. Billions of dollars of investment in infrastructure will be a catalyst for growth in Pennsylvania. We should focus on expanding new and existing pipeline infrastructure to deliver natural gas to residential, commercial and industrial facilities, develop natural gas as a transportation fuel, expanding the use of natural gas in the electric generation industry, and supporting manufacturing and refinery projects in Pennsylvania that create good family sustaining jobs.

The state should continue to support and expand programs that will ensure that Pennsylvania has a trained workforce for the upstream, midstream, and downstream sectors of the natural gas industry. Moreover, the state should continue to support and expand financial incentives that will expand access to natural gas delivery systems, as well as needed conversion of existing energy infrastructure for use in Pennsylvania. As a key component to ensuring that Pennsylvania prospers, the state needs to develop an efficient and predictable permitting process that is coordinated through a single point of contact for pipeline projects that deliver natural gas to Pennsylvania projects and employ Pennsylvania residents.

Workforce and Economic Development Workgroup

Workforce Development Recommendation #1

Commission Workforce Assessment and Economic Development Impact Study

Full recommendation:

Commission a statewide Workforce Assessment and Economic Development Impact study. The results would be used to develop workforce training initiatives through community colleges and technical schools.

Relevant agencies:

Department of Community and Economic Development (DCED)
Pennsylvania Department of Labor and Industry (L&I)

Justification:

A study is necessary to accurately quantify workforce development needs for the construction of pipeline infrastructure and the downstream manufacturing opportunities.

Actions that would be required to achieve recommendation:

This assessment could be funded jointly by DCED and L&I. Inventory of programs that already exist must be part of this study.

Challenges to achieving recommendation:

Funding availability; having accurate pipeline map; finding an unbiased organization to conduct study.

Additional supporting material:

The last workforce needs assessment was completed by the Marcellus Shale Education and Training Center in 2011. To look at the most up-to-date and current environment, we need an updated assessment of the workforce we currently have and where the gaps exist, including a look at the connected industries and jobs. This impact study should include feedback from current and potential employers. Additionally, this study should analyze whether implementing a standard uniform certification process for training workers would be beneficial.

Issues to address (such as cost, environmental impacts):

Cost of study, timeline for study, scope of the study.

Workforce and Economic Development Workgroup

Workforce Development Recommendation #2

Enhance STEM Education

Full recommendation:

Enhance our position in natural gas with research and development, technology/innovation, and higher education partnerships by actively supporting and strengthening science, technology, engineering and math (STEM) education.

Relevant agencies:

DCED

L&I

Pennsylvania Department of Education (PDE)

Public Utility Commission (PUC)

Department of Environmental Protection (DEP)

Justification:

Necessary skill sets require math and science competency along with the hands on technical components. This education is required for processing, measurement jobs (midstream) and downstream manufacturing jobs – i.e. machinists, assemblers and fabricators who have to understand instructions and blueprints, use tools, machines and have the manual dexterity to assemble pieces and goods on the manufacturing line to complete a finished product. Many of these jobs will not require a college education but employees will need technical competencies that will be math-based. The workforce pipeline program should expand in the future with special emphasis given to those programs aimed at preparing students for science, engineering, and technical positions commanding higher wages.

Actions that would be required to achieve recommendation:

Meeting between PDE and other relevant agencies to review current curricula and discuss necessary elements for inclusion in curriculum. Develop a customized STEM education curriculum for high school and earlier years to prepare the state's youth for both the midstream and downstream jobs. This curriculum would be coupled with technical education and hands on learning skills. Include groups such as Junior Achievement in this discussion.

Challenges to achieving recommendation:

Existing STEM curriculum and inability to agree on best curriculum to use. Funding remains a challenge.

Additional supporting material:

N/A

Issues to address (such as cost, environmental impacts):

Potential costs involved.

Workforce and Economic Development Workgroup

Workforce Development Recommendation #3

Promote Apprenticeship and On-the-Job Training

Full recommendation:

Promote apprenticeship and on-the-job training with employers.

Relevant agencies:

PDE
DCED
DEP
PUC
L&I

Justification:

Individuals with skills and job experience are in high demand. Specialized training which is gained through an apprenticeship or on-the-job training provides skilled individuals for many jobs. Apprenticeship programs such as the five-year “State Certified Apprenticeship Program” have been successful and should be used as a model.

Actions that would be required to achieve recommendation:

Overview current training programs provided, including on-site visits to training facilities. Provide services as well as incentives for employers to hire apprentices, provide internships and summer jobs for students.

Challenges to achieving recommendation:

None identified.

Additional supporting material:

The State Certified Apprenticeship Program is a secure way to ensure the public that midstream and downstream gas industry projects are conducted safely and with the highest quality of expertise. All first year apprentices undergo Occupational Safety & Health Administration (OSHA) 10 training. In the Philadelphia region, they have eight hours of Process Safety Management Training tailored to refineries, chemical plants, pharmaceutical and power plants. Apprentices are subjected to random alcohol and drug testing over the course of the program. Apprentices have to complete over 800 hours of classroom study and over 8,000 hours of field training. On the job training is done under the direct supervision of a Journeyman to ensure the apprentice is completing a task safely and with the highest standard of excellence. This helps to ensure that the knowledge and experience of a journeyman is passed on to the next generation. Apprentices graduate with numerous certifications such as welding from the National Certified Pipeline Welding Bureau, rigging and handling from the National Commission for Certification of Crane Operators and fusion certifications from CFC, to name just a few. All of the information on the apprentice is entered and traced at a data center provided by the program they are enrolled in. The commitment to training is unprecedented in this industry and is done at no

cost to the state or federal government. The training programs are completely funded by their memberships.

Issues to address (such as cost, environmental impacts):

None identified.

Workforce and Economic Development Workgroup

Workforce Development Recommendation #4

Attract Military Veterans to the Energy Workforce

Full recommendation:

Encourage the integration of military veterans into the natural gas industry workforce.

Relevant agencies:

L&I

Justification:

Pennsylvania has one of the largest veteran populations in the country. Returning veterans often have skills that are sought after by employers in the energy value chain, and many are used to working in the harsh outdoor conditions that E&P and midstream work can require.

Actions that would be required to achieve recommendation:

Consider existing models (see additional supporting material below).

Challenges to achieving recommendation:

Helping veterans translate their skills and helping employers recognize the opportunity can be a challenge.

Additional supporting material:

The Appalachian Partnership Initiative (Chevron, Claude Worthington Benedum Foundation, Allegheny Conference on Community Development) and the Colcom Foundation have begun a pilot program in Southwest PA, Service To Opportunity (STO) (servicetooportunity.org). STO was created with a powerful matching database that helps veterans match their skills and interests directly to these in-demand jobs and employers. STO has been recognized by the White House, the U.S. Department of Defense, the U.S. Department of Energy, the U.S. Department of Veterans Affairs and the U.S. Department of Labor as an innovative and promising approach to veteran hiring in the Pittsburgh region that could become a model for other places around the country.

Issues to address (such as cost, environmental impacts):

None identified.

Workforce and Economic Development Workgroup

Workforce Development Recommendation #5

Conduct a State Employee Workforce Audit to Identify Training and Other Needs of Pertinent State Agencies

Full recommendation:

Initiate an analysis of the current Commonwealth workforce to identify training and workforce needs for pertinent state agencies.

Relevant agencies:

L&I

Office of Administration (OA)

DEP

Justification:

Workforce and professional development at state agencies, such as DEP, must be addressed to keep and retain state employees. The state must invest in its own workforce in terms of professional development and competitive pay/benefits. An aging workforce and pending retirements will further stress an already weakened staff component for regulatory agencies. For instance, DEP is facing a staffing shortage and loss of employees to the private sector (based on more attractive compensation and other factors).

Actions that would be required to achieve recommendation:

Audit would need to be conducted. Leadership from OA and the Governor's Office.

Challenges to achieving recommendation:

Funding

Additional supporting material:

N/A

Issues to address (such as cost, environmental impacts):

Budgetary cuts and costs associated with correcting pay inequities.

Workforce and Economic Development Workgroup

Workforce Development Recommendation #6

Enhance Workforce Training

Full recommendation:

Use ShaleNet as a model for workforce training for the pipeline industry. Connect career and technical education and community colleges with employers to develop, implement, and sustain a comprehensive, proactive, results-oriented workforce pipeline program that would lead to a highly qualified pool of local workers who could be considered for hiring into all job classes and salary levels.

Relevant agencies:

L&I
DCED

Justification:

ShaleNET is a consortium of community colleges, workforce investment boards and industry representatives designed to train local workers to fill local natural gas and oil industry jobs. Through 2014, ShaleNET Phase I trained 5,500 workers, of which 3,400 are employed.

Actions that would be required to achieve recommendation:

Clearly define career pathways with ongoing participation from employers across the industries to ensure a talent pool is in place throughout the Commonwealth and also includes mechanisms to retrain/upskill the workforce as the industries grow and skills needs change. Target a portion of Industry Partnership and WEDnet funding for direct partnerships with employers and CTE/community colleges to develop the workforce skills in related occupations.

Challenges to achieving recommendation:

None identified.

Additional supporting material:

Started in 2010, ShaleNET initially focused (via a \$4.9M U.S. Department of Labor grant) on the Marcellus Shale footprint, encompassing five community colleges (including Westmoreland County Community College and Penn Technical College), workforce investment boards (WIBs) representing 69 counties across four states (PA, WV, OH, NY), and the Pennsylvania Independent Oil and Gas Association (PIOGA). ShaleNET developed and implemented a standardized, industry-endorsed curriculum to train workers for six priority drilling-site jobs. ShaleNET Phase II began in 2012 with a \$14.9 grant U.S. Department of Labor grant to expand ShaleNET by expanding its scope of training through creation of certificate and associate degree programs particularly relevant to midstream and downstream components of the natural gas value chain – mechatronics, electronics, production technology, and petroleum technology. The petroleum technology associates degree curriculum includes an optional “pipeline technician” specialization. It also expanded the geographic scope of the program to include Stark State College (Ohio), Pierpont Community and Technical College (West Virginia) and Navarro

College (Texas). Since ShaleNET began training students two years ago, 960 students have received credentials, with 185 placed in jobs.

Issues to address (such as cost, environmental impacts):

None identified.

Workforce and Economic Development Workgroup

Economic Development Recommendation #1

Develop a Pipeline Map

Full recommendation:

Designate one state agency to lead the development of a detailed pipeline map showing the location of existing and proposed infrastructure in the Commonwealth.

Relevant agencies:

DCED

DEP

PUC

Pennsylvania Department of Transportation (PennDOT)

Department of Conservation and Natural Resources (DCNR)

Department of Agriculture (Ag)

Justification:

A pipeline map would help significantly in determining suitable economic development locations, as well as workforce needs related to the pipeline/natural gas industry. Accurate, precise pipelines and their attributes mapped to the distribution system level would be useful to support planning for line extensions and new economic development projects. In the interest of domestic security, the agency undertaking such effort shall make a determination (after consultation with all affected stakeholders and parties) regarding the public disclosure of mapped assets.

Actions that would be required to achieve recommendation:

Significant, continuing coordination with all levels of gas pipeline companies (gathering, midstream, distribution) would be required. Non-disclosure agreements for map and data use may be required.

Challenges to achieving recommendation:

Ability to access and use maps and data presently considered to be confidential. Assets are mapped by different companies, state agencies, and county and local planning entities. There is not one comprehensive source of data, so information will need to be collected from numerous sources and verified before final mapping.

Additional supporting material:

None.

Issues to address (such as cost, environmental impacts):

There have been numerous concerns expressed about the security of such a map, considering that it is a visual representation of natural gas infrastructure in our Commonwealth. These concerns are valid and the Commonwealth must develop a policy regarding the public disclosure of such information before initiating such an effort.

Workforce and Economic Development Workgroup

Economic Development Recommendation #2

Coordinate Project Management for Projects Using Natural Gas in PA

Full recommendation:

Pennsylvania desires to see natural gas pipeline and downstream projects developed in our Commonwealth that rely on natural gas use in Pennsylvania, for the benefit of Pennsylvania residents and companies. In order to maximize opportunities for projects that have a direct impact on workforce and economic development impact in Pennsylvania, we propose the following:

- Designate “high priority” pipeline infrastructure projects as those pipeline infrastructure projects that include:
 - The delivery and/or supply of natural gas to Pennsylvania businesses and residents for use; and
 - Employ a certain amount of Pennsylvanians as part of the development, construction, or operation. High priority pipeline projects would receive coordinated project management through a single point of contact for permitting and funding (if applicable) as described below.
- Designate a single point of contact - a Statewide Pipeline Project Coordinator - for “high priority” pipeline infrastructure projects. The statewide pipeline project coordinator will provide a streamlined and cohesive communication process with all federal and state agencies involved in the development, authorization or funding of “high priority” pipeline infrastructure projects. DCED has the existing framework and resources in house to coordinate projects involving multiple agencies across the Commonwealth.
- Establish an efficient permitting process that is led by the Statewide Pipeline Project Coordinator. With any economic development project, time is money. The longer it takes to complete a project, the higher the cost. A major factor associated with imposing significant delays and associated costs of pipeline projects is compliance with environmental regulations. In the case of pipelines, there is a federal-state nexus and multi-agency involvement that can make the permitting process difficult to navigate. Led by the statewide pipeline project coordinator, agencies that play a role in pipeline infrastructure projects should work in collaboration with industry and non-governmental organizations to develop a transparent, predictable and efficient permitting process to support a responsible infrastructure build-out.

Relevant agencies:

DCED

DEP

L&I

Ag

Pennsylvania Fish & Boat Commission (PFBC)

Pennsylvania Game Commission (PGC)

Pennsylvania Historical Museum Commission (PHMC)

Federal Agencies as appropriate

Justification:

Based on the development of pipeline infrastructure projects to date, we believe it is critical to provide an incentive for pipeline companies to include Pennsylvania-based projects in their development process. The benefit of having a single point of contact within the Commonwealth to coordinate the efforts of pipeline projects that deliver gas to Pennsylvania businesses and residents is a significant and select opportunity to demonstrate the Commonwealth's commitment to projects that provide workforce and economic development benefits here in PA.

Actions that would be required to achieve recommendation:

The Commonwealth would need to fully define "high-priority" projects and select a single point of contact/coordinator within DCED. Each agency of commission involved in pipeline projects would also need to select a single point of contact/coordinator to work with the Statewide Pipeline Project Coordinator.

Challenges to achieving recommendation:

None identified.

Additional supporting material:

None.

Issues to address (such as cost, environmental impacts):

None identified.

Workforce and Economic Development Workgroup

Economic Development Recommendation #3

Create Last Mile Funding

Full recommendation:

Help fund “last mile” natural gas distribution lines to provide access to natural gas to Pennsylvania’s manufacturing sector.

Relevant agencies:

DCED

Justification:

This is proposed new funding provided as part of the Governor’s budget proposal.

Actions that would be required to achieve recommendation:

Budget passage hopefully with this funding included.

Challenges to achieving recommendation:

Legislative action.

Additional supporting material:

None.

Issues to address (such as cost, environmental impacts):

None identified.

Workforce and Economic Development Workgroup

Economic Development Recommendation #4

Enact Statute to Permit the Use of a Charge for New Service, to Permit Recovery of Gas Service Advertising by Utilities and to Amortize New Construction Costs Over Longer Time Period for New Customers

Full recommendation:

Provide a financial mechanism that encourages pipeline extensions for companies/residents through the expansion of the Distribution System Improvement Charge (DSIC) to allow for new projects to qualify.

Establish longer payback periods for new commercial users of natural gas provided by the natural gas distribution companies.

Allow companies to build in advertising costs which assist in messaging of natural gas opportunities to citizens of PA.

Relevant agencies:

PUC

Justification:

N/A

Actions that would be required to achieve recommendation:

Amend Section 1353(1) of the Public Utility Code to provide that natural gas distribution company line expansion projects will be eligible for the DSIC.

Challenges to achieving recommendation:

Legislative action required.

Additional supporting material:

N/A

Issues to address (such as cost, environmental impacts):

N/A

Workforce and Economic Development Workgroup

Economic Development Recommendation #5

Encourage Natural Gas Use in Ports

Full recommendation:

Encourage using natural gas at ports in PA.

Relevant agencies:

DCED

PennDOT

Justification:

Pennsylvania has three significant ports: Philadelphia, Pittsburgh, and Erie. In addition, Philadelphia Shipyard, for example, is a national strategic asset and substantial job creator/preserver. Pennsylvania is the second largest producer of natural gas in the U.S. at 4Tcf (doubled production since 2012). Pennsylvania is also rich in Natural Gas (NG) By-products natural gas liquids (NGL) and liquefied petroleum gas (LPG). Environmental benefits are significant when utilizing natural gas instead of diesel as a transportation fuel.

Actions that would be required to achieve recommendation:

Need for spur lines or laterals to feed ports in Pennsylvania (e.g., Philadelphia Regional Port Authority properties, Port of Pittsburgh) with NG and/or utilize liquefied natural gas/compressed natural gas (LNG/CNG) storage facilities that can feed the demand. Meet with private sector stakeholders and take note of other ports around the country. For instance, the Port Authority of New York and New Jersey is beginning natural gas as a marine fuel roundtables in November 2015; see Ports of Long Beach/Los Angeles, Tacoma, Washington, and Jacksonville, Florida.

Challenges to achieving recommendation:

Time is of the essence to develop a plan that suits the ports and marine infrastructure. It is essential to bring in ideas and perhaps partner with the private sector and non-profits. Coordinating activities of state, Federal, and private sector stakeholders.

Additional supporting material:

- Natural gas as a marine fuel is becoming a reality in ocean shipping. Bunker ports for filling-up on LNG for ocean going container ships are being created globally. In the U.S. the ports of Jacksonville, FL and Tacoma, WA are in the planning and development stages for ships servicing the Pacific Northwest – Alaska trade and the Southeast – Puerto Rico Trade.
- Evergas is currently constructing a series of at least eight purpose built Multigas carriers in China, intended to trade ethane from Philadelphia, PA (Marcus Hook) and Europe. The Evergas ships' main engines will be dual fuel design meaning they can be powered by diesel fuel or natural gas (or NG byproducts such as ethane).
- Evergas has proved-up new break-through technology with Wärtsilä and will fuel their ships on ethane (the same ethane they carry as cargo). Evergas is now getting the engines

ready to operate on ethane. The ships will still be able to operate on LNG but because the ports in the U.S. are not set up (supply-stations) then ethane is the better choice (for now). Should the vessels operate on NG they will need a fueling supply based in and around the port of Philadelphia to either service directly or through a bunker barge-type system - all with great PA job creating opportunities.

- The new multi-gas ships are able to transport petrochemical gases, including LPG/propane and LNG. The private sector companies attached to this endeavor are: Evergas, Watsila, Ineos Europe and Range Resources.
- Evergas carriers have already been loading propane out of Marcus Hook and Houston. The first loading of propane in Marcus Hook was on September 5, 2015 (this year last month) -therefore this project is already creating and sustaining jobs in the supply chain for Pennsylvanians. The first cargo loading of ethane is expected to take place in the second week of February 2016.
- Opportunities also exist for switching from diesel to natural gas for transportation, cargo handling machinery and structures at the three ports in Pennsylvania.
- Utilization of NG as marine fuel should be explored as part of the ongoing Philly Southport expansion project(s).
- There exists a Pittsburgh Marine Corridor Natural Gas Feasibility Assessment which examined whether realistic opportunities exist for converting inland waterways vessels from diesel to natural gas propulsion. This Assessment, conducted through collaboration between Life Cycle Engineering, 3 Rivers Clean Energy, Marshall University Rahall Transportation Institute, and the Shearer Group, LLC, should be continued. The Port of Pittsburgh should continue to assess requirements for potential fueling sites for the conversion of vessels to LNG. According to U.S. Army Corps of Engineers, Pittsburgh is the third busiest inland port in the United States. About 34 million tons of cargo move through the Port of Pittsburgh each year. Approximately 45,000 jobs are dependent upon this inland waterway transportation system. The U.S. Department of Transportation's Maritime Administration (MARAD) announced in October 2015 that it would provide, through a cooperative agreement, \$730,000 to Pittsburgh Region Clean Cities to convert a towboat engine from diesel to LNG. Results from this demonstration project are expected to help expand the development and availability of natural gas conversion technology for smaller scale tug, tow and harbor vessels. Air emissions data will be collected before and after the conversion, which will allow for operational and emissions comparisons. The Maritime Environmental and Technical Assistance Program (META) grant awarded to the CFCR coalition is the first-ever awarded by the federal government, specifically targeting the marine community operating on the Nation's inland rivers.
- The Pittsburgh Region Clean Cities non-profit organization, the Richard King Mellon Foundation, the Benedum Foundation, and other industry companies have expressed interest in the recent past on such maritime related fuel initiatives.
- Using natural gas instead of diesel as a shipboard fuel reduces sulphur oxide (SOx) emissions by 100 percent; particulate matter (PM) by 91 percent; nitrogen oxide (NOx) by 90 percent; and carbon dioxide (CO2) by 35 percent.
- Shippers (i.e., importers/retailers) are increasingly looking to reduce their carbon footprint and asking ports globally to consider ideas on making their ports "greener".

- Pennsylvania, specifically the Philadelphia region is strategically located for international commerce—it is capable of importing and exporting cargo to/from Europe, South America, and Africa; and Asia through the Suez Canal and importantly next year through the expanded Panama Canal.

Philadelphia Shipyard

- Philadelphia shipyard employs thousands of workers that earn family living wages and benefits.
- Philadelphia’s shipyard is arguably the best pure commercial large shipbuilder in the United States.
- Kinder Morgan Inc. announced in August 2015 that it will buy four product tankers in design and construction at Aker Philadelphia Shipyard for \$568 million. These ships will contain **dual fuel** design main engines capable of operating on natural gas. Crowley Maritime is also building four LNG-ready (**dual fuel**) product tankers at the Aker Philadelphia shipyard. On October 1, 2015, Philadelphia shipyard began production activities on two “Aloha Class” containerships that it is building for Matson Navigation Company. The vessels will be built with dual fuel engines that can be adapted to use LNG.

International Air Quality Regulations for Ships

- Shipowners are considering LNG as a marine fuel for the international trade in order to comply with international regulations— and that depends largely on the availability and supply of natural gas at seaports.
- United Arab Shipping Company is constructing 17 newbuilds that are LNG-fuel ready. The first of the ships, the SAJIR was christened in November 2014 and is the industry’s first ever LNG-ready ultra large container ship. This 14,000-TEU vessel will be joined by ten 15,000 TEU ships and six 18,000-TEU (plus) vessels to be delivered by mid-2016. Mitsui O.S.K. Lines is constructing 6 LNG-fuel ready container ships.
- (MARPOL Annex VI Emission Control Areas (ECAs)). MARPOL Annex VI is an agreement covering pollution from ships and developed through the International Maritime Organization (IMO), a United Nations agency, which has resulted in the establishment of emission control areas. Effective January 1, 2015, the maximum SO_x content in bunker fuel permitted inside ECA zones of the US, North Europe and the Baltic Sea was reduced from 1 percent to 0.1 percent. For waters outside the ECAs, effective 2020, sulfur content in marine fuels will be cut to 0.5 percent. There will be, however, a feasibility review on the practicalities of reaching the 0.5 percent benchmark, scheduled for completion no later than 2018. Based on this review, a group of experts from the IMO's Marine Environment Protection Committee will decide whether it is feasible for ships to comply with the 2020 date, or if the emissions standard should be deferred until January 1, 2025.

Issues to address (such as cost, environmental impacts):

None identified.

Workforce and Economic Development Workgroup

Economic Development Recommendation #6

Develop Targeted Investment, Business Attraction Effects and Regional Energy Hubs

Full recommendation:

Develop a comprehensive statewide strategy to identify and prioritize suitable “targeted areas” for extension or expansion of new natural gas services to support existing and/or new business growth. Part of this statewide strategy will include encouraging and promoting regional energy hubs in order to grow Pennsylvania’s chemical manufacturing base, LNG production opportunities, and other downstream end uses of our natural gas.

Relevant agencies:

DCED

Justification:

The Commonwealth can be a leader in developing strong industrial growth around our shale gas resource by assisting with identifying and prioritizing the most suitable targeted areas for natural gas expansion and aligning potential funding sources with projects as appropriate. This will maximize Pennsylvania job creation and economic development potential.

Actions that would be required to achieve recommendation:

In order to better understand where Pennsylvania can best harness the use of natural gas, pipeline assets need to be mapped (see recommendation Natural Gas Municipal Authorities). State investments will be focused on these areas and to ancillary projects that keep/use natural gas and natural gas liquids in Pennsylvania. Pennsylvania also needs to initiate an active recruitment strategy for bringing new companies to PA by focusing on attracting companies that are large users of energy and/or natural gas in their manufacturing processes, particularly those within 50 miles of cracker plants.

Challenges to achieving recommendation:

Funding

Additional supporting material:

The potential investment in energy hubs is significant and represents billions of dollars of private sector investment and the creation of thousands of jobs. In Philadelphia alone, there are numerous projects in development related to a “Philly Energy Hub” that, if all developed, would result in \$10 billion in investment in the region. This is significant investment in site-specific projects in and around the port of Philadelphia.

Issues to address (such as cost, environmental impacts):

None identified.

Workforce and Economic Development Workgroup

Economic Development Recommendation #7

Collaborate to Promote Downstream Shale Manufacturing Opportunity

Full recommendation:

Maximize the economic development opportunity of shale gas by encouraging the expansion of existing companies and the attraction of new facilities that are large consumers of natural gas for energy and/or use natural gas liquids and their derivatives as raw materials in their manufacturing processes, including working in multi-state, cross-border collaborations where appropriate.

Relevant agencies:

DCED

L&I

DEP

PennDOT

Justification:

The relevant regional energy economies centered around Philadelphia and Pittsburgh – such as the location of companies in the supply chain, as well as the pool of available workers – cross over state lines. Coordination and collaboration with economic development stakeholders, workforce development agencies, etc., from neighboring states can help maximize economic development opportunities.

Actions that would be required to achieve recommendation:

Collaborative efforts are already underway in this area. Governor Wolf signed a Regional Cooperation Agreement with WV and Ohio on this issue in October. The Greater Philadelphia Chamber of Commerce, which covers 11 counties in three states (PA, NJ, DE), has created the Greater Philadelphia Energy Action Team to establish an “Energy Hub” in the Philadelphia region.

Challenges to achieving recommendation:

Developing consensus around an action-oriented agenda.

Additional supporting material:

The PA-OH-WV Regional Cooperation Agreement identifies four potential areas of collaboration: Marketing/Promotion, Workforce, Infrastructure, and Research & Innovation, intended to bring together research institutions in the three states in a focused research collaboration on new natural gas and NGL uses and opportunities.

Issues to address (such as cost, environmental impacts):

None identified.

Workforce and Economic Development Workgroup

Economic Development Recommendation #8

Encourage Virtual Pipeline (Trucking) Delivery Systems

Full recommendation:

Encourage implementation of natural gas “virtual pipeline” (trucking) delivery systems that will facilitate access to businesses and residents who cannot be connected in a cost-effective manner to existing hardline distribution systems.

Relevant agencies:

DCED

Justification:

Virtual pipelines can provide natural gas to users that are too far from existing “hardline” gas delivery systems for extensions to be economically feasible. Delivery by truck can be performed within a wide radius of a compression station located on an existing large-capacity transmission line. In some cases, the virtual pipeline solution may prove to be a temporary solution until such time as connection to a hardline system becomes more justifiable.

Actions that would be required to achieve recommendation:

Creating modest grant or loan programs at relevant state agencies; providing tax incentives for companies implementing virtual pipeline solutions.

Challenges to achieving recommendation:

Funding.

Additional supporting material:

None.

Issues to address (such as cost, environmental impacts):

Higher congestion on roadways; possible locally-restrictive permitting processes.

Workforce and Economic Development Workgroup

Economic Development Recommendation #9

Allow Creation of Natural Gas Municipal Authorities

Full recommendation:

Explore the need to amend the Municipal Authorities Act to allow establishment of natural gas municipal authorities.

Relevant agencies:

DCED

PUC

Justification:

At present, the formation of new municipal authorities to provide natural gas services appears to be significantly restricted or prohibited by language included in the PA Municipal Authorities Act (Title 53 Pa.C.S. §5607(a) and (b)(2)). The ability to establish such authorities may be attractive in some locations as a means of supporting funding to provide natural gas service in areas not planned for by natural gas distribution companies. As compared to other similar options, natural gas municipal authorities could provide advantages for direct control of all governance aspects, ability to issue tax-exempt bonds, eminent domain power, and clearer exemption from PUC regulation.

Actions that would be required to achieve recommendation:

Potentially amending the PA Municipal Authorities Act.

Challenges to achieving recommendation:

Would require legislative change; possible objections from the natural gas distribution companies.

Additional supporting material:

See PA Municipal Authorities Act (Title 53 Pa.C.S. §5607(a) and (b)(2)).

Issues to address (such as cost, environmental impacts):

None identified.

Workforce and Economic Development Workgroup

Economic Development Recommendation #10

Compile Funding and Resource Guidebook

Full recommendation:

Compile a statewide resource and educational guide of funding programs and permitting process, including the state agencies involved. This guide should include success stories and recommendations that will provide support to entities seeking to procure new natural gas services.

Relevant agencies:

DCED

PUC

DEP

PennDOT

Justification:

Companies should have a clear picture of who they need to work with, the process involved, the funding options available, etc.

Actions that would be required to achieve recommendation:

Compilation of this document. Access to this information should be made available through state website.

Challenges to achieving recommendation:

None identified.

Additional supporting material:

None identified.

Issues to address (such as cost, environmental impacts):

None identified.

Workforce and Economic Development Workgroup

Economic Development Recommendation #11

Support Natural Gas for Compliance with Pennsylvania's Clean Power Plan (CPP)

Full recommendation:

Pennsylvania's status as a major energy-producing state has grown over the past two years. Pennsylvania is now the third-largest energy-producing state in the U.S. (on a BTU basis), behind Texas and Wyoming. This change is almost entirely attributable to the growth in natural gas production. According to the Pennsylvania Climate Impacts Assessment Update (May 2015), opportunities exist to reduce carbon emissions, particularly in the areas of low-emissions power generation. According to EPA, the increased use of natural gas for power generation in Pennsylvania, relative to coal and petroleum, has led to a decline in the greenhouse-gas footprint of Pennsylvania's electric generation sector.

Given the economic position that Pennsylvania holds in its global reserve of natural gas, and the opportunities to reduce carbon emissions in the power sector by shifting from coal to natural gas and reducing industrial demand through combined heat and power to comply with the CPP, we strongly recommend consideration of these specific opportunities in PA's solution to reduce carbon.

Relevant agencies:

Governor's Policy Office
DEP
DCED

Justification:

Maintaining PA's economic position as an energy producing state and net energy exporter.

Actions that would be required to achieve recommendation:

Consideration of natural gas fired power plants and combined heat and power as compliance options in the CPP.

Challenges to achieving recommendation:

Balancing natural gas and renewable energy production in achieving compliance with the CPP.

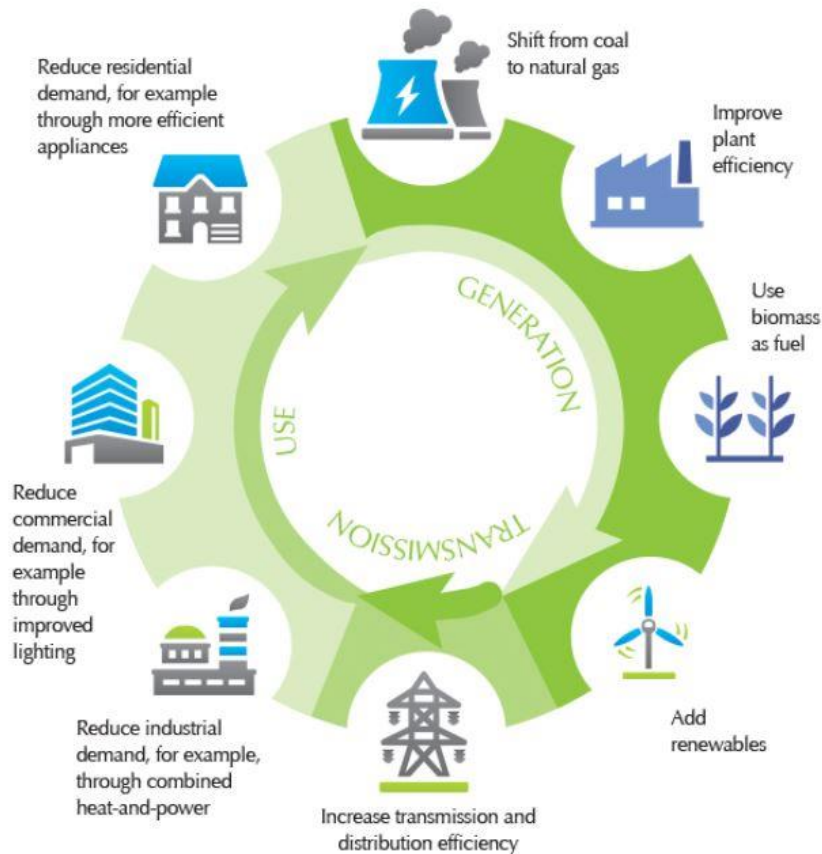
Additional supporting material:

See diagram included below.

On August 3, 2015, the United States Environmental Protection Agency (EPA) adopted Carbon Pollution Standards for Existing Power Plants, known as the CPP. Adopted pursuant to EPA's authority under the Clean Air Act, the Clean Power Plan establishes unique emission rate goals and mass equivalents for each state. It is projected to reduce carbon emissions from the power sector 32 percent from 2005 levels by 2030. Individual state targets are based on national uniform "emission performance rate" standards (pounds of CO₂ per MWh) and each state's

unique generation mix. States have wide latitude in designing their strategies to reduce emissions. In most cases, they will rely on a variety of measures. Major options include substituting natural gas for coal; improving energy efficiency; and increasing reliance on renewable energy.

Opportunities to reduce carbon emissions in the power sector



Issues to address (such as cost, environmental impacts):
None identified.

Workforce and Economic Development Workgroup

For Other Workgroups Recommendations #1

Assess Requirement of Consulting Services for Permitting

Full recommendation:

Analyze cost/benefit of requiring outside consultant services for PA General Permit-5 (stream crossing) permit.

Relevant agencies:

DEP

OA

Justification:

Pennsylvania changed its General Permit-5 (stream crossing) permit process to require specialized outside consulting services to prepare the permit applications, rather than through in-house staff. This change has required additional costs and additional planning time on the part of the company with no additional benefit to environmental restoration. This change should be analyzed to see if there is sufficient additional benefit to justify the additional cost and time to the permit applicant.

Workforce and Economic Development Workgroup

For Other Workgroups Recommendations #2

Ensure Pipeline Permit Consistency

Full recommendation:

Consistency between permitting of transmission and distribution lines should be addressed. Transmission pipelines can be exempted from submitting a site-specific erosion & sedimentation (E&S) plan if they disturb less than five acres during construction. Distribution pipelines do not have access to the same exemption and must prepare E&S plans if greater than one acre is disturbed. (Exempt projects are still subject to other permit conditions which ensure compliance and environmental protection.)

Relevant agencies:

DEP

Workforce and Economic Development Workgroup

For Other Workgroups Recommendations #3

Reform Application of the Pennsylvania Natural Diversity Index (PNDI)

Full recommendation:

PNDI application should be reformed to:

- Allow access on a confidential basis to developers to understand species patterns and sensitive habitats before designing their projects in order to better protect the habitats/species as well as speed the permitting process.
- Bringing consistency to how threatened and endangered species are identified in Pennsylvania by applying a single process for designation to DCNR, the Pennsylvania Game Commission (PGC), and the Pennsylvania Fish & Boat Commission (PFBC), a designation process similar to the one used by the U.S. Fish & Wildlife Service.

Relevant agencies:

DCNR

DEP

PFBC

PGC

Justification:

Under current law, the information on sensitive habitats in PNDI is withheld from pipeline companies (and other developers) until construction plans are submitted. Rather than allowing the design of projects to avoid sensitive areas in the first place, the application of PNDI requires companies to *redesign* projects, often with less-than-complete information which again can delay approval.

APPENDICES

APPENDIX A – TASK FORCE MEMBERS COMMENTS ON RECOMMENDATIONS

AGRICULTURE

#	Comments for "1. Educate Landowners on Pipeline Development Issues"	
1	Education for landowners is critical. Due to the varied regulations for transmission, gathering, and distribution though it can not be oversimplified.	Joe McGinn
2	There should be one consolidated recommendation on a public education effort conducted by the commonwealth, and not several variations. Any public education website or communication materials must first rely on existing, reliable, nonbiased sources of information like the Penn State Extension	Dave Callahan
3	Care should be exercised to ensure the information is "neutral" in nature. I note that operators were not included in the "actions" section of the recommendations. Operators need to be included in the development of any documentation for external stakeholders	Walter Hufford
4	This recommendation should be considered a duplicate or a component of the recommendation related to the creation of a comprehensive statewide information resource center devoted to pipeline development.	Cindy Ivey
5	This is more of a clarification issue between Agencies and should not include regulatory changes.	Duane Peters
6	Penn State Extension would like to discuss opportunities to partner as a education and outreach provider related to this recommendation.	Dave Messersmith
#	Comments for "2. Build a GIS Database of PA's Farmers"	
1	Provided that important information that secures privacy of property owners and the security of infrastructure is in place.	Walter Hufford
2	Along with this database, the locations, types, restrictions, limitations, easement holders, etc. of preserved farms should also be included. When siting infrastructure, operators must have the most up-to-date information regarding current land use in order to make good routing decisions for the entire project.	Cindy Ivey
3	I believed one already exists.	Nictholas Geanopulos

AGRICULTURE AND CONSERVATION AND NATURAL RESOURCES

#	Comments for "1. Develop Best Management Practices Manual for Pipeline Development on Agricultural Operations"	
1	Existing state and federal permitting requirements and other best practices should be considered in developing a best practices manual that is specific to pipeline development for agricultural operations.	Keith Coyle
2	I agree in general, but disagree with certain specific items. For example, something like "no work on Sundays" should not be considered a BMP. That should be left to the landowner and project developer to work out as it pertains to their specific needs.	Joe McGinn
3	The concept of developing a best practices relating to pipeline development and agricultural operations is supportable, as are most, but not all, of the detailed best practices outlined in the recommendation. The entire recommendation cannot be supported. Modifying the recommendation to task the agricultural industry and pipeline industry with collaboratively working on a list of best practices would greatly improve it. In short, this recommendation would benefit from more discussion.	Dave Callahan
4	Many of the prescriptive issues referenced in the recommendation are already addressed through requirements established by the regulatory agencies	Walter Hufford
5	The DEP, through the ESCGP-2 Permit requires the use of Erosion and Sedimentation Control & Post Construction Storm water Management BMP Manuals. These manuals require the protection and use of best practices to avoid and mitigate impacts associated with earth disturbances from the oil and gas industry. The DCNR has similar guidelines and BMPs when constructing on State Lands. When a pipeline is permitted through FERC, operators must follow the FERC plan and procedures set out in the Certificate of Public Convenience and Need.	Cindy Ivey
6	The DEP, through the ESCGP-2 Permit requires the use of Erosion and Sedimentation Control & Post Construction Storm water Management BMP Manuals. These manuals required the protection and use of best practices to avoid and mitigate impacts associated with earth disturbances from the oil and gas industry. In addition, The DCNR already has similar guidelines and BMPs in place as well, when working on State Lands. Lastly, when a pipeline is permitted through FERC those best practices and requirements are followed as well.	Sarah Battisti
7	There are many good elements in this recommendation, however, some of the specific BMPs in the recommendation will limit the ability of the property owner to negotiate with the pipeline company. This recommendation should be rewritten for clarity and submitted to the PITF for further review.	Duane Peters
8	While I can agree with the above statement as a concept worthy of further analysis and discussion, I cannot agree with all of the detail contained in the full recommendation. Therefore, I have noted "Disagree". This comment (which I will refer to as Comment #1) also applies to all other recommendations with which I note "Disagree" unless otherwise noted. Among other general concerns is absence of consideration of private landowner's preferences and lack of explanation as to why different standards need to be applied to natural gas pipeline than to all other earthmoving activities.	Terry Bossert
9	I disagree with this recommendation to the extent it is duplicative of what is already required by existing law and regulation (PADEP requires the use of Erosion and Sedimentation Control & Post Construction Storm water Management BMP Manuals in conjunction with ESCGP-2 permitting). DCNR and FERC also have similar BMP requirements that would already be covered by this proposed manual.	Michael Gross
10	There are Federal Regulations addressing depth of pipes: see 49 CFR 192.327.	Gladys Brown
11	Prudent	Nicholas Geanopoulos
12	How would this relate to pastureland, dairy farming, and other types of agriculture which are not row crops.	Ken Klemow

CONSERVATION AND NATURAL RESOURCES

#	Comments for "1. Communicate Pipeline Development Conservation Practices to the Public"	
1	Agree in principal, but have issues with certian aspects when it comes to mapping and what level of information is shared generally.	Joe McGinn
2	There should be one consolidated recommendation on a public education effort conducted by the commonwealth, and not several variations. Any public education website or communication materials must first rely on existing, reliable, nonbiased sources of information like the Penn State Extension	Dave Callahan
3	Provided that the information is fact based information and limited to protect the rights of the property owners and the operators dealing with security issues	Walter Hufford
4	This recommendation should be considered a duplicate or a component of the recommendation related to the creation of a comprehensive statewide information resource center devoted to pipeline development.	Cindy Ivey
5	The recommendation is unclear as to who will be responsible for the proposed changes. This recommendation should be rewritten for clarity and submitted to the PITF for further review.	Duane Peters
6	Penn State Extension would like to discuss opportunities to partner as a education and outreach provider related to this recommendation.	Dave Messersmith
7	Combine with other recommendations relating to communicating to the public.	Ken Klemow
#	Comments for "2. Develop Public Access to Pipeline GIS Information"	
1	The recommendation does not fully or adequately address the security and safety concerns that arise from the public disclosure of detailed pipeline mapping information.	Keith Coyle
2	I am in general opposed to full public access to GIS information. For all transmisison lines, the information is currently available via the National Pipeline Mapping System. There are legitimate homeland security concerns whiht having this informaiton public to anyone. Happy to expound as appropriate.	Joe McGinn
3	Sharing pipeline mapping information with the public beyond requirements of PHMSA's National Pipeline Mapping System cannot be supported . Pipeline maps represent proprietary and confidential information, for reasons of competitive business advantages, safety and national security. To the extent that the public is concerned about pipeline location, One-Call already conclusively addresses the public's need to know where pipelines are located prior to commencing any activity that would be likely to impact a pipeline. Sharing maps for local emergency management purposes may be advisable as long as the maps are maintained as proprietary, confidential, business information.	Dave Callahan
4	There are serious security issues associated with infrastructure operations that are needed. As written this recommendation is too broad in scope.	Walter Hufford
5	Disagree with all recommendations related to sharing detailed pipeline mapping information with the public beyond requirements of PHMSA's National Pipeline Mapping System. Pipeline maps represent proprietary and confidential information the safety and security of the entire pipeline system. To the extent that the public is concerned about pipeline location, One-Call already conclusively addresses the public's need to know where pipelines are located prior to commencing any activity that would be likely to impact a pipeline. Sharing maps for local emergency management purposes may be advisable as long as the maps are maintained as proprietary, confidential, business information.	Cindy Ivey
6	For reasons of safety, security and business confidentiality public information should not extend beyond the current PHMSA National Pipeline Mapping System. This comment applies to all recommendations for public access to pipeline mapping.	Terry Bossert
7	More information is needed to clarify the recommendation.	Thomas Hutchins
8	While I support providing access to GIS information to first responders and other officials with emergency management responsibilities, due to national security concerns, I cannot support this recommendation, especially given recent immediate concerns regarding domestic terrorism. Pipeline mapping is already available via PHMSA's National Pipeline Mapping System. Further, the One-Call process provides further safeguards in this regard.	Michael Gross

9	This certainly overlaps with other mapping/GIS recommendations by other groups, and implies that determining various levels of access/use will need to be addressed - I would like to be involved in follow-up work on this recommendation after the final report is completed.	Don Kiel
10	Combine with other recommendations relating to use of GIS	Ken Klemow
#	Comments for "3. Use a Landscape Approach for Planning and Siting Right-of-Way Corridors"	
1	The recommendation calls for extensive changes to existing law and industry practice without providing adequate supporting information.	Keith Coyle
2	This is already done by pipeline operators to determine the best route for their pipeline given a list of parameters to consider including environmental impacts, landowner requests, location of T&E species, location of wells to be gathered, etc.	Lauren Parker
3	Many of the concepts in the landscape-level planning approach are already being practiced by the industry which is influenced to do so through economic drivers and the desire to limit environmental impacts. Landscape level planning should not be a regulatory requirement or tool for a local government or the state unless the government owns the surface rights or if such planning is a part of the FERC siting process, for which FERC establishes the timing of release of all information. For non-FERC pipelines, such as gathering lines, the private negotiation with landowners is paramount for the development process and requiring regulatory approval or oversight of landscape planning impermissibly impairs and reduces fundamental property rights of individual landowners .	Dave Callahan
4	While on the surface this recommendation seems logical, executing this approach becomes very problematic with other land uses (agriculture, roads, developments). Pipelines are crossing multiple property owners who view "landscape" planning from different perspectives. There is no "one size -fits all" approach to this issue however it should be discussed further. Note that the recommendation suggests to "minimize permanent and temporary ROW widths" while other sections in this document discuss collocating ROW - which would make the surficial footprint much larger.	Walter Hufford
5	When siting new pipeline facilities, operators base routing decisions on many factors including the regulatory authority of FERC derived from the provisions of the Natural Gas Act ("NGA"), 15 U.S.C. §717, et seq., the regulatory authority derived by PHMSA from the Pipeline Safety Act ("PSA"), 49 U.S.C. §60101, et seq., as well as company expertise related to sound engineering practices, constructability, operational safety for the long-term and minimization of environmental impacts. FERC approves the location, construction, modification, acquisition, operation, and abandonment of interstate pipelines, facilities, and storage fields involved in moving natural gas across state boundaries. Pipeline construction activities are heavily regulated and must adhere to strict environmental permitting standards and inspections. Given that the vast majority of pipelines are located on private property, consideration as to the route of the pipeline will also be heavily determined by the desire of the private landowner.	Cindy Ivey
6	In most instances landscape siting as defined is utilized by pipeline companies. the recommendation places additional requirements on the pipeline industry that are not required of other industries. A true landscape-level approach to planning would also need to take into account other forms of disturbance such as agriculture, urbanization, roads, and timbering. Further, landscape-level planning cannot be a regulatory tool or requirement for local government or the state, unless a government entity owns the surface rights or if such planning (Gamelands, State Forest, etc.) is otherwise a part of the FERC process, in which case, FERC establishes the timing of release of all information. For non FERC projects such as gathering lines, the private negotiation with landowner is necessary for the development process and requiring regulatory approval impermissibly impairs and reduces fundamental property rights of individual landowners without due process. Finally, many of the concepts included in the landscape-level planning approach are already being practiced by pipeline operators who have been influenced to do so through economic drivers or required by already in place conservation regulations.	Sarah Battisti
7	This recommendation provides actions that may conflict with existing laws and agency jurisdictions. Additionally certain proposed actions may cause additional environmental impacts due constructability issues. This recommendation should be rewritten for clarity and submitted to the PITF for further review.	Duane Peters
8	More information is needed t clarify the recommendation.	Thomas Huchins
9	While the concept of landscape level planning in the context of pipeline development is worth further exploration and discussion, I am concerned that if implemented into regulation, such requirements would hamper the timely and efficient development of pipeline infrastructure in Pennsylvania. Many of the techniques embodied in the recommendation are already employed by industry or otherwise required by the agencies such as PADEP and FERC. Finally, this recommendation if implemented should have broader applicability to other land development and/or construction projects (e.g. roads, rail, utilities).	Michael Gross

10	Concerned about potential private landowner rights related to DEP and/or another state agency having authority over pipeline siting.	Dave Messersmith
11	Steel pipes need to be coated per Federal Regulation 49 CFR 192.461.	Gladys Brown
12	Should be constant / Statewide We may have guidelines in place	Nicholas Geanopoulos
13	Combine with other recommendations relating to using a landscape approach. Such an approach would need to include cumulative impacts and other existing / proposed land uses such as agriculture, urbanization, mining, timbering. You want to do this with respect to conservation goals for plants, wildlife, and water quality.	Ken Klemow
#	Comments for "4. Give Special Consideration to Protected / Designated Lands in Pipeline Siting"	
1	The concept of giving special consideration to protected or otherwise designated lands makes sense when siting pipelines through eminent domain. For pipelines that are exclusively sited through the consent of landowners, such as gathering lines, this concept does not apply because the landowner controls whether they wish to allow a pipeline on their property.	Dave Callahan
2	Pipeline operators work with regulatory agencies and property owner to identify, avoid, and mitigate impacts to public lands. PNDI and other regulatory program are already in place and working	Walter Hufford
3	Completely avoiding these lands could result in increased environmental impacts related to alternative routes that may be longer in length, encounter challenging topographical landscapes and affect different types of land use. Operators are required to follow DEP guidelines for additional levels of protection when operations occur in HQ/EV Watersheds via ABACT approved BMPs and additional water quality calculations. In addition the DCNR requires additional protections on State Lands to protect these sensitive lands and species. For gathering pipelines, landowner consent must be obtained and the wishes of the landowner must be adhered to during the siting process.	Cindy Ivey
4	The recommendation states that "mitigation funds should be established in general terms in the permit". I assume that they author is referring to the Chapter 102 or Chapter 105 application. I am not aware of an existing tool that would support this recommendation. This recommendation should be rewritten for clarity and submitted to the PITF for further review.	Duane Peters
5	More information is needed.	Thomas Hutchins
6	The level of "special" consideration should be commensurate with how the protection or designation is assigned. There may be different levels that could be addressed in different manners.	Mark Gutshall
#	Comments for "5. Mitigate the Loss of Public Use of Public Lands Resulting from Pipeline Development"	
1	The recommendation calls for extensive changes to existing law and industry practice without providing adequate supporting information.	Keith Coyle
2	I would suggest this recommendaiton focus on BMPs as opposed to additional regulations.	Joe McGinn
3	The loss of public use of public lands resulting from development is presently mitigated when determining compensation for rights of ways. The State agencies such as DCNR and the Game Commission have extensive expertise in managing the multiple uses of the public lands and balancing the interests of its users. The development and delivery of energy resources is statutorily recognized use of the state's publicly owned lands.	Dave Callahan
4	The wording of "irretrievable losses in perpetuity resulting directly from the developmentis a loss to very individual who will never have that experience" is inappropriate language within the recommendation.	Walter Hufford
5	Development and delivery of natural energy resources is a statutorily recognized use of the state's publicly owned lands. The General Assembly has recognized that doing so serves a necessary and desired public interest. The DEP has a requirement through the Chapter 105 and Chapter 102 permits in both private and public land to restore and/or replace wetlands and/or streams which are temporarily or permanently impacted by oil and gas operations. The PNDI Tool is required for all oil and gas development projects to be utilized prior to obtaining any permits to determine a project will potential impact listed sensitive species or areas in PA. The Pennsylvania Historical Museum Commission requires operators to analyze their database to determine if a project will be in the vicinity of a registered historical area. All of these requirements and agencies must be consulted prior to permits being issued.	Cindy Ivey

6	The DEP has a requirement through the Chapter 105 and Chapter 102 permits in both private and public land to restore and/or replace wetlands and/or streams which are temporarily or permanently impacted by oil and gas operations. The PNDI Tool is required for all oil and gas development projects to be utilized prior to obtaining any permits to determine a project will potential impact listed sensitive species or areas in PA. The Pennsylvania Historical Museum Commission requires operators to analyze their database to determine if a project will be in the vicinity of a registered historical area. All of these requirements and agencies must be consulted prior to permits being issued. With respect to public lands, state agencies such as DCNR and the Game Commission have extensive experience and expertise in managing the multiple uses of the public lands and balancing the interests of its users. It is important to note, as well, that development and delivery of natural energy resources is a statutorily recognized use of the state's publicly owned lands. While development of energy resources is facilitated by private entities, the General Assembly has recognized that doing so serves a necessary and desired public interest.	Sarah Battisti
7	There are a number of items within this recommendation which may addressed through the existing regulatory environment. This recommendation should be rewritten for clarity and submitted to the PITF for further review.	Duane Peters
8	Contingent upon specific (objective based) mitigation vs. general funds	Mark Gutshall
9	I know that some in the gas industry see this as silly.	Ken Klemow
#	Comments for "6. Avoid Geological Hazards During Planning"	
1	The recommendation calls for extensive changes to existing law and industry practice without providing adequate supporting information.	Keith Coyle
2	This is already done and included in the due diligence work required for the ESCGP-2 submission package to the PADEP.	Lauren Parker
3	This is not a realistic recommendation for one industry to avoid certain areas while other industries can develop in those areas.	Dave Callahan
4	This recommendation demonstrates the need for additional education on seismicity and what efforts are taken to manage the potential for seismic events, not only from pipeline operators, but infrastructure (i.e. bridges, power plants, dams) and construction (i.e. buildings)	Walter Hufford
5	Avoidance of all geologic hazards is not always possible with the development of any linear infrastructure project. Pipelines should be designed and engineered to withstand the geologic conditions along a pipeline route. Note that completely avoiding all known geologic hazards could result in increased environmental impacts related to alternative routes that may be longer in length, encounter challenging topographical landscapes and affect different types of land use.	Cindy Ivey
6	Pipeline construction depth is much too shallow to have any affect on areas where there has been "recorded seismicity". This is not a realistic recommendation specific only to natural gas gathering lines. Pipeline operators already have compelling reason to avoid or mitigate any potential harm to their infrastructure.	Sarah Battisti
7	I would like to see this recommendation rewritten to study existing information related to constructing pipelines within active seismic zones and develop BMPs accordingly. This recommendation should be rewritten for clarity and submitted to the PITF for further review.	Duane Peters
8	The degree of hazard should be articulated with varying levels instead of blanket statement. Which, may allow a low level risk scenario to be part of a plan	Mark Gutshall
9	Combine with similar recommendation in Environmental Protection.	Ken Klemow
#	Comments for "7. Implement Full-Time Environmental Inspections During Pipeline Construction"	
1	The recommendation calls for extensive changes to existing law and industry practice without providing adequate supporting information.	Keith Coyle
2	The current system of third party inspectors tends to work well. They are boots on the ground with the costs born on the pipeline companies.They have the authority to shut down work on any of our projects. I do not see how moving this burden to the public sector will add benefit to the Commonwealth or the process.	Joe McGinn
3	The concept of the state having adequate inspectors to monitor permitted activities is supportable. However, recommending inspectors every 5 miles is arbitrary and lacks any real basis. The Department should determine how and where to deploy its inspectors.	Dave Callahan
4	As written this recommendation is not practical. The DEP is best suited to review and update an inspection program that is fit for purpose.	Walter Hufford

5	Standards for inspection during earthmoving activities should be consistent across industries. Inspectors have the authority to stop work if a violation occurs. The regulatory agencies should determine the deployment of inspectors according to the size and scope of the project.	Cindy Ivey
6	Standards for inspection during earthmoving should be consistent across industries and not single out one particular industry. Inspectors do have the authority to stop work should a violation necessitate doing so. The regulatory agency should determine how it deploys its inspectors and not adopt an arbitrary location; moreover, construction of pipelines is incremental, so it is highly doubtful that there would ever be 5 miles of active construction.	Sarah Battisti
7	More information is needed.	Thomas Hutchins
8	This recommendation would place an undue burden on the budget of PADEP; there are other more pressing needs for funding in other areas outside the realm of pipeline development such as the Hazardous Sites Cleanup Program which has been underfunded for years and presents a more urgent environmental problem for the Commonwealth. This recommendation would divert from other PADEP programs and would deliver no meaningful environmental protection benefit. I am not opposed to pipeline inspections; just not at this magnitude.	Michael Gross
9	Bonded personnel at the companies expense	Nicholas Geanopolos
10	Inspectors and monitors could be employed by others outside of government	Mark Gutshall
11	This could be cost prohibitive if done solely by DEP Companies have their own inspectors. Also consider supplementing with trained volunteers.	Ken Klemow
#	Comments for "8. Monitor Water Quality During Construction"	
1	The recommendation calls for extensive changes to existing law and industry practice without providing adequate supporting information.	Keith Coyle
2	Agree with concept of water monitoring and we currently do monitor water quality during construction. Have concerns with language such as "continuous" monitoring as one example.	Joe McGinn
3	Pipeline construction is a temporary activity that is regulated by stringent state and federal permits. There is no compelling reason to arbitrarily require this if the site is properly permitted	Dave Callahan
4	This recommendation suggests that pipeline companies will exercise greater caution and care during and post construction. Pipeline construction operations are temporary in nature and regulations are in place and enforced that protect water quality. In the event of an incident , DEP staff and other agencies are trained and knowledgeable about what monitoring needs to take place and be implemented. It is not correct to suggest, as this recommendation does that "inspection agencies are typically not equipped or knowledgeable".	Walter Hufford
5	Pipeline construction is a temporary activity that is regulated by state and federal environmental permits to protect waterways. Established construction windows protect against impacts to waterways and other natural resources, and permittees are required to monitor well beyond the duration of the disturbance.	Cindy Ivey
6	Pipeline installation is a temporary activity, extensively regulated by state and federal environmental permits to protect against impacts to waterways. Permittees are already required to protect against impacts to waterways and other natural resources well beyond the duration of the disturbance. There does not appear to be a compelling case to arbitrarily require water quality monitoring if the site is properly permitted and inspected. Moreover, given the temporary nature of the earth disturbance, it would appear there are numerous other activities, which are more disruptive and permanent in nature, that would not be held to the same standard proposed here. The DEP spent years developing and doing research on E&S BMPs within the required manual for use on all linear construction activities to protect sediment laden runoff from entering streams. It is also a requirement of all ESCGP-2 permits to maintain these controls so that this does not occur. When a runoff event does occur an operator is required to take the appropriate steps to determine any impact that may have occurred, and to remediate the impact. Lastly, the DEP has added new and innovative BMPs to the manual and there is a technical process for doing this.	Sarah Battisti
7	It appears that the author wishes to investigate the effectiveness of BMPs. The recommendation should be rewritten to promote a scientific and literature study of existing BMPs. The results of the study would aid in the revision of PADEP E&S policies.	Duane Peters
8	More information is needed.	Thomas Hutchins

9	Recommendation would not facilitate any environmental protection benefit and would impose unreasonable costs on pipeline operators. Existing law requires implementation of E&S protection measures to avoid adverse water quality impacts.	Michael Gross
10	Absolutely	Nicholas Geanopoulos
11	Baseline monitoring prior to construction should be considered in HQ and EV locals	Mark Gutshall
12	Combine with Environmental Protection recommendation. Team up with universities and Trout Unlimited to accomplish this. Monitoring should be done before and after construction as well.	Ken Klemow
#	Comments for "9. Implement Post-Construction Monitoring for an Appropriate Period"	
1	The recommendation calls for extensive changes to existing law and industry practice without providing adequate supporting information.	Keith Coyld
2	There are already requirements for post-construction monitoring by the USACE for stream and wetland crossings. Post-construction monitoring is also required by the PADEP for the entire right of way until the permit is closed out.	Lauren Parker
3	Pipeline construction is a temporary activity that is regulated by stringent state and federal permits. There is no compelling reason to arbitrarily require this if the site is properly permitted and the site has been reclaimed and stabilized, and the permit terminated.	Dave Callahan
4	It is not appropriate to suggest a 5 year monitoring program for post-construction monitoring. Focusing on pipeline construction and not including other developments such as dredging, agriculture, other developments implies that pipelines are the sole cause of changes in environmental conditions.	Walter Hufford
5	Agree conceptually. Pipeline installation is a temporary activity, extensively regulated by state and federal environmental permits to protect against impacts. The recommendation should focus instead on best management practices that allow for full restoration and reclamation regardless of the timeframe--which could be shorter or longer than any prescribed timeframe.	Cindy Ivey
6	Once the pipeline is installed, the ROW is reclaimed and stabilized.	Sarah Battisti
7	Prudent	Nicholas Geanopoulos
8	Data should be made available to public for potential continuation of longer term monitoring by interested parties	Mark Gutshall
9	Work with university researchers, Trout Unlimited, and others. We NEED to document successes and failures.	Ken Klemow
#	Comments for "10. Tie Permitting Standards to the Duration of Impact"	
1	Permitting standards are already tied to the impact. Temporary vs permanent impacts have different requirements.	Lauren Parker
2	Current state and federal permits more than adequately address impacts. Pipeline installation is a temporary activity with temporary impacts.	Dave Callahan
3	The "justification" section of this recommendation stating the "pipelines do have impacts to our waterways and wetlands" is broad and lacks rigor. All human activity can have impacts on our waterways and wetlands. The issue is to further a discussion on a "fit for purpose" approach that evaluate the temporary nature of pipeline construction as it relates to these waterways and wetlands, what permitting standards are in place currently for these areas of interest and what, if any, additional steps should be evaluated for future work.	Walter Hufford
4	There are DEP and the USACE regulations in place to protect against the potential impacts from pipeline construction. Both the Pennsylvania State Programmatic General Permit (PASPGP) and the ESCGP permit hold operators to stringent standards during the construction of a pipeline until the site is restored and the permit can be terminated.	Cindy Ivey
5	There are regulations in place by the DEP and the USACE to protect against the potential impacts from pipeline constructions, which are temporary in nature. The Pennsylvania State Programmatic General Permit (PASPGP) and the ESCGP permit hold operators to stringent standards during the construction of a pipeline until the site is restored and the permit can be terminated.	Sarah Battisti
6	I believe this recommendation is already addressed in existing regulations.	Duane Peters

#	Comments for "11. Implement a Mitigation Bank to Improve Water Quality"	
1	I agree with implementing a mitigation bank but feel "to Improve Water Quality" should be removed from the title. Mitigation banks provide more than just water quality benefits and shouldn't be limited to that.	Lauren Parker
2	I believe conditions in the permits issues by state and federal agencies is the best may to address water quality issues for specific projects.	Joe McGinn
3	Mitigation is a tool that should be exclusively used to address permanent impacts. As previously noted, the construction of pipelines is a temporary activity with temporary impacts. This is a fact recognized by state and federal permits, alike.	Dave Callahan
4	While this approach has historically been used for "permanent" takings, the issue warrants further discussion. This approach could possibly be used with state owned property, who receive payments for ROW and production royalty payments. The approach becomes more problematic in application when dealing with hundreds of property owners.	Walter Hufford
5	If needed	Nicholas Geanopoulos
6	This could also include "Offsets" and serve as a way for municipalities to comply with MS4 and TMDL regulations	Mark Gutshall
7	Mitigation bank should be in same sub-watershed, if possible. Combine with Environmental Protection recommendation.	Ken Klemow
#	Comments for "12. Reduce Forest Fragmentation in Pipeline Development"	
1	Where feasible, operators route pipelines in open fields/non-forested areas. forested areas cost more for construction and are not the preferred route. When a pipeline is installed in a forest, there are specific reasons as to why it needed to be in that location and the pipeline operator will limit the impacts to the extent practicable.	Lauren Parker
2	When possible	Joe McGinn
3	The siting of the vast majority of pipelines, especially gathering lines, is entirely dependent on the willingness and the wishes of the landowner. Furthermore, with respect to landscape level planning, many of the concepts in the landscape-level planning approach are already being practiced by the industry who are influenced to do so through economic drivers and the desire to limit environmental impacts. Landscape level planning should not be a regulatory requirement or tool for a local government or the state unless the government owns the surface rights or if such planning is a part of the FERC siting process, for which FERC establishes the timing of release of all information. For non-FERC pipelines, such as gathering lines, the private negotiation with landowners is paramount for the development process and requiring regulatory approval or oversight of landscape planning impermissibly impairs and reduces fundamental property rights of individual landowners without due process.	Dave Callahan
4	Comments in this recommendation that "the loss of nearly all habitat functions is often permanent, disrupting wildlife populations and native plant communities" is not acceptable. Operators work with the state agencies with management authority for development of state lands to minimize impacts. This is done with private property owners too. To suggest that these agencies and operators are not responsibly developing resources and already minimizing forest fragmentation is not accurate.	Walter Hufford
5	Could agree conceptually, but this recommendation could benefit from further discussion. The recommendation--if implemented--should apply to all development in the Commonwealth. Note that completely avoiding forested areas could result in increased environmental impacts related to alternative routes that may be longer in length, encounter challenging topographical landscapes and affect different types of land use--especially agriculture and possibly preserved farms. For FERC projects, the commission approves the location, construction, modification, acquisition, operation, and abandonment of interstate pipelines, facilities, and storage fields involved in moving natural gas across state boundaries. For gathering lines, a pipeline can only be placed where a willing landowner will authorize it.	Cindy Ivey
6	This recommendation provides actions that may conflict with existing laws and agency jurisdictions or lack existing regulatory mechanisms. Additionally certain proposed actions may cause additional environmental impacts due constructability issues and interrupt gas services for extended periods of time. This recommendation should be rewritten for clarity and submitted to the PITF for further review.	Duane Peters
7	Combine with Environmental Protection recommendation.	Ken Klemow

#	Comments for "13. Promote Biodiversity in Pipeline Development"	
1	Agree with concept in general, but the ultimate decision land use decision must revert back to the individual landowner. What may be best for state lands, may not be appropriate for an individual landowner.	Joe McGinn
2	Existing law and regulation protect threatened and endangered species. Development carries with it obligations to undertake certain practices to certain areas where threatened and endangered species are present. The concepts included in the actions necessary to implement the regulation ignore the fact that individual property owners dictate how their land is used and restored. It would be acceptable for the state to make educational resources available to property owners to take any of the actions necessary to implement the recommendation.	Dave Callahan
3	Operators must also be guided by the desires of the landowner where the pipeline is located.	Cindy Ivey
4	I believe that this recommendation is already addressed through existing regulatory authorities. Perhaps this recommendation should be rewritten to recommend improving the existing process and submitted to the PITF for further review.	Duane Peters
5	Combine with Environmental Protection recommendation.	Ken Klemow
#	Comments for "14. Develop Rare Species Work Windows to Avoid Impacts"	
1	There are already work windows in place for certain species.	Lauren Parker
2	Would agree if language change from "develop" to "adhere to"	Joe McGinn
3	Existing law and regulation protect threatened and endangered species. Development carries with it obligations to undertake certain practices to certain areas where threatened and endangered species are present.	Dave Callahan
4	This is already done	Walter Hufford
5	Construction windows already exist for threatened and endangered species and are covered by the conditions of various permits required for construction activities.	Cindy Ivey
6	Activities associated with pipeline construction already requires acquisition of permits, such as those under Chapter 102 and 105, which require utilization of the PNDI tool to identify threatened and endangered species and other species of special concern. The conservation and mitigation efforts dictated by the presence of certain species, if applicable, already dictates which times of the year that work can occur	Sarah Battisti
7	Already required by existing law through PNDI process. Further, opponents of pipeline construction could take the position that there is no appropriate time or season to engage in pipeline development as the presence and activity of such species arguably occurs throughout the year.	Michael Gross
8	This needs to be done in a manner that is reasonable to allow work to occur. ie, certain types of work could be performed within the window if it is not related a direct impact. Opportunity for negotiations site by site.	Mark Gutshall
#	Comments for "15. Minimize Impacts to Riparian Areas at Stream Crossings"	
1	This is already a requirement in accordance with Pa Code 25, Chapter 102.14	Lauren Parker
2	This is already done	Walter Hufford
3	This is already required under PA Chapter 105 for riparian buffer areas at pipeline stream crossings. Many operators employ techniques to minimize impacts to waterways, including narrower ROW at stream crossings.	Cindy Ivey
4	This is already required under PA Chapter 105 for riparian buffer areas at pipeline stream crossings. Many operators employ techniques to minimize impacts to waterways, including narrower ROW at stream crossings.	Sarah Battisti
5	This recommendation is already addressed within existing regulations.	Duane Peters
6	Already required by existing law (Chapter 105 Water Obstructions and Encroachment).	Michael Gross
7	Combine with Environmental Protection recommendation.	Ken Klemow
#	Comments for "16. Promote Wildlife Habitat Opportunities Along Pipeline Corridors"	
1	Existing law and regulation protect threatened and endangered species. Development carries with it obligations to undertake certain practices to certain areas where threatened and endangered species are present. The recommendation ignores the fact that individual property owners dictate how their land is used and restored. It would be acceptable for the state to make educational resources available to property owners to implement the recommendation.	Dave Callahan
2	Many operators strive for this and are required to develop mitigation and avoidance plans in the case of listed species and habitats within the PNDI tool.	Cindy Ivey

3	This recommendation is already addressed within existing regulations and industry BMPs.	Duane Peters
4	Combine with Environmental Protection recommendation. Consider food chain support. Game and non-game species.	Ken Klemow
#	Comments for "17. Restore and Maintain a Border Zone in Forested Areas"	
1	Ensuring the safety and integrity of the pipeline and right-of-way area, including for purposes of performing any required surveys, tests, or inspections, should be a foremost concern in developing any best practice.	Keith Coyle
2	Agree assuming the this recommendation is implemented in a way not to conflict with PHMSA regulations.	Joe McGinn
3	This recommendation ignores the fact that the landowner dictates plantings sand other attributes of the ROW. I would not oppose the state making educational materials available to landowners help implement this recommendation.	Dave Callahan
4	Operators work with property owners and land mangers, and regulatory agencies on this issue	Walter Hufford
5	Disagree. Operators need to maintain a clear visual of their rights of way. Any plantings within the permanent easement must be done in a manner that does not compromise pipeline integrity. Note that operators must also be guided by the desires of the landowner where the pipeline is located. Operators typically work with the landowner to determine what plantings will occur. There is no 'one-size-fits-all' approach that works best.	Cindy Ivey
6	Combine with Environmental Protection recommendation.	Ken Klemow
#	Comments for "18. Minimize Aesthetic Impacts in Pipeline Development"	
1	This should be done on an individual basis with the preferences of the landowner and the developer the priority.	Joe McGinn
2	Careful planning and thoughtful construction design are important, both for the landowner and the pipeline operator. This recommendation ignores the fact that the landowner dictates plantings and other attributes of the ROW. Perhaps this recommendation could be reworded to allow the state to make educational materials available to landowners help implement this recommendation or limit its application to instances where the state or municipal government are the property owner .	Dave Callahan
3	This is accomplished with land owners, land managers and regulatory agencies working with the operators	Walter Hufford
4	Special attention should be granted to landowner issues that express an interest in particular needs or desires. This should require a licensed Landscape Architect if the landowner may a request for landscape restoration.	Mark Gutshall
5	Combine with Environmental Protection recommendation. May be necessary to take slopes perpendicularly, rather than at an angle.	Ken Klemow
#	Comments for "19. Minimize Recreational Impacts in Pipeline Development"	
1	Careful planning and thoughtful construction design are important, both for the landowner and the pipeline operator. The pipeline operator works with the landowner to accommodate the landowner's desires as much as is feasible. This recommendation assumes that the landowner would want or allow their property to be used for recreational purposes. Perhaps it could be reconfigured to apply to state or municipally-owned land.	Dave Callahan
2	The pipeline operator works with landowners and tries to accommodate the landowners' desires as much as is feasible depending on sound engineering practices, constructability, operational safety for the long-term and minimization of environmental impacts.	Cindy Ivey
3	Potential dangers	Nicholas Geanopulos
#	Comments for "20. Provide Recreational Opportunities in Pipeline Development"	
1	Gathering pipeline right of ways are on private property and as such, cannot be used for recreational uses. Additionally, it is important to have adequate vegetative cover on the right of ways so many recreational activities that could use the right of way (ATVs, 4-wheeling, etc) would disturb the vegetation and potentially cause erosion.	Lauren Parker
2	Again, this should be a individual landowner decision. What may be best for DCNR lands, may not be for an individual township or landowner.	Joe McGinn
3	Careful planning and thoughtful construction design are important, both for the landowner and the pipeline operator. The pipeline operator works with the landowner to accommodate the landowner's desires as much as is feasible. This recommendation assumes that the landowner would want or allow their property to be used for recreational purposes. Perhaps it could be reconfigured to apply to state or municipally-owned land.	Dave Callahan
4	There are occasions where recreational opportunities can be enhanced with pipeline ROWs. These occasions are location specific and take into consideration areas where recreational opportunities should not occur (i.e. environmentally sensitive areas) and take into account legal liability issues.	Walter Hufford

5	Consideration of outdoor recreation accessible to the public may be appropriate for public lands, but is not a consideration for private lands, where a significant portion of pipeline development occurs. Although outdoor recreational activities are not prohibited on pipeline rights of way, areas of congregation (such as soccer fields, camps, etc) could potentially change the class location of a pipeline.	Cindy Ivey
6	Agree but only for public land. I remain concerned about potential private landowner rights related to public recreational use of privately owned lands.	Dave Messersmith
#	Comments for "21. Reseed Right-of-Ways Using Native Plants"	
1	As with many other recommendations dealing with ROWs, this recommendation should recognize that the landowner largely dictates the attributes of the ROW.	Dave Callahan
2	Operators strive to do this already but must address private property owner requests	Walter Hufford
3	Industry has proposed to do this where permitted by the DEP and other agencies. Operators must work with the landowner to ensure that site restoration meets the landowner's desires, while also fulfilling the operator's obligations for restoration and reclamation.	Cindy Ivey
4	Industry has proposed to do this where permitted by the DEP and other agencies. Operators must, of course, work with the landowner and try to ensure that site restoration meets the landowner's desires, while also fulfilling the operator's obligations to protect against impacts to waterways.	Sarah Battisti
5	Agree but subject to the requirements of the individual landowner.	Michael Gross
6	Please identify and avoid native plants that may be aggressive or become problem weeds for agricultural landowners.	Dave Messersmith
7	This should not be limited to seeding. Native shrubs and trees should also be considered where applicable, designated, or directed	Mark Gutshall
8	Combine with Environmental Protection recommendation. I'd be happy to work more on this one.	Ken Klemow
#	Comments for "22. Use Pennsylvania-Sourced Plant and Seed Vendors and Landscape Services"	
1	While we currently adhere to using local vendors as much as possible, I do believe it should be an individual decision.	Joe McGinn
2	As written it is too detailed by requiring certain qualifications for those who perform landscape restoration services. The general concepts included in this recommendation are supportable. And, it should be mentioned again that the landowner dictates the attributes of the ROW. This recommendation should be modified to simply state that industry should utilize native plant species, rather than being specific on a particular vendor.	Dave Callahan
#	Comments for "23. Require Performance-Based Metrics for Long-Term Maintenance of Right-of-Ways"	
1	Maintain consistency with existing regulatory requirements where applicable.	Keith Coyle
2	This appears to be addressed in existing permits	Dave Callahan
3	This is already done	Walter Hufford
4	DEP and USACE already require this.	Cindy Ivey
5	There are a number of good ideas in this recommendation but is unclear how this recommendation would be folded into existing regulations. This recommendation should be rewritten for clarity and submitted to the PITF for further review.	Duane Peters
6	Already required by existing law.	Michael Gross
7	This should be a component of a comprehensive management strategy for ROW's	Mark Gutshall
#	Comments for "24. Prevent Invasive Plant Species Establishment"	
1	This would be extremely difficult/impossible to implement if there are nearby invasive species. The operator cannot be responsible for invasives located just outside of the right of way that continually grow into the right of way. #21 is a more appropriate expectation of operators where they can be responsible to not introduce invasives.	Lauren Parker
2	In concept, I agree, but the actions required should be BMPs. For example, washing every vehicle that enters a ROW would be virtually impossible.	Joe McGinn

3	The concept of preventing invasive plant species establishment is supportable. However, the highly prescriptive activities to carry out the recommendation would benefit from a cost-benefit analysis on this and other industries. This recommendation should be simplified and clarified to provide that the state and developers from all industries and landowners should work collaboratively to address invasive plant species.	Dave Callahan
4	Pipeline operators work to limit invasive plant species establishment. The report needs to acknowledge that this issue is broader in scope than just this industry.	Walter Hufford
5	Combine with Environmental Protection recommendation.	Ken Klemow
#	Comments for "25. Finalize Functional Protocols for Impacts and Offsets"	
1	This is a pending policy currently being considered.	Duane Peters
#	Comments for "26. DEP Should Follow the 2008 Final Mitigation Rule for all Mitigation Sites"	
1	I would like more time to understand this rule and the implications of this recommendation	Walter Hufford
2	disagree with the statement regarding not using public lands for mitigation sites. This is a lost opportunity for over 5 million acres in PA.	Michael DiMatteo
3	There should be opportunities for municipalities to leverage restoration opportunities and their benefits for MS4 and TMDL requirements. This may not necessarily be referenced in the 2008 Rule	Mark Gutshall

COUNTY GOVERNMENT

#	Comments for "1. Counties Should Partner in Implementation of Task Force Recommendations"	
1	To the degree they have the capability and interest in doing so	Mark Gutshall
#	Comments for "2. Counties Should Include Pipelines Development in County Comprehensive Plans"	
1	This recommendation does not take in the regulatory complexity of pipeline development.	Joe McGinn
2	Counties should consider pipeline development for planning purposes, but the recommendation appears to address issues that are not appropriate for local regulation.	Keith Coyle
3	Counties cannot provide setbacks for pipelines. Counties and municipalities can control only the location of above-ground structures through zoning. Sharing pipeline mapping information with the public beyond requirements of PHMSA's National Pipeline Mapping System cannot be supported. Pipeline maps represent proprietary and confidential information, for reasons of competitive business advantages, safety and national security. To the extent that the public is concerned about pipeline location, One-Call already conclusively addresses the public's need to know where pipelines are located prior to commencing any activity that would be likely to impact a pipeline. Sharing maps for local emergency management purposes may be advisable as long as the maps are maintained as proprietary, confidential, business information.	Dave Callahan
4	Any state law or local ordinance purporting to regulate interstate pipeline facilities would be preempted. Under the provisions of the Natural Gas Act, FERC has exclusive regulatory jurisdiction with regard to the siting of pipeline facilities. Under the provisions of the Pipeline Safety Act, the USDOT and PHMSA have exclusive regulatory jurisdiction with regard to the safety standards that apply to the design, installation, inspection, emergency plans and procedures, testing, construction, operation and maintenance of pipeline facilities. Disagree with all recommendations related to sharing detailed pipeline mapping information with the public beyond requirements of PHMSA's National Pipeline Mapping System. Pipeline maps represent proprietary and confidential information the safety and security of the entire pipeline system. To the extent that the public is concerned about pipeline location, One-Call already conclusively addresses the public's need to know where pipelines are located prior to commencing any activity that would be likely to impact a pipeline. Sharing maps for local emergency management purposes may be advisable as long as the maps are maintained as proprietary, confidential, business information.	Cindy Ivey
5	As requests come- they should be included	Nicholas Geanopoulos
6	This should be a voluntary option for those counties who residents have chose to do so. This should be a local decision.	Mark Gutshall

#	Comments for "3. Counties Should Make GIS Mapping Available to Operators and Require Them to Provide Their Mapping to Counties and Municipalities"	
1	Oppose any recommendation to share pipeline mapping information with the public beyond requirements of PHMSA's National Pipeline Mapping System. Pipeline maps represent proprietary and confidential information, for reasons of competitive business advantages, safety and security. To the extent that the public is concerned about pipeline location, One-Call already conclusively addresses the public's need to know where pipelines are located prior to commencing any activity that would be likely to impact a pipeline. Sharing maps for local emergency management purposes may be advisable as long as the maps are maintained as proprietary, confidential, business information.	Keith Coyle
2	Sharing pipeline mapping information with the public beyond requirements of PHMSA's National Pipeline Mapping System cannot be supported. Pipeline maps represent proprietary and confidential information, for reasons of competitive business advantages, safety and national security. To the extent that the public is concerned about pipeline location, One-Call already conclusively addresses the public's need to know where pipelines are located prior to commencing any activity that would be likely to impact a pipeline. Sharing maps for local emergency management purposes may be advisable as long as the maps are maintained as proprietary, confidential, business information.	Dave Callahan
3	Disagree with all recommendations related to sharing detailed pipeline mapping information with the public beyond requirements of PHMSA's National Pipeline Mapping System. Pipeline maps represent proprietary and confidential information the safety and security of the entire pipeline system. To the extent that the public is concerned about pipeline location, One-Call already conclusively addresses the public's need to know where pipelines are located prior to commencing any activity that would be likely to impact a pipeline. Sharing maps for local emergency management purposes may be advisable as long as the maps are maintained as proprietary, confidential, business information.	Cindy Ivey
4	While I support providing access to GIS mapping information to first responders and other officials with emergency management responsibilities, due to national security concerns, I cannot support this recommendation, especially given recent immediate concerns regarding domestic terrorism (See Congressional Research Service Report, August 16, 2012, "Pipeline Cybersecurity Federal Policy" at http://fas.org/sgp/crs/homesecc/R42660.pdf noting "pipelines in the United States have been the target of several confirmed terrorist plots and attempted physical attacks since September 11, 2001." Pipeline mapping is already available via PHMSA's National Pipeline Mapping System. Further, the One-Call process provides further safeguards in this regard.	Michael Gross
5	Recommend adding other relevant agencies, including County Commissioners Association of PA & County GIS Professional Association.	Gladys Brown
6	This certainly overlaps with other mapping/GIS recommendations by other groups, and implies that determining various levels of access/use will need to be addressed - I would like to be involved in follow-up work on this recommendation after the final report is completed.	Don Kiel
7	Combine with other GIS-related initiatives.	Ken Klemow
#	Comments for "4. Develop Training Opportunities for County Officials"	
1	I would amend to suggest materials be made available. Many of these materials already exist.	Joe McGinn
2	The checklists for public officials and landowners could serve as the basis for training courses.	Cindy Ivey
3	State should handle	Nicholas Geanopoulos
#	Comments for "5. Develop Tools to Educate the Public on Pipeline Development"	
1	I question this recommendaiton on the cost benefit and the true interest of the public. I would be ok wiht a BMP that encourages pipeline developers to do more on education.	Joe McGinn
2	Note that operators were not included in the develop of the tools in this recommendation	Walter Hufford
3	There should be one consolidated recommendation on a public education effort conducted by the commonwealth, and not several variations. Any public education website or communication materials must first rely on existing, reliable, nonbiased sources of information like the Penn State Extension	Dave Callahan
4	This recommendation is duplicative or could be considered a component of the statewide information resource center.	Cindy Ivey
5	Should also include operations, maintenance, safety and emergency procedures	Michael DiMatteo
6	Penn State Extension would like to discuss opportunities to partner as a education and outreach provider related to this recommendation.	Dave Messersmith

7	Combine with other education recommendations.	Ken Klemow
#	Comments for "6. Operators Should Engage in Timely Communications"	
1	I agree with the concept, but real concerns about confidentiality apply here. We do currently adhere to a version of this which I believe is a BMP. Regulating dialogue will not improve it.	Joe McGinn
2	Agree to the general topic. Landowners must be the first to be engaged, not the county.	Lauren Parker
3	Additional legislation and regulations are not necessary	Walter Hufford
4	This recommendation is addressed within the FERC NEPA process.	Duane Peters
5	Of course	Nicholas Geanopoulos
6	Combine with other outreach recommendations.	Ken Klemow
#	Comments for "7. Develop Advisory Standards for Pipeline Setbacks and Buffers"	
1	PHMSA regulations establish a buffer. This should be left to a federal standard.	Joe McGinn
2	Counties and municipalities can control only the location of above-ground structures through zoning. The DEP regulates pipeline setbacks from streams and wetlands under Chapter 105. The PA PUC and Federal DOT, through PHMSA regulates pipeline construction safety through a class system, which is based on the proximity to homes and businesses.	Dave Callahan
3	There are more than 300,000 miles of pipeline infrastructure across the United States. When expanding existing pipeline systems, operators will attempt to use and expand existing rights of way. Operators could not adhere to standards related to buffers because of the encroachments that already exist. Note that employing buffers could result in alternative routes that may increase environmental impacts due to increased length and land use.	Cindy Ivey
4	I would like to see this recommendation rewritten to specifically identify types of pipelines.	Duane Peters
5	Some are already in place, but more detail could be provided to compliment offset and mitigation requirements	Mark Gutshall
6	Combine with Environmental Protection recommendation.	Ken Klemow
#	Comments for "8. Amend Municipalities Planning Code to Empower County Comprehensive Plan"	
1	This is not a best management practice. It is a legislative proposal, which is outside the scope of the PITF recommendations. Counties and municipalities can control only the location of above-ground structures through zoning.	Dave Callahan
2	Any state law or local ordinance purporting to regulate interstate pipeline facilities would be preempted. Under the provisions of the Natural Gas Act, FERC has exclusive regulatory jurisdiction with regard to the siting of pipeline facilities. Under the provisions of the Pipeline Safety Act, the USDOT and PHMSA have exclusive regulatory jurisdiction with regard to the safety standards that apply to the design, installation, inspection, emergency plans and procedures, testing, construction, operation and maintenance of pipeline facilities.	Cindy Ivey
3	Note that FERC has primary jurisdiction over interstate pipelines.	Gladys Brown
4	If or as needed	Nicholas Geanopoulos
#	Comments for "9. Consider Opportunities for Shared Right-of-Ways"	
1	Agree with the new language changes.	Joe McGinn
2	This is already done and where possible, utilized. There are many limitations including highway rights of ways that could be used for future expansion, safety concerns related to overhead electric lines, etc.	Lauren Parker
3	Companies already explore these opportunities. Commercial, environmental permitting, landowner wishes and other concerns take precedent when deciding whether to co-locate or share. A recommendation to consider the use of shared right of ways, such as a modified Environmental Protection Working Group recommendation number 17 could be supportable. Perhaps it could be modified to read: Where practicable, safe, and all parties are agreeable, oil and gas development and associated infrastructure should consider utilizing existing disturbances such as road networks, rights-of-way corridors and other utility installations.	Dave Callahan

4	Note that any state law or local ordinance purporting to regulate interstate pipeline facilities would be preempted. Under the provisions of the Natural Gas Act, FERC has exclusive regulatory jurisdiction with regard to the siting of pipeline facilities. Under the provisions of the Pipeline Safety Act, the USDOT and PHMSA have exclusive regulatory jurisdiction with regard to the safety standards that apply to the design, installation, inspection, emergency plans and procedures, testing, construction, operation and maintenance of pipeline facilities.	Cindy Ivey
5	There are a number of existing reports regarding the issues related to co-location. I would like to see this recommendation rewritten to promote the investigation of co-location using existing reports and case studies. This recommendation should be rewritten and submitted to the PITF for further review.	Duane Peters
6	Consider using Env. Protection #17 instead.	Steve Tambini
7	Gas pipelines and electric transmission lines cannot be sited together because the electric lines negatively affect the cathodic protection systems of the gas lines. This could lead to accelerated degradation of the gas lines and ultimately safety concerns.	Gladys Brown
8	Most important	Nicholas Geanopoulos
9	Combine with Environmental Protection recommendation.	Ken Klemow
#	Comments for "10. Empower GIS Mapping"	
1	I agree to the use of GIS mapping, but not to the location of pipelines being available for public GIS access due to safety and security concerns, as well as, private property owners rights.	Lauren Parker
2	However, sharing pipeline mapping information with the public beyond requirements of PHMSA's National Pipeline Mapping System cannot be supported. Pipeline maps represent proprietary and confidential information, for reasons of competitive business advantages, safety and national security. To the extent that the public is concerned about pipeline location, One-Call already conclusively addresses the public's need to know where pipelines are located prior to commencing any activity that would be likely to impact a pipeline. Sharing maps for local emergency management purposes may be advisable as long as the maps are maintained as proprietary, confidential, business information.	Dave Callahan
3	Disagree with all recommendations related to sharing detailed pipeline mapping information with the public beyond requirements of PHMSA's National Pipeline Mapping System. Pipeline maps represent proprietary and confidential information the safety and security of the entire pipeline system. To the extent that the public is concerned about pipeline location, One-Call already conclusively addresses the public's need to know where pipelines are located prior to commencing any activity that would be likely to impact a pipeline. Sharing maps for local emergency management purposes may be advisable as long as the maps are maintained as proprietary, confidential, business information.	Cindy Ivey
4	Absolutely	Nicholas Geanopoulos
5	This certainly overlaps with other mapping/GIS recommendations by other groups, and implies that determining various levels of access/use will need to be addressed - I would like to be involved in follow-up work on this recommendation after the final report is completed.	Don Kiel
6	Combine with other GIS-related recommendation.	Ken Klemow
#	Comments for "11. Create a Commonwealth Library of Pipeline Information"	
1	Support provided that issues relating to personal property and security are fully addressed	Walter Hufford
2	There should be one consolidated recommendation on a public education effort conducted by the commonwealth, and not several variations. Any public education website or communication materials must first rely on existing, reliable, nonbiased sources of information like the Penn State Extension	Dave Callahan
3	This recommendation should be considered a duplicate or a component of the recommendation related to the creation of a comprehensive statewide information resource center devoted to pipeline development.	Cindy Ivey
4	I would add seeking partnering opportunities with Federal and other state governments to obtain and share information.	Duane Peters
5	The PUC presently collects jurisdictional pipeline information which is provided on its webpage.	Gladys Brown
6	Ok	Nicholas Geanopoulos
7	Combine with other information-dissemination recommendations.	Ken Klemow

#	Comments for "12. Require Pipeline Abandonment Plans"	
1	Any recommendation needs to highlight the difference between inactive and abandoned pipe. Also, each individual easement addresses or should address this topic.	Joe McGinn
2	The recommendation calls for changes to the existing federal and state regulations that apply to the abandonment of pipelines without providing adequate justification.	Keith Coyle
3	I do not agree with the term "require" being used for a recommended practice.	Lauren Parker
4	This is not a best management practice. It is a legislative or regulatory proposal, which is outside the scope of purpose of the PITF recommendations. Provisions regarding abandonment of pipelines depend on negotiations between landowner and pipeline operator.	Dave Callahan
5	Any state law or local ordinance purporting to regulate interstate pipeline facilities would be preempted. For FERC projects, the commission approves the location, construction, modification, acquisition, operation, and abandonment of interstate pipelines, facilities, and storage fields involved in moving natural gas across state boundaries.	Cindy Ivey
6	There are existing state and federal regulations requiring abandonment plans for jurisdictional pipelines. These include 52 Pa Code Chptr 59 & 49 CFR 192.	Gladys Brown
7	Yes very important	Nicholas Geanopoulos

EMERGENCY PREPAREDNESS

#	Comments for "1. Standardize Emergency Response Plans"	
1	This is already standardized by PHMSA. It does not make sense to have competing regulations.	Joe McGinn
2	While there may be a generalized template, each pipeline is unique in the areas in which it operates.	Walter Hufford
3	The concept of cooperation and communication among emergency response agencies and operators is supportable. However, operators cannot share specific response plans with emergency response agencies. Operators do and should continue to have detailed planning and training with local emergency response agencies so there is standardization of general responses from emergency agencies to certain types of situations.	Dave Callahan
4	Pipelines carry different commodities that require different incident response methodologies. Emergency response plans should be coordinated with each operator to ensure roles and responsibilities are outlined and understood. One size does not fit all.	Cindy Ivey
5	No question	Nicholas Geanopoulos
#	Comments for "2. Train Emergency Responders"	
1	At Sunoco Logistics, we have held over 30 such sessions for our Mariner East project alone.	Joe McGinn
2	Many operators already proactively do this with local and state responders	Walter Hufford
3	Duplicative	Nicholas Geanopoulos
#	Comments for "3. Require Infrastructure Mapping"	
1	NPMS is a resource already. Concerns re: homeland security	Joe McGinn
2	Oppose any recommendation to share pipeline mapping information with the public beyond requirements of PHMSA's National Pipeline Mapping System. Pipeline maps represent proprietary and confidential information, for reasons of competitive business advantages, safety and security. To the extent that the public is concerned about pipeline location, One-Call already conclusively addresses the public's need to know where pipelines are located prior to commencing any activity that would be likely to impact a pipeline. Sharing maps for local emergency management purposes may be advisable as long as the maps are maintained as proprietary, confidential, business information.	Keith Coyle
3	I agree in concept that this is important for emergency responders to have information, but would be concerned about the security and confidentiality of the information.	Lauren Parker

4	sharing pipeline mapping information with the public beyond requirements of PHMSA's National Pipeline Mapping System cannot be supported. Pipeline maps represent proprietary and confidential information, for reasons of competitive business advantages, safety and national security. To the extent that the public is concerned about pipeline location, One-Call already conclusively addresses the public's need to know where pipelines are located prior to commencing any activity that would be likely to impact a pipeline. Sharing maps for local emergency management purposes may be advisable as long as the maps are maintained as proprietary, confidential, business information.	Dave Callahan
5	Disagree with all recommendations related to sharing detailed pipeline mapping information with the public beyond requirements of PHMSA's National Pipeline Mapping System. Pipeline maps represent proprietary and confidential information the safety and security of the entire pipeline system. To the extent that the public is concerned about pipeline location, One-Call already conclusively addresses the public's need to know where pipelines are located prior to commencing any activity that would be likely to impact a pipeline. Sharing maps for local emergency management purposes may be advisable as long as the maps are maintained as proprietary, confidential, business information.	Cindy Ivey
6	While I support providing access to GIS mapping information to first responders and other officials with emergency management responsibilities, due to national security concerns, I cannot support this recommendation, especially given recent immediate concerns regarding domestic terrorism (See Congressional Research Service Report, August 16, 2012, "Pipeline Cybersecurity Federal Policy" at http://fas.org/sqp/crs/homsec/R42660.pdf noting "pipelines in the United States have been the target of several confirmed terrorist plots and attempted physical attacks since September 11, 2001." Pipeline mapping is already available via PHMSA's National Pipeline Mapping System. Further, the One-Call process provides further safeguards in this regard.	Michael Gross
7	A must	Nicholas Geanopoulos
8	This certainly overlaps with other mapping/GIS recommendations by other groups, and implies that determining various levels of access/use will need to be addressed. Mapping of gathering and distribution lines should be included. I would like to be involved in follow-up work on this recommendation after the final report is completed.	Don Kiel
9	Combine with other mapping recommendations	Ken Klemow
#	Comments for "4. Coordinate Pipeline Mapping Plans"	
1	Agree, however, it is important to make and keep the current distinction (eg gas vs. hazardous liquids; gathering vs. transmission)	Joe McGinn
2	Oppose any recommendation to share pipeline mapping information with the public beyond requirements of PHMSA's National Pipeline Mapping System. Pipeline maps represent proprietary and confidential information, for reasons of competitive business advantages, safety and security. To the extent that the public is concerned about pipeline location, One-Call already conclusively addresses the public's need to know where pipelines are located prior to commencing any activity that would be likely to impact a pipeline. Sharing maps for local emergency management purposes may be advisable as long as the maps are maintained as proprietary, confidential, business information.	Keith Coyle
3	- Sharing pipeline mapping information with the public beyond requirements of PHMSA's National Pipeline Mapping System cannot be supported. Pipeline maps represent proprietary and confidential information, for reasons of competitive business advantages, safety and national security. To the extent that the public is concerned about pipeline location, One-Call already conclusively addresses the public's need to know where pipelines are located prior to commencing any activity that would be likely to impact a pipeline. Sharing maps for local emergency management purposes may be advisable as long as the maps are maintained as proprietary, confidential, business information.	Dave Callahan
4	Disagree with all recommendations related to sharing detailed pipeline mapping information with the public beyond requirements of PHMSA's National Pipeline Mapping System. Pipeline maps represent proprietary and confidential information the safety and security of the entire pipeline system. To the extent that the public is concerned about pipeline location, One-Call already conclusively addresses the public's need to know where pipelines are located prior to commencing any activity that would be likely to impact a pipeline. Sharing maps for local emergency management purposes may be advisable as long as the maps are maintained as proprietary, confidential, business information.	Cindy Ivey

5	While I support providing access to GIS mapping information to first responders and other officials with emergency management responsibilities, due to national security concerns, I cannot support this recommendation, especially given recent immediate concerns regarding domestic terrorism (See Congressional Research Service Report, August 16, 2012, "Pipeline Cybersecurity Federal Policy" at http://fas.org/spp/crs/homesecc/R42660.pdf noting "pipelines in the United States have been the target of several confirmed terrorist plots and attempted physical attacks since September 11, 2001." Pipeline mapping is already available via PHMSA's National Pipeline Mapping System. Further, the One-Call process provides further safeguards in this regard.	Michael Gross
6	Yes	Nicholas Geanopoulos
7	Combine with other mapping recommendations	Ken Klemow
#	Comments for "5. PUC Should Develop a Comprehensive List of Pipeline Classifications"	
1	Pipelines are classified at federal level. I do not believe there should be seperate classificaitons for PA.	Joe McGinn
2	Federal and state regulations already establish a comprehensive process for determining the classification of gas and hazardous liquid pipelines.	Keith Coyle
3	I believe that PHMSA has already created this.	Lauren Parker
4	PUC should follow the efforts underway by PHMSA	Walter Hufford
5	Disagree to the extent that this would change established pipeline classifications. The commonwealth should defer to PHMSA on pipeline safety matters.	Dave Callahan
6	PHMSA has already established class locations for pipelines. This recommendation could be contrary to Federal Law. Neutral for gathering lines in Class 1 locations.	Cindy Ivey
7	Federal regulations at 49 CFR 192.3 currently include pipeline classifications.	Gladys Brown
8	Imperative	Nicholas Geanopoulos
#	Comments for "6. Enhance Emergency Response Training for Responder Agencies"	
1	We currently engage in this practice.	Joe McGinn
2	But I believe we have the talent already available	Nicholas Geanopoulos
#	Comments for "7. Create County/Regional Safety Task Forces"	
1	County level Local Emergency Planning Commissions (LEPC) are a good resource. No need to create a seperate working group just for pipelines.	Joe McGinn
2	This already occurs	Lauren Parker
3	PA is currently divided into 9 regional task forces which plan, coordinate and prepare with a wide array of stakeholders for a multitude of "all hazards" contingencies. Response to potential energy infrastructure events is an issue several regional task forces have and continue to evaluate.	Dave Callahan
4	Duplicative	Nicholas Geanopoulos
#	Comments for "8. Provide Training to Local Emergency Responders"	
1	Who will provide this training?	Lauren Parker
2	Many operators already proactively do this.	Walter Hufford
3	Add to their normal exercises	Nicholas Geanopoulos
#	Comments for "9. Assess Need for Additional Training for Local Responders"	
1	Who will assess this need?	Lauren Parker
2	Many operators have already communicated with local responders to address needs and have/are working with them to address any "gaps".	Walter Hufford
#	Comments for "10. Establish Protocol for Emergency Movement of Heavy Equipment during Off-Hours"	
1	There are already protocols in place.	Lauren Parker
2	We have laws in place	Nicholas Geanopoulos

#	Comments for "11. Assigning a 9-1-1 Address to Pipeline-Related Facilities"	
1	There are federal and state regulations that require pipeline markers with emergency response information.	Keith Coyle
2	This already occurs. Additionally, when reading further into the recommendation, gps coordinates are provided in the permit application. Providing signage to point these areas out to the public is a safety concern, additionally, conspicuous placement would make it hard to find in an emergency, so it seems to defeat the purpose	Lauren Parker
3	Well pads have this....does this cover the entire pipeline	Walter Hufford
4	Disagree with all recommendations related to sharing detailed pipeline mapping information with the public beyond requirements of PHMSA's National Pipeline Mapping System. Pipeline maps represent proprietary and confidential information the safety and security of the entire pipeline system. To the extent that the public is concerned about pipeline location, One-Call already conclusively addresses the public's need to know where pipelines are located prior to commencing any activity that would be likely to impact a pipeline. Sharing maps for local emergency management purposes may be advisable as long as the maps are maintained as proprietary, confidential, business information.	Cindy Ivey
5	Good back up	Nicholas Geanopoulos
#	Comments for "12. Authorize a Fee for Emergency Response to Pipeline Incidents"	
1	If anyone pipelines impact communities, first responders, etc, that cost is already covered by the company. May be more appropriate to confirm insurance coverage/status of companies.	Joe McGinn
2	This recommendation seeks to enact legislation, and as such appears to be outside the scope of the purpose of the PITF. However, it is important to note that municipalities in Pennsylvania can use the Impact fee for emergency management purposes. An additional fee is unnecessary.	Dave Callahan
3	The recommendation warrants further discussion. The title refers to incidents, while the recommendation is written to include increased impacts related to normal pipeline operations. The recommendation does not include enough information about how the fees would be administered, which agency would be responsible for administering the fees or how the program in general would work.	Cindy Ivey
4	If it is an error of the operator	Nicholas Geanopoulos

ENVIRONMENTAL PROTECTION

#	Comments for "1. Establish Early Partnerships and Coordination Relationships with Regulatory Agencies"	
1	The general concept of engaging government officials is supportable. However, given that the property owner is the ultimate authority for the location of a pipeline, we must meet with them first. Engaging government officials is a necessary step after we secure or are confident in securing ROW with landowner.	Dave Callahan
2	I believe this is already addressed through the existing regulatory process.	Duane Peters
3	My original wish to discuss was that PA Historical and Museum Commission was not included on the list of relevant agencies. As long as PHMC is included, I fully agree with the recommendation.	Doug McLearn
4	Combine with similar recommendations elsewhere.	Ken Klemow
#	Comments for "2. Establish Early Coordination with Local Non-Government Groups"	
1	To the extent that local non-governmental groups have information of interest to pipeline siting, permitting and/or construction, they should be contacted.	Joe McGinn
2	For the vast majority of pipelines the primary point of contact is the landowner and then, applicable government entities	Dave Callahan
3	The scope of this recommendation is too broad. This recommendation should be rewritten for clarity and submitted to the PITF for further review.	Duane Peters
4	Combine with similar recommendations elsewhere.	Ken Klemow

#	Comments for "3. Establish Early Coordination with Local Landowners and Lessors"	
1	This is done currently	Joe McGinn
2	New title is supportable	Dave Callahan
3	Please consider adding Penn State Extension to the list of relevant agencies and organizations who could be involved with coordination and education of landowners.	Dave Messersmith
4	Coordination should include information for landowners that are interested in knowing what their rights and options are	Mark Gutshall
5	Combine with similar recommendations elsewhere.	Ken Klemow
#	Comments for "4. Project Sponsors Should Review Pennsylvania Stormwater BMP Manual"	
1	This is done currently.	Joe McGinn
2	Appears to be an existing requirement	Dave Callahan
3	This is already done so there is no need for this recommendation.	Terry Bossert
#	Comments for "5. Sponsors Should Review the Pennsylvania Erosion and Sediment Pollution Control Program Manual"	
1	This is done currently.	Joe McGinn
2	Appears to be an existing requirement	Dave Callahan
3	This is already done so there is no need for this recommendation.	Terry Bossert
#	Comments for "6. Sponsors Should Request Pre-Application Meetings With Regulatory Agencies"	
1	This is not always necessary or warranted.	Lauren Parker
2	Often a good idea but not always necessary.	Terry Bossert
3	Combine with similar recommendations elsewhere.	Ken Klemow
#	Comments for "7. Sponsors Should Perform Alternatives Analysis to Avoid/Minimize Impacts"	
1	This is already done.	Lauren Parker
2	The siting of the vast majority of pipelines, especially gathering lines, is entirely dependent on the willingness and the wishes of the landowner. Furthermore, with respect to landscape level planning, many of the concepts in the landscape-level planning approach are already being practiced by the industry which is influenced to do so through economic drivers and the desire to limit environmental impacts. Landscape level planning should not be a regulatory requirement or tool for a local government or the state unless the government owns the surface rights or if such planning is a part of the FERC siting process, for which FERC establishes the timing of release of all information. For non-FERC pipelines, such as gathering lines, the private negotiation with landowners is paramount for the development process and requiring regulatory approval or oversight of landscape planning impermissibly impairs and reduces fundamental property rights of individual landowners.	Dave Callahan
3	Alternative analysis is included within Joint Permit Applications and within FERC Resource Report 10. This recommendation should be rewritten and submitted to the PITF for review if the intent was to include the requirement for projects not currently under covered by JPAs or the FERC NEPA process.	Duane Peters
4	This already occurs as either a regulatory requirement for a permit application 105.13(e)(1)(viii) or internally within the company during planning stages. When a permit application does not require a written alterlatives analysis the reulatory obligation exists to avoid and minimiaze impacts.	Sarah Battisti
5	This is already done so there is no need for this recommendation.	Terry Bossert
6	Ties to landscape scale planning	Michael DiMatteo
7	This is different from landscape-level planning.	Ken Klemow

#	Comments for "8. Develop Standard Water Quality Monitoring Practices"	
1	As described, this recommendation is a government/academic study with industry input. Any monitoring period should be no longer than four quarters following construction. Sunoco Logistics does not support the raising of taxes or fees on the oil and gas industry to fund this or any of the other initiatives set forth in this report.	Joe McGinn
2	Temporary impacts associated with pipeline stream crossings has been studied extensively over the years. These studies and the routine nature of pipeline stream and wetland crossings are the reason that the General Permit 5 exists in PA and the Nationwide permit program exists nationally.	Cindy Ivey
3	The subject of the temporary impacts associated with pipeline stream crossings has been studied extensively over the years. These studies and the routine nature of pipeline stream and wetland crossings are the reason that the General Permit 5 exists in PA and the Nationwide permit program exists nationally. (LRP - agree)	Sarah Battisti
4	Paramount	Nicholas Geanopoulos
5	Combine with similar recommendations elsewhere.	Ken Klemow
#	Comments for "9. Develop An Advanced High-Quality Environmental Resources Planning Tool"	
1	We already have this tool, it was updated over the past year by DCNR, its called the PNDI tool.	Lauren Parker
2	The concept of developing or enhancing planning tools is supportable as a means to enhance understanding of the locations of sensitive environmental, cultural and other resources which have been identified and designated according to established statutory and regulatory parameters.	Dave Callahan
3	Statutory and regulatory parameters established for the protection of environmental resources should be incorporated into a tool that allows project sponsors to effectively plan for the avoidance and minimization of impacts to those resources.	Sarah Battisti
4	I am sure we have a similar plan in house	Nicholas Geanopoulos
5	Combine with similar recommendations elsewhere.	Ken Klemow
#	Comments for "10. Sponsors Should Use Landscape Level Planning"	
1	[A GIS system is not required to perform "landscape level planning" since, for example, co-location of utility lines is presently done without it.]	Joe McGinn
2	The siting of pipelines, especially gathering lines, is largely dependent on the willingness and the wishes of the landowner. Furthermore, with respect to landscape level planning, many of the concepts in the landscape-level planning approach are already being practiced by the industry which is influenced to do so through economic drivers and the desire to limit environmental impacts. Landscape level planning should not be a regulatory requirement or tool for a local government or the state unless the government owns the surface rights or if such planning is a part of the FERC siting process, for which FERC establishes the timing of release of all information. For non-FERC pipelines, such as gathering lines, the private negotiation with landowners is paramount for the development process and requiring regulatory approval or oversight of landscape planning impermissibly impairs and reduces fundamental property rights of individual landowners wi.	Dave Callahan
3	Disagree. Duplicative with recommendation Conservation and Natural Resources #3. When siting new pipeline facilities, operators base routing decisions on many factors including the regulatory authority of FERC derived from the provisions of the Natural Gas Act ("NGA"), 15 U.S.C. §717, et seq., the regulatory authority derived by PHMSA from the Pipeline Safety Act ("PSA"), 49 U.S.C. §60101, et seq., as well as company expertise related to sound engineering practices, constructability, operational safety for the long-term and minimization of environmental impacts. FERC approves the location, construction, modification, acquisition, operation, and abandonment of interstate pipelines, facilities, and storage fields involved in moving natural gas across state boundaries. Pipeline construction activities are heavily regulated and must adhere to strict environmental permitting standards and inspections. Given that the vast majority of pipelines are located on private property, consideration as to the route of the pipeline will also be heavily determined by the desire of the private landowner. For gathering line projects, the private negotiation with landowner is necessary for the development process. Landscape level planning can only occur when a project sponsor knows that enough landowners within a geographic area have consented to pipeline construction. Safety concerns, commercial, environmental permitting, landowner wishes take precedent when deciding whether to co-locate or share rights of way. A true landscape-level approach to planning would also need to take into account other forms of disturbance such as agriculture, urbanization, roads, and timbering.	Cindy Ivey
4	This recommendation should be rewritten for clarity and submitted to the PITF for further review.	Duane Peters
5	See response to Conservation & Natural Resources #3	Michael Gross

6	If used, the review agencies should have the willingness and capability to understand non-conventional approaches to planning, restoration, and long term community benefits	Mark Gutshall
7	Combine with similar recommendations elsewhere.	Ken Klemow
#	Comments for "11. Minimize Water Withdrawals for Testing"	
1	Already regulated	Walter Hufford
2	This is a item under current regulation.	Duane Peters
#	Comments for "12. Do Not Locate Pipelines Parallel to Streams Within its 100-Year Floodway"	
1	Disagree as written. Industry should, and currently does, minimize locating pipelines parallel to streams within the floodplain. No change to existing practices	Joe McGinn
2	This is already a requirement within PA Chapter 105 unless a permit is obtained.	Lauren Parker
3	The current buffer is sufficient	Dave Callahan
4	If the DEP studies and finds that the 25' setback distance is not appropriate to protect water resources then it should undergo the necessary regulatory changes to adequately protect waters of the commonwealth.	Cindy Ivey
5	landscape scale type planning and alternative analyses could indicate the floodplain, in certain circumstances, is the best location.	Michael DiMatteo
6	We need to make consistent with other regulations.	Ken Klemow
#	Comments for "13. Employ Smart Timing of Construction"	
1	It makes no sense to limit pipeline construction to a certain season. Construction is not temporally limited for any other industry. There is a further concern that no time of the year may be suitable to pipeline construction as noted in the recommendation.	Joe McGinn
2	This is already done. it is more cost effective to operate in dry summer months than in the winter. There are times when unfavorable seasons must be used given a variety of factors.	Lauren Parker
3	This is already done in practice to the extent practical. Many associated activities are governed by the PNDI and limitations which may be placed upon the project applicant by the relevant natural resource agency. It is important to note and be mindful that many considerations affect a construction schedule.	Dave Callahan
4	Regulations already exist that protect sensitive species and their habitat, such as seasonal tree clearing restrictions for certain bat species and wild trout stream crossing restrictions during spawning. Project sponsors already minimizes non-optimal construction seasons when possible, but it is important to note that customers have contracted for pipeline capacity to meet certain obligations within their operating areas and in-service deadlines are critical to their operations. Operators should understand and plan for using best management practices for construction, restoration and reclamation when construction conditions are less than ideal.	Cindy Ivey
5	This recommendation should be rewritten to address other considerations such as construction limitations due to threatened and endangered species, trout streams, etc. The recommendation should also recommend the study of BMPs when construction during the identified times are unavoidable. This recommendation should be rewritten for clarity and submitted to the PITF for further review.	Duane Peters
6	Disagree to the extent this recommendation could be used by pipeline infrastructure opponents to limit the construction window at all times due to species/environmental sensitivity which is constant throughout the year.	Michael Gross
#	Comments for "14. Assess Potential Subsurface Hazards in Planning"	
1	We undertake this recommendation already, and scour available records for existing information.	Joe McGinn
2	This is already done and required for the ESCGP-2 submission package.	Lauren Parker
3	Duplicative and/or a component avoidance of geologic hazards. Avoidance of all geologic hazards is not always possible with the development of any linear infrastructure project. Pipelines should be designed and engineered to withstand the geologic conditions along a pipeline route. Completely avoiding all known geologic hazards could result in increased environmental impacts related to alternative routes that may be longer in length, encounter challenging topographical landscapes and affect different types of land use.	Cindy Ivey
4	Combine with similar recommendations elsewhere.	Ken Klemow

#	Comments for "15. Route Pipelines to Minimize Disturbance to Forest Interiors"	
1	Disagree as worded. The shortest, safest connection for routing, constructing and operating a pipeline is typically the preferred alignment from an environmental and economic perspective. "Minimizing" disturbance to forests is achievable by following existing rights-of-way and co-locating utilities, which is presently done. As noted in the recommendation, a "core forest" is undefined and may be difficult to determine.	Joe McGinn
2	Operators already do this	Walter Hufford
3	The pipeline route is often dictated by the land owner. It is more cost effective to construct in non-forested areas, so when pipelines must go through forests, there is a reason for it.	Lauren Parker
4	This recommendation ignores the fact that for the vast majority of pipelines, the landowner dictates the location of the ROW and the attributes of the ROW. The state can make educational materials available to landowner	Dave Callahan
5	Completely avoiding forested areas could result in increased environmental impacts related to alternative routes that may be longer in length, encounter challenging topographical landscapes and affect different types of land use-- especially agriculture and possibly preserved farms. For FERC projects, the commission approves the location, construction, modification, acquisition, operation, and abandonment of interstate pipelines, facilities, and storage fields involved in moving natural gas across state boundaries. For gathering lines, a pipeline can only be placed where a willing landowner will authorize it.	Cindy Ivey
6	This recommendation should be rewritten for clarity and submitted to the PITF for further review.	Duane Peters
7	Combine with similar recommendations elsewhere.	Ken Klemow
#	Comments for "16. Avoid Steep Slopes and Highly Erodible Soils"	
1	Disagree as worded. Pennsylvania is a mountaineous state, so steep slopes cannot be avoided. However, taking into account all other relevant factors, steep slopes and erodible soils should be avoided where possible.	Joe McGinn
2	Operators already attempt to avoid steep slopes.	Walter Hufford
3	This is already done.	Lauren Parker
4	Steep slopes are already avoided where possible. Operators make routing decisions based on sound engineering practices, constructability, operational safety for the long-term and minimization of environmental impacts. For FERC projects, the commission approves the location, construction, modification, acquisition, operation, and abandonment of interstate pipelines, facilities, and storage fields involved in moving natural gas across state boundaries. For gathering lines, a pipeline can only be placed where a willing landowner will authorize it.	Cindy Ivey
5	This recommendation is currently covered by the existing regulatory process.	Duane Peters
6	Combine with similar recommendations elsewhere.	Ken Klemow
#	Comments for "17. Share Right-of-Ways"	
1	Title of this recommendation should be changed to "Share Right-of-Ways When Practical."	Joe McGinn
2	This recommendation should be modified to read: Where practicable, safe, and all parties are agreeable, oil and gas development and associated infrastructure should consider utilizing existing disturbances such as road networks, rights-of-way corridors and other utility installations.	Dave Callahan
3	Agree with the concept. This practice already occurs where possible. Operators make routing decisions based on sound engineering practices, constructability, operational safety for the long-term and minimization of environmental impacts. For FERC projects, the commission approves the location, construction, modification, acquisition, operation, and abandonment of interstate pipelines, facilities, and storage fields involved in moving natural gas across state boundaries. For gathering lines, a pipeline can only be placed where a willing landowner will authorize it.	Cindy Ivey
4	This recommendation should be folded in to Recommendation 18.	Duane Peters
5	This practice already occurs where possible. Oppose any recommendation that would require companies to share ROWs or co-locate pipelines in existing rights-of-way. Companies already explore these opportunities. Commercial, environmental permitting, landowner wishes and other concerns take precedent when deciding whether to co-locate or share. Industry may be neutral on a recommendation to consider the use of shared right of ways, such as Environmental Protection Working Group recommendation number 17, which reads: Where practicable, safe, and all parties are agreeable, oil and gas development and associated infrastructure should utilize existing disturbances such as road networks, rights-of-way corridors and other utility installations.	Sarah Battisti

6	This should be incentivized in order to make it more operationally attractive for different entities to consider this given all the variables that need to be considered	Mark Gutshall
7	Combine with similar recommendations elsewhere.	Ken Klemow
#	Comments for "18. Identify Barriers to Sharing Right of Way"	
1	One way the Department could incentivize the sharing of rights-of-way between new pipelines and other existing utilities or rights-of-way corridors would be to expedite the permitting of such pipelines.	Joe McGinn
#	Comments for "19. Evaluate Existing and Needed Setbacks from Wetlands and Watercourses"	
1	The recommendation is entirely unworkable for a linear project such as a pipeline. Additionally, there is no scientific justification for setbacks of 150 or 330 feet between pipelines and the identified features.	Joe McGinn
2	I disagree with referencing one NGO and prescribed setbacks	Walter Hufford
3	setbacks from streams are already required and I do not feel that a one size fits all approach to wetland setbacks is appropriate or warranted.	Lauren Parker
4	DEP currently has comprehensive regulations in place to protect waterways, and operators are currently obligated to ensure their activities do not adversely affect water quality. These regulations include a 25' buffer, which the industry believes past practice and implementation has adequately demonstrated is sufficiently protective of water quality.	Dave Callahan
5	A 25' setback distance is already recommended in the PADEP E&S Manual for activities close to stream crossings. One size does not fit all setback to wetlands, as each scenario is different and as such, must be designed and permitted on a project by project basis.	Cindy Ivey
6	This is already addressed within current regulations.	Duane Peters
7	Disagree. A 25' setback distance is already recommended in the PADEP E&S Manual for activities close to stream crossings. Additionally, we disagree for a one size fits all setback to wetlands, as each scenario is different and as such, must be designed and permitted on a project by project basis.	Sarah Battisti
8	Conflicts with existing 25' setback requirement which is adequately protective of waters of the Commonwealth.	Michael Gross
9	The term evaluate is important here and may need additional detail given the current regulations and interest by the public on this subject matter. Also, this may trigger additional attention to the offset and mitigation issues.	Mark Gutshall
10	Combine with similar recommendations elsewhere. Align with existing regulations and recommendations made by other agencies. I'd be happy to work on this.	Ken Klemow
#	Comments for "20. Use Dry Seals for Centrifugal Compressors"	
1	I question the justification.	Joe McGinn
2	Where practicable	Walter Hufford
3	This is a component of a voluntary national program. It should remain voluntary and not be a requirement or condition of a permit, especially without a cost-benefit analysis.	Dave Callahan
4	Operators design their pipeline facilities in accordance with sound engineering practices, constructability, operational safety for the long-term and minimization of environmental impacts. All facilities are designed to meet or exceed 49 CFR Part 192.	Cindy Ivey
#	Comments for "21. Minimize Methane Emissions During Compressor Station Shutdown Periods"	
1	Safety of the surrounding community and our employees is the first priority, and methane emissions may be unavoidable for a safe shutdown such as in an emergency situation. However, methane emissions will always be minimized.	Joe McGinn
2	This is a component of a voluntary national program. It should remain voluntary and not be a requirement or condition of a permit, especially without a cost-benefit analysis.	Dave Callahan
3	Operators design their pipeline facilities in accordance with sound engineering practices, constructability, operational safety for the long-term and minimization of environmental impacts. All facilities are designed to meet or exceed 49 CFR Part 192.	Cindy Ivey

#	Comments for "22. Use Pump-Down Techniques Before Maintenance and Repair"	
1	Language change to include "when practical"	Joe McGinn
2	This is a component of a voluntary national program. It should remain voluntary and not be a requirement or condition of a permit, especially without a cost-benefit analysis.	Dave Callahan
3	Operators design their pipeline facilities in accordance with sound engineering practices, constructability, operational safety for the long-term and minimization of environmental impacts. All facilities are designed to meet or exceed 49 CFR Part 192.	Cindy Ivey
#	Comments for "23. Develop Plans for Construction, Operation, and Maintenance"	
1	This is already done.	Lauren Parker
2	All pipeline facilities are designed to meet or exceed 49 CFR Part 192. Note that any state law or local ordinance purporting to regulate interstate pipeline facilities would be preempted.	Cindy Ivey
3	For Pennsylvania jurisdictional pipe O&M plans are required and the PUC inspects that, per Federal Regulations at 49 CFR 192.	Gladys Brown
#	Comments for "24. Implement Directed Inspection and Maintenance Program for Compressor Stations"	
1	Operators should rely on federal requirements and state implementation of federal requirements for leak detection and repair.	Dave Callahan
2	All pipeline facilities are designed to meet or exceed 49 CFR Part 192. Note that any state law or local ordinance purporting to regulate interstate pipeline facilities would be preempted.	Cindy Ivey
3	The PUC currently inspects compressor stations for jurisdictional pipelines.	Gladys Brown
4	We need to monitor We have excellent DEP emission dept	Nicholas Geanopoulos
5	Very important, as compressor stations seem to be problematic.	Ken Klemow
#	Comments for "25. Implement Wetland Banking/Mitigation Measures"	
1	Also, consideration should be included for Offset opportunities that could be used by municipalities for MS4 and TMDL compliance	Mark Gutshall
2	Combine with similar recommendations elsewhere.	Ken Klemow
#	Comments for "26. Use Antidegradation Best Available Combination of Technologies to Protect EV and HQ Waters"	
1	This is already a requirement.	Lauren Parker
2	Combine with similar recommendations elsewhere.	Ken Klemow
#	Comments for "27. Avoid Dams and Reservoirs"	
1	The title and narrative of this recommendation should state "when possible." Co-locating new pipelines along existing utility corridors that cross dams and reservoirs may be preferable in certain instances.	Joe McGinn
2	This is already done.	Lauren Parker
3	Significant state and federal regulatory requirements are already in place to ensure that waterways are protected should a crossing be unavoidable.	Dave Callahan
4	If possible	Nicholas Geanopoulos
5	The size of these should be articulated: ie, low head dams, ponds, etc. may not be something that can be avoided given a siting that is avoiding other higher priority areas	Mark Gutshall
#	Comments for "28. Avoid Water and/or Wastewater Discharges"	
1	The title of this recommendation should be changed to "Avoid Water and/or Wastewater Discharges When Possible."	Joe McGinn
2	Addressed through current regulations.	Duane Peters

3	Yes	Nicholas Geanopoulos
4	Already in regulations?	Ken Klemow
#	Comments for "29. Develop Plans for No Net Loss of Forests in Headwater Watersheds"	
1	Additional research is needed to understand this concept, and then once understood, new laws and regulations reflecting the research would be required.	Joe McGinn
2	This recommendation is not practical. Gathering pipelines can only be located on land with the consent of the landowner; ultimately, it is the landowner's prerogative on how to utilize their land.	Dave Callahan
3	This recommendation would impact all activities within headwater watersheds above and beyond pipeline development and infringe on the right of property owners to develop land.	Duane Peters
4	Headwaters need to be better defined	Mark Gutshall
5	Combine with similar recommendations elsewhere.	Ken Klemow
#	Comments for "30. Develop Plans for No Net Loss of Forested Riparian Buffers"	
1	Loss of forested riparian buffers should be minimized, where possible.	Joe McGinn
2	This practice is already adequately addressed in the ESCGP-2 permit application process.	Cindy Ivey
3	This is addressed through current regulation.	Duane Peters
4	Already a requirement	Sarah Battisti
5	Combine with similar recommendations elsewhere.	Ken Klemow
#	Comments for "31. Develop Plans for No Net Loss of Wetlands"	
1	This practice is a requirement in state and federal regulations.	Cindy Ivey
2	This is addressed through current regulation.	Duane Peters
3	already a requirement	Sarah Battisti
4	Current regulations currently require this, so not necessary in this report.	Terry Bossert
5	Combine with similar recommendations elsewhere. Try for mitigation in same sub-watersheds.	Ken Klemow
#	Comments for "32. Study Long-Term Impacts of Pipeline Infrastructure on Water Resources and Sensitive Landscapes"	
1	Needs additional discussions	Walter Hufford
2	However, the concept of studying the impacts of all energy infrastructure might be a suitable modification to this recommendation	Dave Callahan
3	Many independent studies already exist. This recommendation would benefit from further discussion.	Cindy Ivey
4	Combine with similar recommendations elsewhere. Make funding available to achieve this.	Ken Klemow
#	Comments for "33. Minimize Methane Emissions"	
1	The concept of monitoring literature is supportable. However, any new regulatory requirements should be based on federal authority and subject to cost-benefit analysis.	Dave Callahan
2	Wish to discuss topic further.	Michael Gross
#	Comments for "34. Minimize Impacts of Stream Crossings"	
1	This is addressed through current regulation.	Duane Peters
2	Combine with similar recommendations elsewhere.	Ken Klemow
#	Comments for "35. Conduct Research to Improve Revegetation BMPs"	
1	Combine with similar recommendations elsewhere. Provide funding for this goal. I can work on this, if needed.	Ken Klemow

#	Comments for "36. Require Shutoff Valves for Liquid Product Pipelines"	
1	Disagree as written. Shut-off valves are presently included in pipeline design, after a consideration of line length, above-ground resources, accessibility, etc.]	Joe McGinn
2	A written, PA should not establish shutoff valve requirements independently of the federal government, which has primary jurisdiction on this subject area. The subject is under active consideration by PHMSA.	Dave Callahan
3	This should be addressed through the PHMSA rule-making process.	Cindy Ivey
#	Comments for "37. Use Dust Suppression Controls Near Water Resources"	
1	Disagree as written. Sunoco Logistics currently employs dust suppression controls near sensitive features such as nearby water resources, which minimizes adverse impacts.	Joe McGinn
#	Comments for "38. Test Efficacy of Silt Fencing"	
1	This could be done outside the context of PITF	Mark Gutshall
#	Comments for "39. Test Soils in Acid Deposition Impaired Watersheds to Identify Need for Additional Liming"	
1	Disagree as written. Although post-construction soil amendments are occasionally used to ensure vegetative cover the purpose of post-construction BMPs is to return the area disturbed to pre-disturbance conditions.],	Joe McGinn
2	Liming is not always the answer or appropriate	Lauren Parker
3	This recommendation would benefit from additional discussion with the appropriate agencies. Unforeseen secondary impacts could occur from implementing this recommendation.	Cindy Ivey
4	This could be done outside the context of PITF	Mark Gutshall
#	Comments for "40. Sponsors Should Review the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Tool"	
1	This is already a requirement for all Chapter 102 and Chapter 105 permit submission packages.	Lauren Parker
2	Existing requirement	Dave Callahan
3	This is a current regulatory requirement.	Duane Peters
4	Current regulations currently require this, so not necessary in this report.	Terry Bossert
5	A new enhanced conservation planning tool is or will be available in the very near future	Michael DiMatteo
6	I understand that PNDI needs better buy-in from different offices of DEP.	Ken Klemow
#	Comments for "41. Develop Construction Sequencing Plan"	
1	This is already required.	Lauren Parker
2	This is a current regulatory requirement.	Duane Peters
3	Current regulations currently require this, so not necessary in this report.	Terry Bossert
#	Comments for "42. Stockpile Topsoil During Construction for Use in Restoration"	
1	Sunoco Logistics undertakes this recommendation already, as it minimizes compaction of soils. Please note that the roadway within the right-of-way which provides vehicular access to the pipeline will remain post-construction.	Joe McGinn
2	This is already done.	Lauren Parker
3	Current regulations currently require this, so not necessary in this report.	Terry Bossert
4	mostly agree, but pending the quality of topsoil and scope of the restoration, this should not be a requirement for all sites	Mark Gutshall
5	Combine with similar recommendations elsewhere.	Ken Klemow

#	Comments for "43. Soften Forest/Right-of-Ways Edges and Promote Canopy Closure"	
1	For safety and inspection compliance purposes, a tree canopy over pipeline rights-of-ways cannot be closed.	Joe McGinn
2	The attributes of the ROW must strike a balance between the operational and safety needs of the operator and the wishes of the landowner for the treatment of their property.	Dave Callahan
3	Operators must maintain the ability to visually inspect their rights of way.	Cindy Ivey
4	Combine with similar recommendations elsewhere.	Ken Klemow
#	Comments for "44. Create Onsite Habitat"	
1	Disagree as written. On-site habitat within the pipeline right-of-way can be created post-construction so long as it doesn't interfere with pipeline operation and maintenance, and receives landowner approval.	Joe McGinn
2	Not supported to the extent it would require this in every ROW absent any directive for the protection of a threatened or endangered species through a PNDI review	Dave Callahan
3	Implementation of this recommendation relies on consent of the landowner.	Cindy Ivey
4	This recommendation should specify instances where such actions are appropriate or call for a study to develop recommendations. This recommendation should also address situations in which the property owner does not wish to install such devices. This recommendation should be rewritten and submitted to the PITF for additional review.	Duane Peters
5	Combine with similar recommendations elsewhere.	Ken Klemow
#	Comments for "45. Prevent Invasive Species from Entering Sites"	
1	Disagree as written. I support the goal but am uncertain how it can be reasonably achieved. No long-term environmental maintenance of the pipeline right-of-way should be required by the Department, as maintenance for inspection and safety purposes is currently required.	Joe McGinn
2	This is not feasible to request that the operator be responsible for invasives that may be outside of the right of way that continually grow into the right of way. related to construction equipment washing, this is a good idea and I support that.	Lauren Parker
3	The general concept is not objectionable. However, this would benefit from a cost-benefit analysis.	Dave Callahan
4	This should apply to all development. A specific industry should not be singled out for this practice.	Cindy Ivey
5	To the extent practical.....	Mark Gutshall
6	Combine with similar recommendations elsewhere.	Ken Klemow
#	Comments for "46. Ensure Ecologically Sensitive Revegetation of Right-of-Ways"	
1	Disagree as written. I support the goal but am uncertain how it can be reasonably achieved. No long-term environmental maintenance of the pipeline right-of-way should be required by the Department, as maintenance for inspection and safety purposes is currently required.	Joe McGinn
2	This recommendation is overly specific. Collaboration between the industry and natural resource agencies regarding options for re-vegetation. Implementation must consider DEP environmental requirements to stabilize the site as well as the wishes of the landowner.	Dave Callahan
3	The recommendation is too specific and would benefit from further discussion. Many stakeholders should be involved in development of this type of practice.	Cindy Ivey
4	Combine with similar recommendations elsewhere. I can work on this if need be.	Ken Klemow
#	Comments for "47. Conduct Quantitative Site Monitoring Where Appropriate"	
1	current permit conditions and requirements are sufficient for monitoring sites.	Dave Callahan
2	This recommendation would benefit from further discussion.	Cindy Ivey
3	This recommendation should be revised to recommend a study to develop recommendations and submitted to the PITF for additional review.	Duane Peters
4	Baseline data would be most useful for unbiased short, mid , and long term evaluations to address a variety of interests and risks	Mark Gutshall
5	Combine with similar recommendations elsewhere. I can work on this if need be.	Ken Klemow

#	Comments for "48. Conduct Regular Site Maintenance"	
1	Once vegetation is established, and a waterbody returned to pre-construction condition, no further responsibilities should be placed on pipeline operators. Sunoco Logistics already conducts periodic maintenance of pipeline rights-of-way for inspection and safety purposes. Additionally, there is no technical information that suggests invasive plants are a problem in pipeline rights-of-way.	Joe McGinn
2	This is already required while the ESCGP permit is open and the PADEP inspects the site before closing the permit.	Lauren Parker
3	This recommendation would benefit from further discussion.	Cindy Ivey
4	Where needed Most areas remote	Nicholas Geanopoulos
5	Combine with similar recommendations elsewhere.	Ken Klemow
#	Comments for "49. Properly Use and Maintain Pipeline Components"	
1	Operators design their pipeline facilities in accordance with sound engineering practices, constructability, operational safety for the long-term and minimization of environmental impacts. All facilities are designed to meet or exceed 49 CFR Part 192.	Cindy Ivey
#	Comments for "50. Implement Leak Detection and Repair for all Above-Ground Components of Pipeline Infrastructure"	
1	Pennsylvania's Land Recycling and Environmental Remediation Standards Act (aka "Act 2") allows voluntary cleanups to occur with Department oversight. Act 2 requirements and procedures should be used to address releases occurring during the construction and operation of pipelines.	Joe McGinn
2	Needs further discussion	Walter Hufford
3	This recommendation is far too detailed. Operators should rely on federal requirements and state implementation of federal requirements for leak detection and repair.	Dave Callahan
4	Operators design their pipeline facilities in accordance with sound engineering practices, constructability, operational safety for the long-term and minimization of environmental impacts. All facilities are designed to meet or exceed 49 CFR Part 192.	Cindy Ivey
5	Wish to discuss further.	Michael Gross
6	The PUC currently inspects above-ground facilities for jurisdictional pipelines.	Gladys Brown
#	Comments for "51. Clarify Remediation of Spills Under Shale Regulations"	
1	Act 2 is a voluntary program that did not contemplate O&G operations. The existing spill policy has shown to be appropriate	Walter Hufford
2	It is not appropriate to apply PA's Act 2 remediation standards - which is part of a voluntary program intended to address significant and historic environmental degradation - for any and all releases from only one activity, and not others. DEP has an existing and thorough Spill Policy which sufficiently addresses such releases.	Dave Callahan
3	DEP has an existing and thorough Spill Policy which sufficiently addresses such releases.	Cindy Ivey
4	This recommendation would provide consistency and predictability for industry, the Department and the public concerning any releases from pipelines. It would also provide flexibility to remediating entities to select the methods and standards for remediation consistent with Act 2.	Michael Gross
#	Comments for "52. Establish Forest Mitigation Program"	
1	Requires further discussion given the other industries who deal with forest	Walter Hufford
2	If this is implemented, it would need to cover all types of development, not just pipeline development.	Lauren Parker
3	This recommendation singles out one industry and overlooks numerous other activities which have a significantly greater impact on tree-clearing.	Cindy Ivey
4	This recommendation singles out one industry and overlooks numerous other activities which have a significantly greater impact on tree-clearing.	Sarah Battisti
5	Combine with similar recommendations elsewhere.	Ken Klemow

#	Comments for "53. Implement Electronic Permit Submissions for Chapters 102 and 105"	
	There are no responses.	
#	Comments for "54. Establish Electronic Payment for Chapters 102 and 105 Permit Fees"	
	There are no responses.	
#	Comments for "55. Evaluate Need for Hard Copies of Chapter 102 and 105 Permit Submissions"	
	There are no responses.	
#	Comments for "56. Evaluate Erosion and Sediment Control General Permit (ESCGP-2) Expedited Review"	
1	Make sure that review process if not done in haste.	Ken Klemow
#	Comments for "57. Ensure Adequate Agency Staffing for Reviewing Pipeline Infrastructure Projects"	
	There are no responses.	
#	Comments for "58. Evaluate DEP Retention and Attrition of Staff and Succession Planning"	
	There are no responses.	
#	Comments for "59. Evaluate the Effectiveness of Permit Decision Guarantee Policy"	
	There are no responses.	
#	Comments for "60. Evaluate the Permit Decision Guarantee Priority Status Hierarchy"	
	There are no responses.	
#	Comments for "61. Increase DEP Staff Training"	
1	Should also include other state resource agencies with permitting oversight and coordination such as PGC and PFBC, DCNR	Michael DiMatteo
#	Comments for "62. Eliminate Duplicate Questions in Erosion and Sediment Control General Permit (ESCGP-2) Notice of Intent (NOI)"	
	There are no responses.	
#	Comments for "63. Create Pipeline Erosion and Sediment Control Manual"	
1	Disagree as written. Either a guidance document could be produced, or a separate section developed for the current Erosion and Sediment Control Manual. No more onerous requirements should be instituted.	Joe McGinn
2	Underwritten by companies	Nicholas Geanopoulos
#	Comments for "64. Consider Limited Permit Review Assistance Using Qualified Contractors"	
1	Contractors should advise. Not to be involved in permitting decisions.	Ken Klemow
#	Comments for "65. Convene Annual Regulatory Agency Meetings"	
	There are no responses.	
#	Comments for "66. Re-Assess and Update Standing Memoranda of Understanding (MOUs) Between State and Federal Agencies"	
1	The PUC has a contractual agreement with PHMSA.	Gladys Brown
#	Comments for "67. Incorporate Cumulative Impacts into Applications and Review Process"	
1	The recommendation suggests a subjective review of unidentified factors at the state level, to which there is no legal authority.	Joe McGinn
2	This recommendation would benefit from further discussion. Cumulative impacts are already considered in FERC applications. Cumulative impacts for all activities that may impact a water resource or watershed can not be calculated from a specific permit application and this would single out the pipeline industry over other industries.	Cindy Ivey
3	This recommendation recommends that the PADEP uses cumulative impact assessment protocols as outline within NEPA. Currently the Commonwealth does not have a state level equivalent to the NEPA process. If the intent of the author is to call for the development of such, the recommendation should be rewritten and submitted to the PITF for review.	Duane Peters
4	Cumulative impacts for all activities that may impact a water resource or watershed can not be calculated from a specific permit application and this would single out the pipeline industry over other industries. The successful measurement of cumulative impacts is a much broader topic and would benefit from further discussion.	Sarah Battisti
5	Consider Env. Protection #32	Steve Tambini

6	Agree, as long as cumulative impacts are not expanded to include all impacts from well pads through end use.	Dave Messersmith
7	to the extent possible by the entity submitting permit	Mark Gutshall
#	Comments for "68. Conduct Joint Agency Coordination Meetings During Pre-Application and Planning"	
1	Additional agency representatives need to be added to the proposed Joint Agency Coordination Meetings, including those from the US Fish & Wildlife Service, the Pennsylvania Game Commission, Pennsylvania Fish and Boat Commission, and the Pennsylvania Historical and Museum Commission, along with the Department, the Corps of Engineers and the Conservation District.	Joe McGinn
2	Agree, but PHMC should be invited to participate in these meetings.	Doug McLearen
#	Comments for "69. Assess Oil and Gas Program Chapter 102 Training"	
1	Add County Conservation Districts to be included in training and prepare a "fact sheet" for distribution to those not in attendance.	Joe McGinn

HISTORICAL/CULTURAL/TRIBAL

#	Comments for "1. Improve Communications with Landowners"	
1	Agree in principal on importance of communications with landowners, but disagree with language of the letter.	Joe McGinn
2	Confidential information for property owners is important	Walter Hufford
3	The concept is supportable, however the tremendous detail in the recommendation cannot be supported. As stated in previous comments, There should be one consolidated recommendation on a public education effort conducted by the commonwealth, and not several variations. Any public education website or communication materials must first rely on existing, reliable, nonbiased sources of information like the Penn State Extension	Dave Callahan
4	Landowners should be provided with information indicating what rights they have in the process	Mark Gutshall
5	Combine with similar recommendations elsewhere.	Ken Klemow
#	Comments for "2. Consult with Federally Recognized Tribes on Section 106-Related Projects"	
1	USACE already does this.	Joe McGinn
2	FERC projects already incorporate a process for these consultations.	Cindy Ivey
3	This is currently a part of the Section 106 process.	Duane Peters
#	Comments for "3. Consult with Citizens' Groups, Including Heritage and Historical Organizations and Non- Federally Recognized (NFR) Tribes for Oil and Gas Development"	
1	Existing permitting requirements adequately protect cultural and historical resources. Permit applicants are required to review the PHMC database prior to submitting an ESCGP and other state permits to verify that documented historical areas of significance are not present. Should an operator encounter these areas during a project, the operator is required to stop work and contact the DEP and professional to determine if a Phase 1 Archeological Study is necessary.	Dave Callahan
2	The current regulations are very specific on issues related to NFRs.	Duane Peters
#	Comments for "4. Implement Best Practices for Upstream and Midstream Oil and Gas Development that Fall Outside of USACE Permit Areas"	
1	Existing permitting requirements adequately protect cultural and historical resources. Permit applicants are required to review the PHMC database prior to submitting an ESCGP and other state permits to verify that documented historical areas of significance are not present. Should an operator encounter these areas during a project, the operator is required to stop work and contact the DEP and professional to determine if a Phase 1 Archeological Study is necessary.	Dave Callahan
2	This is addressed within current regulations.	Duane Peters
3	Combine with similar recommendations elsewhere.	Ken Klemow

#	Comments for "5. Conduct Early Outreach with Affected Communities"	
1	landowners must be consulted first.	Lauren Parker
2	The concept of understanding communities in which pipelines will be located is supportable. However, existing permitting requirements adequately protect cultural and historical resources. Permit applicants are required to review the PHMC database prior to submitting an ESCGP and other state permits to verify that documented historical areas of significance are not present. Should an operator encounter these areas during a project, the operator is required to stop work and contact the DEP and professional to determine if a Phase 1 Archeological Study is necessary.	Dave Callahan
3	This is addressed within current regulations.	Duane Peters
4	Combine with similar recommendations elsewhere.	Ken Klemow
#	Comments for "6. Conduct County-Based Siting and Mitigation Research"	
1	The general concept of knowing the area in which a pipeline is going to be developed is supportable. However, this recommendation fails to recognize that landowners largely dictate where pipelines are located.	Dave Callahan
2	FERC projects already incorporate a process for cultural surveys and research.	Cindy Ivey
3	This is addressed within current regulations.	Duane Peters
4	This could be done by public, private, or non-profit entities	Mark Gutshall
5	Combine with similar recommendations elsewhere.	Ken Klemow

LOCAL GOVERNMENT

#	Comments for "1. Communicate Early and Often with Local Government Officials"	
1	Completely agree with concept, but language disagreements throughout.	Joe McGinn
2	With an understanding that pipeline mapping is consistent with PHMSA's national pipeline mapping system	Walter Huffard
3	landowners MUST be consulted first and are the ones who determine the route of the pipeline	Lauren Parker
4	The general concept of communicating with local governments is supportable. However, the details of the recommendation are not supportable. Local governments already have an opportunity to comment on many general permits through Act 14. "Sitting in" on the review of permits would only complicate and unnecessarily delay permit reviews. Finally, see previous comments on mapping	Dave Callahan
5	Agree conceptually that it is important to communicate with local, state and federal officials about proposed pipeline projects. This recommendation is too specific as one size does not fit the size and scope of all projects. The spirit of this recommendation could be satisfied by the recommendation for establishing guidelines for stakeholder engagement and public participation in pipeline projects.	Cindy Ivey
6	Oppose any recommendation to share pipeline mapping information with the public beyond requirements of PHMSA's National Pipeline Mapping System. Pipeline maps represent proprietary and confidential information, for reasons of competitive business advantages, safety and security. To the extent that the public is concerned about pipeline location, One-Call already conclusively addresses the public's need to know where pipelines are located prior to commencing any activity that would be likely to impact a pipeline. Sharing maps for local emergency management purposes may be advisable as long as the maps are maintained as proprietary, confidential, business information	Sarah Battisti
7	While I support the community strategies outlined by this recommendation, I do not support the recommendation as currently drafted. Involving each municipality "to sit in on the review process of a proposed pipeline application....at each stage of the permit process" would create an extremely cumbersome permitting procedure that would not promote the efficient build out of Pennsylvania's pipeline infrastructure.	Michael Gross
8	Combine with similar recommendations elsewhere.	Ken Klemow

#	Comments for "2. Minimize Impact on Local Roads"	
1	Recommend municipalities adopt standard PennDOT approach across the Commonwealth.	Joe McGinn
2	This recommendation warrants additional discussions	Walter Hufford
3	The general concept of this recommendation is supportable, but the details fail to recognize that pipeline related disturbances are temporary in nature, and should be governed by rules that do not single one activity out. Allowing municipalities to arbitrarily establish escrow requirements is not supportable.	Dave Callahan
#	Comments for "3. Clarify and Examine Need for Local Regulation of Surface Facilities"	
1	Disagree due to complexities and conflicts this poses with existing regulations.	Joe McGinn
2	Regulation of surface buildings and structures is already done in many municipalities. While the Pennsylvania Municipalities Planning Code ("MPC") already provides municipalities with the authority to regulate buildings associated with pipeline development, courts interpreting the MPC have long and consistently ruled that permissible local zoning in the Commonwealth is limited to the regulation of "buildings" and not "facilities". See South Coventry Township v. Philadelphia Electric Co., 504 A.2d 368, 371 (Pa. Cmwlth. 1986)("Duquesne Light establishes as an enduring principle that there is no power possessed by municipalities to zone with respect to utility structures other than buildings.") This recommendation is therefore both duplicative of and conflicting with existing law. Further, any proposed "stand alone" ordinance as referenced in recommendation 3 would be inconsistent with the MPC and applicable law. To the extent local municipalities do not have properly enacted zoning ordinances consistent with the MPC, assistance should be provided to such municipalities to lawfully implement comprehensive zoning consistent with the MPC.	Lauren Parker
3	Municipalities Planning Code ("MPC") already provides municipalities with the authority to regulate the location of certain structures associated with pipeline development, such as compressor stations. Local regulation of pipeline activities should and must be limited to this This recommendation is both duplicative of and conflicting with existing law. Any proposed "stand alone" ordinance as referenced in the recommendation would be inconsistent with the MPC and applicable law.	Dave Callahan
4	All pipeline facilities are designed to meet or exceed 49 CFR Part 192. Note that any state law or local ordinance purporting to regulate interstate pipeline facilities would be preempted.	Cindy Ivey
5	while the Pennsylvania Municipalities Planning Code ("MPC") already provides municipalities with the authority to regulate buildings associated with pipeline development, courts interpreting the MPC have long and consistently ruled that permissible local zoning in the Commonwealth is limited to the regulation of "buildings" and not "facilities". See South Coventry Township v. Philadelphia Electric Co., 504 A.2d 368, 371 (Pa. Cmwlth. 1986)("Duquesne Light establishes as an enduring principle that there is no power possessed by municipalities to zone with respect to utility structures other than buildings.") This recommendation is therefore both duplicative of and conflicting with existing law. Further, any proposed "stand alone" ordinance as referenced in recommendation 3 would be inconsistent with the MPC and applicable law. To the extent local municipalities do not have properly enacted zoning ordinances consistent with the MPC, assistance should be provided to such municipalities to lawfully implement comprehensive zoning consistent with the MPC.	Sarah Battisti
6	I oppose this recommendation; while the Pennsylvania Municipalities Planning Code ("MPC") already provides municipalities with the authority to regulate buildings associated with pipeline development, courts interpreting the MPC have long and consistently ruled that permissible local zoning in the Commonwealth is limited to the regulation of "buildings" and not "facilities". See South Coventry Township v. Philadelphia Electric Co., 504 A.2d 368, 371 (Pa. Cmwlth. 1986)("Duquesne Light establishes as an enduring principle that there is no power possessed by municipalities to zone with respect to utility structures other than buildings.") This recommendation is therefore both duplicative of and conflicting with existing law. Further, any proposed "stand alone" ordinance as referenced in recommendation 3 would be inconsistent with the MPC and applicable law. To the extent local municipalities do not have properly enacted zoning ordinances consistent with the MPC, assistance should be provided to such municipalities to lawfully implement comprehensive zoning consistent with the MPC. Finally, to the extent such "facilities" are regulated by FERC, there are federal preemption concerns with such local regulation.	Michael Gross
7	The PUC has jurisdiction over non-certificated pipeline operators under Act 127, except for Class 1 gathering lines.	Gladys Brown

NATURAL GAS END USE

#	Comments for "1. Create A State Level Permit Coordinator"	
	There are no responses.	
#	Comments for "2. Create Regional Energy Corridors and Energy Action Teams"	
1	As the reality of climate change becomes more apparent, societies across the globe are taking aggressive action to minimize the effects of carbon pollution. As more clean energy alternatives come on line and become less expensive, industry that remains dependent on fossil fuels will be at an economic disadvantage. Rather than actively trying to recruit industries that rely on fossil fuel consumption, the Commonwealth would be better served by working to attract businesses that use carbon-free energy sources.	Michael Helbing
#	Comments for "3. Create Energy Opportunity Zones"	
1	The Commonwealth should not create tax incentives exclusively for companies that use natural gas for energy. Natural gas is a fossil fuel that emits greenhouse gases when consumed. Considering the global efforts underway to minimize greenhouse gas emissions, it would be inappropriate for the Commonwealth to incentivize additional generation of greenhouse gases. In the long-term, many investments in natural gas infrastructure are likely to become "stranded" because they will no longer be able to fulfill the purpose for which they are intended. Instead, the Commonwealth should create "Clean Energy Opportunity Zones" designed to attract businesses that rely exclusively on carbon-free energy sources. These businesses are better-suited to lead Pennsylvania into the future.	Michael Helbing
#	Comments for "4. Enact Statute to Permit Use of a Charge for New Service (Similar to a Distribution System Improvement Charge (DSIC))"	
1	It would be inappropriate to allow natural gas distribution companies to impose a fee on rate-payers to pay for new natural gas infrastructure. The cost of the build-out of new natural gas pipelines (presumably to serve new customers) should be internalized by the natural gas companies or the new users who will benefit from the new line. This way, the users can determine for themselves whether the economic cost of building a new distribution line is worth the cost of constructing the line.	Michael Helbing
2	This is contrary to the intention of the DSIC legislation which provides a means for utilities to expedite the replacement of existing infrastructure to increase safety and reliability.	Gladys Brown
3	This could provide more flexibility for natural gas distribution companies to facilitate development of new pipeline infrastructure for end users.	Don Kiel
#	Comments for "5. Develop Municipal Guidelines for Natural Gas Distribution Lines"	
1	The relevant agencies listed in this recommendation have little or no authority over municipalities. Such guidelines would be best developed by the legislature.	Gladys Brown

PIPELINE SAFETY AND INTEGRITY

#	Comments for "1. Require Leak Detection Survey Schedules"	
1	Concern with any requirements that bring in production or processing pipelines within facilities. Differences between natural gas and hazardous liquids lines need to be addressed and acknowledged with varied regulations. Similar comments for all other issues in this section.	Joe McGinn
2	I don't agree with the term require for a recommended practice.	Lauren Parker
3	The recommendation imposes mandatory obligations that exceed or require changes to existing law or regulation. The federal government has primary jurisdiction regarding this matter and is actively considering how to address this subject. Pennsylvania must abide with Act 127 of 2011 which prohibits the commonwealth's requirements for pipeline safety from being inconsistent with or greater or more stringent than the minimum standards and regulations adopted under the Federal pipeline safety law. Finally, the recommendation does not provide any quantifiable safety data to support the action.	Dave Callahan
4	All pipeline facilities are designed to meet or exceed 49 CFR Part 192. Note that any state law or local ordinance purporting to regulate interstate pipeline facilities would be preempted. Under federal pipeline safety regulations, operators of gas transmission lines, regulated onshore gas gathering lines, and gas distribution lines must perform leak detection surveys at certain prescribed intervals. See e.g., 49 C.F.R. §§ 192.9(c), (d)(7); 192.706; 192.723; 52 Pa. Code §§ 59.33-34.	Cindy Ivey

5	to the extent that the recommendation imposes mandatory obligations that exceed or require changes to existing law or regulation. Under federal pipeline safety regulations, operators of gas transmission lines, regulated onshore gas gathering lines, and gas distribution lines must perform leak detection surveys at certain prescribed intervals. See e.g., 49 C.F.R. §§ 192.9(c), (d)(7); 192.706; 192.723; 52 Pa. Code §§ 59.33-34. The recommendation states that these requirements should be applied to onshore gas gathering lines in Class 1 locations and production lines that extend beyond the well pad. The leak detection survey requirements in the pipeline safety regulations do not apply to these pipelines. While not necessarily opposed to encouraging these pipeline operators to perform leak detection surveys as a best practice, the recommendation states that existing provisions in federal and state law should be changed to establish a mandatory regulatory requirement. The recommendation does not provide any quantifiable safety data to support that action. The recommendation also states that leak detection survey records should be maintained for the life of the pipeline. However, the pipeline safety regulations require transmission line operators to maintain such records for a 5-year period, or until the next survey is conducted, whichever is longer. See 49 C.F.R. §§ 192.709. The recommendation does not provide any quantifiable safety data to support the imposition of lifetime recordkeeping requirement for leak detection surveys, which serve a very limited purpose and provide information that becomes obsolete over time. For these reasons, disagree with the recommendation to the extent that it imposes mandatory obligations that exceed or require changes to existing law or regulation.	Sarah Battisti
6	The PITF was represented to have a goal of developing BMPs not regulations. All of the recommendations in this category propose to establish new regulations, contrary to the stated goal. In addition most of them also improperly seek to establish binding requirements by guidance. Accordingly I must disagree with most of the recommendations in this section.	Terry Bossert
7	Definitely	Nicholas Geanopoulos
#	Comments for "2. Require Leak Repair Schedules"	
1	I don't agree with the term require for a recommended practice.	Lauren Parker
2	The recommendation imposes mandatory obligations that exceed or require changes to existing law or regulation. The federal government has primary jurisdiction regarding this matter and is actively considering how to address this subject. Pennsylvania must abide with Act 127 of 2011 which prohibits the commonwealth's requirements for pipeline safety from being inconsistent with or greater or more stringent than the minimum standards and regulations adopted under the Federal pipeline safety law. Finally, the recommendation does not provide any quantifiable safety data to support the action.	Dave Callahan
3	All pipeline facilities are designed to meet or exceed 49 CFR Part 192. Note that any state law or local ordinance purporting to regulate interstate pipeline facilities would be preempted. Under federal pipeline safety regulations, operators of gas transmission lines, regulated onshore gas gathering lines, and gas distribution lines must perform leak detection surveys at certain prescribed intervals. See e.g., 49 C.F.R. §§ 192.9(c), (d)(7); 192.706; 192.723; 52 Pa. Code §§ 59.33-34.	Cindy Ivey
4	to the extent that the recommendation imposes mandatory requirements that exceed or require changes to existing law or regulation. As noted in the recommendation's supporting material, the Gas Piping Technology Committee has already established a best practice for leak classification, and pipeline operators can be encouraged to follow that best practice without creating new legal requirements or obligations. Moreover, the recommendation does not provide any quantifiable safety data to support the imposition of mandatory leak classification requirement for all pipelines. The absence of such supporting data is particularly problematic for operators of onshore gas gathering lines in Class 1 locations and production lines that extend beyond the wellpad, which are not subject to the provisions in the pipeline safety laws and regulations.	Sarah Battisti
5	Leaks should be fixed immediately Not on a schedule	Nicholas Geanopoulos
#	Comments for "3. Establish Publicly Available Pipeline Inspection Information"	
1	Need a language change in title to specify "Regulatory Oversight Information" Also, only final documentation should be posted.	Joe McGinn
2	This recommendation is not objectionable, as long as it complies with the provisions in existing federal and state law and regulation for the disclosure of confidential, privileged, or otherwise protected information to the public.	Dave Callahan
3	Combine with similar recommendations elsewhere.	Ken Klemow
#	Comments for "4. Require A Cathodic Protection Program"	
1	existing versus new should be specified. Also, where feasible should be inserted.	Joe McGinn
2	I don't agree with the term require for a recommended practice.	Lauren Parker

3	The recommendation imposes mandatory obligations that exceed or require changes to existing law or regulation. The federal government has primary jurisdiction regarding this matter and is actively considering how to address this subject. Pennsylvania must abide with Act 127 of 2011 which prohibits the commonwealth's requirements for pipeline safety from being inconsistent with or greater or more stringent than the minimum standards and regulations adopted under the Federal pipeline safety law. Finally, the recommendation does not provide any quantifiable safety data to support the action.	Dave Callahan
#	Comments for "5. Require An Integrity Management Program (IMP) for Gathering Pipelines"	
1	PHMSA expected to address and has a notice of proprosed rulemaking on this issue. Best to keep standard regs with the federal level.	Joe McGinn
2	I don't agree with the term require for a recommended practice.	Lauren Parker
3	The recommendation imposes mandatory obligations that exceed or require changes to existing law or regulation. The federal government has primary jurisdiction regarding this matter and is actively considering how to address this subject. Pennsylvania must abide with Act 127 of 2011 which prohibits the commonwealth's requirements for pipeline safety from being inconsistent with or greater or more stringent than the minimum standards and regulations adopted under the Federal pipeline safety law.	Dave Callahan
4	This should be a best practice, not a requirement. All pipeline facilities are designed to meet or exceed 49 CFR Part 192. Note that any state law or local ordinance purporting to regulate interstate pipeline facilities would be preempted.	Cindy Ivey
#	Comments for "6. Authorize PA Public Utility Commission (PUC) Regulation of Non-Jurisdictional Pipelines"	
1	The recommendation imposes mandatory obligations that exceed or require changes to existing law or regulation. The federal government has primary jurisdiction regarding this matter and is actively considering how to address this subject. Pennsylvania must abide with Act 127 of 2011 which prohibits the commonwealth's requirements for pipeline safety from being inconsistent with or greater or more stringent than the minimum standards and regulations adopted under the Federal pipeline safety law. PHMSA has initiated a rulemaking proceeding to determine whether those standards should be modified to apply to additional pipelines, including onshore gas gathering lines in Class 1 locations. Given the primacy of PHMSA's safety standards, the need to maintain compatibility with the federal regulations, and the valuable data and information that will be produced during the PHMSA rulemaking process, undertaking steps to change state law before the completion of that proceeding is not supportable.	Dave Callahan
2	This recommendation warrants further discussion. All pipeline facilities are designed to meet or exceed 49 CFR Part 192.	Cindy Ivey
3	recommendation requires changes to existing law or regulation. The PA PUC is the certified state authority that administers the state pipeline safety program in Pennsylvania. As a certified state authority, PA PUC is responsible for ensuring that operators of intrastate gas pipeline facilities comply with the applicable provisions in the pipeline safety laws and regulations. PA PUC regulates the safety of intrastate gas pipelines that are operated by public utilities under the Public Utility Code, 66 Pa. Cons. Stat. §§ 101, et seq. (2012). PA PUC regulates the safety of intrastate gas pipelines that are not operated by public utilities under the Gas and Hazardous Liquids Pipelines Act (Act 127 of 2011). The recommendation states that state law should be changed to provide PAPUC with the authority to regulate the safety of any pipelines that are not jurisdictional under the Public Utility Code or Act 127, including onshore gas gathering lines in Class 1 location. The recommendation does not provide any quantifiable safety data to support that action. PA PUC has the authority to enforce the provisions in the federal pipeline safety standards, which apply to operators of regulated onshore gas gathering lines, gas transmission lines, and gas distribution lines. PHMSA has initiated a rulemaking proceeding to determine whether those standards should be modified to apply to additional pipelines, including onshore gas gathering lines in Class 1 locations. Given the primacy of PHMSA's safety standards, the need to maintain compatibility with the federal regulations, and the valuable data and information that will be produced during the PHMSA rulemaking process, undertaking steps to change state law before the completion of that proceeding is premature and would create additional uncertainty for the regulated community.	Sarah Battisti
4	I am concerned about the impact to private landowner rights if the PUC (or another state agency) is given authority to site non-jurisdictional natural gas gathering lines as suggested in the recommendation.	Dave Messersmith

#	Comments for "7. Require Best Practices and Standards for Production Lines Located Beyond the Well Pad and Gas Gathering Lines in Class 1 Locations"	
1	The recommendation imposes mandatory obligations that exceed or require changes to existing law or regulation. The federal government has primary jurisdiction regarding this matter and is actively considering how to address this subject. Pennsylvania must abide with Act 127 of 2011 which prohibits the commonwealth's requirements for pipeline safety from being inconsistent with or greater or more stringent than the minimum standards and regulations adopted under the Federal pipeline safety law. PHMSA has initiated a rulemaking proceeding to determine whether those standards should be modified to apply to additional pipelines, including onshore gas gathering lines in Class 1 locations. Given the primacy of PHMSA's safety standards, the need to maintain compatibility with the federal regulations, and the valuable data and information that will be produced during the PHMSA rulemaking process, undertaking steps to change state law before the completion of that proceeding is premature is not supportable.	Dave Callahan
2	The recommendation notes that PHMSA has initiated a rulemaking proceeding to determine whether federal pipeline safety standards for gas gathering lines should be changed to accommodate recent developments in the oil and gas industry, and requests that steps be taken to complete that process on or before certain deadlines. PHMSA's rulemaking proceeding should be completed in a timely manner, so that the public and the regulated community have certainty as to the standards that apply to gas gathering lines in the Commonwealth. The recommendation does not provide any support for the otherwise arbitrary deadlines chosen to complete that rulemaking process. While not necessarily opposed to encouraging operators of gas gathering lines in Class 1 locations and production lines that extend beyond the wellpad to comply with the prescribed best practices, the recommendation indicates that the General Assembly should consider changing state law if PHMSA fails to take appropriate action to regulate these lines in the future. The recommendation notes that there is an absence of sufficient safety-related data for gas production lines located beyond the wellpad and gas gathering lines in Class 1 locations to support additional changes to state law or regulation at this time. When combined with the primacy of PHMSA's safety standards, the need to maintain compatibility with the federal regulations, and the valuable data that will be produced during the PHMSA rulemaking process, these concerns demonstrate that undertaking steps to change state law before the completion of PHMSA's rulemaking proceeding is premature and would create additional uncertainty for the regulated community.	Sarah Battisti
#	Comments for "8. Establish Mapping/GIS for Emergency Response"	
1	The accuracy standards are well below what is currently required (50'). One Call system helps to map out lines when needed.	Joe McGinn
2	There is already federal law requiring information	Lauren Parker
3	Sharing pipeline mapping information with the public beyond requirements of PHMSA's National Pipeline Mapping System cannot be supported . Pipeline maps represent proprietary and confidential information, for reasons of competitive business advantages, safety and national security. To the extent that the public is concerned about pipeline location, One-Call already conclusively addresses the public's need to know where pipelines are located prior to commencing any activity that would be likely to impact a pipeline. Sharing maps for local emergency management purposes may be advisable as long as the maps are maintained as proprietary, confidential, business information.	Dave Callahan
4	Disagree with all recommendations related to sharing detailed pipeline mapping information with the public beyond requirements of PHMSA's National Pipeline Mapping System. Pipeline maps represent proprietary and confidential information the safety and security of the entire pipeline system. To the extent that the public is concerned about pipeline location, One-Call already conclusively addresses the public's need to know where pipelines are located prior to commencing any activity that would be likely to impact a pipeline. Sharing maps for local emergency management purposes may be advisable as long as the maps are maintained as proprietary, confidential, business information.	Cindy Ivey
5	See prior comments pertaining to pipeline mapping/GIS issues. This recommendation is to broadly worded and does not pertain as written specifically to emergency responders.	Michael Gross
6	This certainly overlaps with other mapping/GIS recommendations by other groups, and implies that determining various levels of access/use will need to be addressed - I would like to be involved in follow-up work on this recommendation after the final report is completed.	Don Kiel
7	Combine with similar recommendations elsewhere.	Ken Klemow

#	Comments for "9. Designate PA PUC As Enforcement Agency for Underground Utility Line Protection Law"	
1	Although this goes beyond the scope of the goals of the PITF	Dave Callahan
2	Support PA PUC as enforcement agency.	Joe Fink
3	The substance of this recommendation is detailed correctly, however, the title should state "Designate PaPUC as Enforcement Agency."	Gladys Brown
#	Comments for "10. Enhance Public Awareness via Mapping/GIS"	
1	Sharing pipeline mapping information with the public beyond requirements of PHMSA's National Pipeline Mapping System cannot be supported . Pipeline maps represent proprietary and confidential information, for reasons of competitive business advantages, safety and national security. To the extent that the public is concerned about pipeline location, One-Call already conclusively addresses the public's need to know where pipelines are located prior to commencing any activity that would be likely to impact a pipeline. Sharing maps for local emergency management purposes may be advisable as long as the maps are maintained as proprietary, confidential, business information.	Dave Callahan
2	Disagree with all recommendations related to sharing detailed pipeline mapping information with the public beyond requirements of PHMSA's National Pipeline Mapping System. Pipeline maps represent proprietary and confidential information the safety and security of the entire pipeline system. To the extent that the public is concerned about pipeline location, One-Call already conclusively addresses the public's need to know where pipelines are located prior to commencing any activity that would be likely to impact a pipeline. Sharing maps for local emergency management purposes may be advisable as long as the maps are maintained as proprietary, confidential, business information.	Cindy Ivey
3	See prior comment re mapping.	Terry Bossert
4	This certainly overlaps with other mapping/GIS recommendations by other groups, and implies that determining various levels of access/use will need to be addressed - I would like to be involved in follow-up work on this recommendation after the final report is completed.	Don Kiel
5	Combine with similar recommendations elsewhere.	Ken Klemow
#	Comments for "11. Create A Public Education Program on Gathering System"	
1	Agree with theme, but the principal reasoning is challenged.	Joe McGinn
2	The general concept of public education is supportable, however all the facets of this very detailed recommendation are not supportable. As noted in response to other recommendations, there should be one consolidated recommendation on a public education effort conducted by the commonwealth, and not several variations. Any public education website or communication materials must first rely on existing, reliable, nonbiased sources of information like the Penn State Extension	Dave Callahan
3	Combine with similar recommendations elsewhere.	Ken Klemow
#	Comments for "12. Enhance Public Awareness of Pipeline Location"	
1	For transmission lines, I support this. For gathering lines, I do not given the way the line routes are developed.	Lauren Parker
2	The very detailed recommendation does not appreciate the fact that unlike transmission pipelines, gathering lines are not public utilities. Their placement is dependent upon the consent of private landowners, and it is appropriate that first and primary contact by the project sponsor be with the private landowner. Recommendations to odorize gas in gathering lines has not been subjected to a cost benefit analysis.	Dave Callahan
3	Disagree with all recommendations related to sharing detailed pipeline mapping information with the public beyond requirements of PHMSA's National Pipeline Mapping System. Pipeline maps represent proprietary and confidential information the safety and security of the entire pipeline system. To the extent that the public is concerned about pipeline location, One-Call already conclusively addresses the public's need to know where pipelines are located prior to commencing any activity that would be likely to impact a pipeline. Sharing maps for local emergency management purposes may be advisable as long as the maps are maintained as proprietary, confidential, business information.	Cindy Ivey
4	Combine with similar recommendations elsewhere.	Ken Klemow

#	Comments for "13. Develop Public Education Program for Emergencies"	
1	This very detailed recommendation does not appreciate the fact that unlike transmission pipelines, gathering lines are not public utilities. Their placement is dependent upon the consent of private landowners, and it is appropriate that first and primary contact by the project sponsor be with the private landowner.	Dave Callahan
2	Combine with similar recommendations elsewhere.	Ken Klemow

PUBLIC PARTICIPATION

#	Comments for "1. Establish Statewide Pipeline Information Resource Center"	
1	this seems like a reinvention of the wheel. Much of the material is already available, may make more sense to link and push towards current/good material.	Joe McGinn
2	Provided the information is "neutral" in nature and provides confidentiality to property owners and pipeline operators on security issues	Walter Hufford
3	The concept of providing resources for public education is supportable; however the details of this recommendation are not supportable. As noted in response to other recommendations, there should be one consolidated recommendation on a public education effort conducted by the commonwealth, and not several variations. Any public education website or communication materials must first rely on existing, reliable, nonbiased sources of information like the Penn State Extension	Dave Callahan
4	Penn State Extension has a number of print and web resources that may be useful in creating a pipeline information source for the public.	Dave Messersmith
5	Combine with similar recommendations elsewhere.	Ken Klemow
#	Comments for "2. Adopt Guidelines for Public Participation"	
1	Agree with concept, but disagree with recommendation as written.	Joe McGinn
2	This recommendation fails to recognize that landowners largely dictate where pipelines are located and that for the vast majority of pipelines, the placement is dictated by private contracts between private parties. This is especially true for gathering lines, which are not public utilities, and therefore should not be treated as public utilities.	Dave Callahan
3	Advocate for Version 1 of the guidelines as a basis for the recommendation.	Cindy Ivey
4	I wholeheartedly agree with the concept of adopting guidelines for public participation. I don't necessarily endorse either of the draft guidelines included with the recommendation. More discussion (either as part of the Task Force or as part of the implementation effort) is necessary to determine the final content of these guidelines.	Michael Helbing
5	Combine with similar recommendations elsewhere.	Ken Klemow
#	Comments for "3. Amend General Information Form to Require Information on Public Participation"	
1	The GIF is used for all projects that require a certain level of permitting. Would this change necessitate a similar question for all projects that require a GIF form? This recommendation should be rewritten for clarity and submitted to the PITF for review.	Duane Peters
#	Comments for "4. Form Pipeline Advisory Committee"	
1	Environmental Impacts are adequately addressed through existing advisory panels	Dave Callahan
2	Advocate for the alternative recommendation.	Cindy Ivey
3	Need permanent committee.	Ken Klemow
#	Comments for "5. Require Publication of Intent to Apply for DEP Permits Associated with Pipeline Development"	
1	Publishing in the PA Bulletin is sufficient. However the concept of DEP publishing such data on its website by region, or by modifying its effects system, could be supportable.	Dave Callahan
2	This is addressed within current regulations.	Duane Peters
3	Details for accomplishing may be problematic.	Ken Klemow

#	Comments for "6. Issue Annual Report Implementations on the PITF Recommendations"	
1	My understanding was the PITF would "sunset" after these deliberations. It is unclear what the expectations going forward will be so asking for annual reporting is premature	Walter Hufford

SITING AND ROUTING

#	Comments for "1. Utilize Planning Process Appropriate for the Scale of the Pipeline Project"	
1	Many of the concepts in the landscape-level planning approach are already being practiced by the industry who are influenced to do so through economic drivers and the desire to limit environmental impacts. Landscape level planning should not be a regulatory requirement or tool for a local government or the state unless the government owns the surface rights or if such planning is a part of the FERC siting process, for which FERC establishes the timing of release of all information. For non-FERC pipelines, such as gathering lines, the private negotiation with landowners is paramount for the development process and requiring regulatory approval or oversight of landscape planning impermissibly impairs and reduces fundamental property rights of individual landowners without due process. Also see previous comments on co-location.	Dave Callahan
2	When siting new pipeline facilities, operators base routing decisions on many factors including the regulatory authority of FERC derived from the provisions of the Natural Gas Act ("NGA"), 15 U.S.C. §717, et seq., the regulatory authority derived by PHMSA from the Pipeline Safety Act ("PSA"), 49 U.S.C. §60101, et seq., as well as company expertise related to sound engineering practices, constructability, operational safety for the long-term and minimization of environmental impacts. FERC approves the location, construction, modification, acquisition, operation, and abandonment of interstate pipelines, facilities, and storage fields involved in moving natural gas across state boundaries. Pipeline construction activities are heavily regulated and must adhere to strict environmental permitting standards and inspections. Given that the vast majority of pipelines are located on private property, consideration as to the route of the pipeline will also be heavily determined by the desire of the private landowner.	Cindy Ivey
3	Recommendation places additional requirements on the pipeline industry that are not required of other industries. A true landscape-level approach to planning would also need to take into account other forms of disturbance such as agriculture, urbanization, roads, and timbering. Further, landscape-level planning cannot be a regulatory tool or requirement for local government or the state, unless a government entity owns the surface rights or if such planning (Gamelands, State Forest, etc.) is otherwise a part of the FERC process, in which case, FERC establishes the timing of release of all information. For non FERC projects such as gathering lines, the private negotiation with landowner is necessary for the development process and requiring regulatory approval impermissibly impairs and reduces fundamental property rights of individual landowners without due process. Finally, many of the concepts included in the landscape-level planning approach are already being practiced by pipeline operators who have been influenced to do so through economic drivers or required by already in place conservation regulations.	Sarah Battisti
#	Comments for "2. Create an Inter-Agency Coordinating Committee to Resolve Conflicting Construction Requirements"	
1	When siting new pipeline facilities, operators base routing decisions on many factors including the regulatory authority of FERC derived from the provisions of the Natural Gas Act ("NGA"), 15 U.S.C. §717, et seq., the regulatory authority derived by PHMSA from the Pipeline Safety Act ("PSA"), 49 U.S.C. §60101, et seq., as well as company expertise related to sound engineering practices, constructability, operational safety for the long-term and minimization of environmental impacts. FERC approves the location, construction, modification, acquisition, operation, and abandonment of interstate pipelines, facilities, and storage fields involved in moving natural gas across state boundaries. Pipeline construction activities are heavily regulated and must adhere to strict environmental permitting standards and inspections. Given that the vast majority of pipelines are located on private property, consideration as to the route of the pipeline will also be heavily determined by the desire of the private landowner.	Cindy Ivey
2	Se must already have a committee like this in place	Nicholas Geanopoulos
3	Only if there is a timeline for decision making if the entity is formed; Also, there needs to be an opportunity and process in place decisions made	Mark Gutshall

#	Comments for "3. Create Statewide Technical Review Committee Within DEP for Multi-Region Pipeline Applications"	
1	Good Government !!	Nicholas Geanopoulos
2	maintaining consistency to be emphasized	Mark Gutshall
#	Comments for "4. Explore the Creation of a Taskforce of Affected Stakeholders to Study the Creation of New Regulatory Entity, or Empower Existing Regulatory Entity to Review and Approve the Siting and Routing Of Intrastate Gas Transmission Lines"	
1	This recommendation would benefit from further discussion. It would likely involve legislation and therefore would fall beyond the scope of the PITF.	Dave Callahan
2	When siting new pipeline facilities, operators base routing decisions on many factors including the regulatory authority of FERC derived from the provisions of the Natural Gas Act ("NGA"), 15 U.S.C. §717, et seq., the regulatory authority derived by PHMSA from the Pipeline Safety Act ("PSA"), 49 U.S.C. §60101, et seq., as well as company expertise related to sound engineering practices, constructability, operational safety for the long-term and minimization of environmental impacts. FERC approves the location, construction, modification, acquisition, operation, and abandonment of interstate pipelines, facilities, and storage fields involved in moving natural gas across state boundaries. Pipeline construction activities are heavily regulated and must adhere to strict environmental permitting standards and inspections. Given that the vast majority of pipelines are located on private property, consideration as to the route of the pipeline will also be heavily determined by the desire of the private landowner.	Cindy Ivey
3	Opposed to expanding the state's role in pipeline siting and routing as it relates to private property rights and the potential use of eminent domain to secure a 'preferred' route	Dave Messersmith
4	Make sure landowners are fully involved in this process.	Ken Klemow
#	Comments for "5. Create DEP Plans and Procedures Design Manual for Pipeline Construction"	
1	A codification of existing requirements.	Dave Callahan
2	Must exist already	Nicholas Geanopoulos
3	Combine with similar recommendations elsewhere.	Ken Klemow
#	Comments for "6. Create Third-Party Consultant Staffing at DEP"	
1	Would it not be cheaper just to hire more staff rather than paying consultants' loaded rates? This would also eliminate any conflicts of interest or appearance of conflicts of interest.	Doug McLearn
2	Very bad idea. DEP staff should be making decisions.	Ken Klemow
#	Comments for "7. Expand PA1Call for All Classes of Pipelines"	
1	Combine with similar recommendations elsewhere.	Ken Klemow
#	Comments for "8. Pipeline Developers Should Engage With Private and Governmental Stakeholder and Educate Landowners"	
1	See previous comments on landowner engagement and public education. This recommendation could benefit from further discussion	Dave Callahan
2	Penn State Extension would like to discuss opportunities to partner as a education and outreach provider related to this recommendation.	Dave Messersmith
3	Combine with similar recommendations elsewhere.	Ken Klemow
#	Comments for "9. Invest in Digital Infrastructure to Improve Data Availability"	
1	The general concept of improving data availability is supportable. However, please see prior comments on mapping.	Dave Callahan
2	Could especially support pipeline mapping/GIS.	Don Kiel
3	Combine with similar recommendations elsewhere.	Ken Klemow

WORKFORCE AND ECONOMIC DEVELOPMENT

WORKFORCE DEVELOPMENT

	Comments for "1. Commission Workforce Assessment and Economic Development Impact Study"	
	There are no responses.	
#	Comments for "2. Enhance STEM Education"	
	Education should be to help students understand complete energy picture, not just to train consumers and workers for NG.	Ken Klemow
#	Comments for "3. Promote Apprenticeships and On-the-Job Training"	
	There are no responses.	
#	Comments for "4. Attract Military Veterans to the Energy Workforce"	
	There are no responses.	
#	Comments for "5. Conduct a State Employee Workforce Audit to Identify Training and Other Needs of Pertinent State Agencies"	
	There are no responses.	
#	Comments for "6. Enhance Workforce Training"	
	There are no responses	

WORKFORCE AND ECONOMIC DEVELOPMENT

ECONOMIC DEVELOPMENT

#	Comments for "1. Develop A Pipeline Map"	
1	Provided this map conforms to PHMSA and provides the necessary security considerations for private property owners and operators	Walter Hufford
2	Sharing pipeline mapping information with the public beyond requirements of PHMSA's National Pipeline Mapping System cannot be supported . Pipeline maps represent proprietary and confidential information, for reasons of competitive business advantages, safety and national security. To the extent that the public is concerned about pipeline location, One-Call already conclusively addresses the public's need to know where pipelines are located prior to commencing any activity that would be likely to impact a pipeline. Sharing maps for local emergency management purposes may be advisable as long as the maps are maintained as proprietary, confidential, business information.	Dave Callahan
3	Disagree with all recommendations related to sharing detailed pipeline mapping information with the public beyond requirements of PHMSA's National Pipeline Mapping System. Pipeline maps represent proprietary and confidential information the safety and security of the entire pipeline system. To the extent that the public is concerned about pipeline location, One-Call already conclusively addresses the public's need to know where pipelines are located prior to commencing any activity that would be likely to impact a pipeline. Sharing maps for local emergency management purposes may be advisable as long as the maps are maintained as proprietary, confidential, business information.	Cindy Ivey
4	See prior comment re mapping.	Terry Bossert
5	See all prior comments expressing serious concerns regarding pipeline mapping and national security. Note PHMSA National Pipeline Mapping System and existing one-call process. The Task Force should be provided the opportunity to openly discuss all mapping and GIS issues which were not addressed at our last meeting.	Michael Gross
6	Penn State Extension and Penn State's Marcellus Center for Outreach and Research (MCOR) have been mapping proposed interstate natural gas pipelines in the region and could serve as a resource in carrying out this recommendation.	Dave Messersmith

7	This recommendation may be best implemented by Pa1CALL.	Gladys Brown
8	This certainly overlaps with other mapping/GIS recommendations by other groups, and implies that determining various levels of access/use will need to be addressed - I would like to be involved in follow-up work on this recommendation after the final report is completed.	Don Kiel
9	Combine with similar recommendations elsewhere.	Ken Klemow
#	Comments for "2. Coordinate Project Management for Projects Using Natural Gas in PA"	
	There are no responses.	
#	Comments for "3. Create Last Mile Funding"	
1	The general concept of facilitating expansion of pipeline distribution systems is supportable. However, it should not come at the expense of new taxes or fees placed on the industry which threatens the Commonwealth's economic competitiveness with other natural gas-producing regions of the U.S.	Dave Callahan
2	It would be inappropriate to use taxpayer money to pay for new infrastructure to provide natural gas access to corporations. The cost of the build-out of new natural gas pipelines for manufacturers should be internalized by the new users who will benefit from the new line. This way, the users can determine for themselves whether the economic cost of building a new distribution line is worth the cost of constructing the line.	Michael Helbing
3	If this is not approved in the Governor's budget proposal, another avenue should be pursued to establish such a program.	Don Kiel
#	Comments for "4. Enact Statute to Permit the Use of a Charge for New Service, to Permit Recovery of Gas Service Advertising by Utilities and to Amortize New Construction Costs Over Longer Time Period for New Customers"	
1	It would be inappropriate to allow natural gas distribution companies to impose a fee on rate-payers to pay for new natural gas infrastructure. The cost of the build-out of new natural gas pipelines (presumably to serve new customers) should be internalized by the natural gas companies or the new users who will benefit from the new line. This way, the users can determine for themselves whether the economic cost of building a new distribution line is worth the cost of constructing the line.	Michael Helbing
2	This is contrary to the intention of the DSIC legislation which provides a means for utilities to expedite the replacement of existing infrastructure to increase safety and reliability.	Gladys Brown
#	Comments for "5. Encourage Natural Gas Use in Ports"	
1	I support replacing the use of diesel fuel in Pennsylvania's ports, but we should prioritize the use of renewable energy sources to minimize carbon pollution, instead of focusing on the use of fossil fuels like natural gas. Further, despite identifying the need for spur lines or laterals, no environmental impacts were identified in the "Issues to Address" section. As discussed throughout the draft PITF report, any new natural gas infrastructure would have the potential for considerable environmental impact.	Michael Helbing
#	Comments for "6. Develop Targeted Investment, Business Attraction Efforts and Regional Energy Hubs"	
1	This should be done at the regional or local level as provided by a Natural Gas End Use Working Group recommendation	Dave Callahan
2	As the reality of climate change becomes more apparent, societies across the globe are taking aggressive action to minimize the effects of carbon pollution. As more clean energy alternatives come on line and become less expensive industry that remains dependent on fossil fuels will be at an economic disadvantage. Rather than actively trying to recruit industries that rely on fossil fuel consumption, the Commonwealth would be better served by working to attract businesses that use carbon-free energy sources.	Michael Helbing
3	Coordinated statewide efforts are needed to promote and prioritize appropriate high-priority areas for extension or expansion of natural gas services. There is a process model developed by the SEDA-Council of Governments that could be adapted to this need. I would like to be involved in follow-up work on this recommendation after the final report is completed.	Don Kiel

#	Comments for "7. Collaborate to Promote Downstream Shale Manufacturing Opportunity"	
1	The Commonwealth should not actively try to attract companies that consume large amounts of natural gas. As more clean energy alternatives come on line and become less expensive, industry that remains dependent on fossil fuels will be at an economic disadvantage. Rather than actively trying to recruit industries that rely on fossil fuel consumption, the Commonwealth would be better served by working to attract businesses that use carbon-free energy sources.	Michael Helbing
#	Comments for "8. Encourage Virtual Pipeline (Trucking) Delivery Systems"	
1	The Commonwealth should not encourage the use of "virtual pipeline" (trucks and oil trains) delivery systems to deliver natural gas to potential customers who cannot feasibly be connected to hardline distribution systems. Trucks and trains are less economically efficient than pipelines, and they carry higher risk to public health. Instead of funding alternative methods of transporting natural gas to customers, the Commonwealth should incentivize the use of carbon-free energy sources, which will help prepare Pennsylvania for the future.	Michael Helbing
2	If other modes not available	Nicholas Geanopulos
3	This will be a rapidly growing method to promote delivery of natural gas to "island" areas not connected to existing infrastructure. I would like to be involved in follow-up work on this recommendation after the final report is completed.	Don Kiel
4	What about rail as well?	Ken Klemow
#	Comments for "9. Allow Creation of Natural Gas Municipal Authorities"	
1	The Commonwealth should not allow the formation of natural gas municipal authorities. Authorities are generally useful to help the public finance and operate large public utility systems that would be difficult to operate in the absence of a special governmental unit. Such an authority is not needed for the distribution of natural gas. Natural gas distribution has been effectively provided across the Commonwealth using the traditional model. Further, considering the global efforts underway to minimize greenhouse gas emissions, it would be inappropriate for the public to invest heavily in fossil fuel infrastructure. In the long-term, many of these investments are likely to become "stranded" because they will no longer be able to fulfill the purpose for which they are intended.	Michael Helbing
2	I believe they already exist	Nicholas Geanopulos
3	I would like to be involved in follow-up work on this recommendation after the final report is completed.	Don Kiel
#	Comments for "10. Compile Funding and Resource Guidebook"	
1	At who's expense?	Nicholas Geanopulos
2	I think this recommendation is very important because there are many possible funding options and programs that could support natural gas projects, and many have not been well-documented (if used) or evaluated for their future suitability. I would like to be involved in follow-up work on this recommendation after the final report is completed.	Don Kiel
#	Comments for "11. Support Natural Gas for Compliance with Pennsylvania's Clean Power Plan (CPP)"	
1	Should be market driven	Dave Callahan
2	I support a mass-based Clean Power Plan that would cover all new and existing sources of carbon emissions, including plants that burn natural gas to generate power.	Michael Helbing

WORKFORCE AND ECONOMIC DEVELOPMENT

FOR OTHER WORKGROUPS

#	Comments for "1. Assess Requirement of Consulting Services for Permitting"	
	There are no responses.	
#	Comments for "2. Ensure Pipeline Permit Consistency"	
1	I do not understand this recommendation.	Lauren Parker

2	I would not oppose an effort to ensure greater consistency in pipeline permit applications, but any changes to the pipeline permit application process should ensure that all current environmental protections are either upheld or strengthened. (If there are inconsistent requirements between two different types of permit applications, the more environmentally protective requirement should be applied.)	Michael Helbing
3	Continuity!	Nicholas Geanopulos
#	Comments for "3. Reform Application of the Pennsylvania Natural Diversity Inventory (PNDI)"	
1	That this issue needs further discussion - respecting the importance of keeping certain information confidential.	Walter Hufford
2	This was already completed by DCNR in 2014 and 2015.	Lauren Parker
3	Combine with similar recommendations elsewhere.	Ken Klemow

Name, Organization – **David Hanobic**, Outreach Coordinator

Division of Gas – Environment and Engineering, Federal Energy Regulatory Commission

COMMENTS ON RECOMMENDATION - All

Workgroup Name – N/A

Recommendation Number and Title – N/A

Comments* –

The staff of the Federal Energy Regulatory Commission (FERC) has identified a few recommendations within the Governor’s Pipeline Infrastructure Task Force Report which would be contrary to existing federal requirements/authority for interstate natural gas projects under the jurisdiction of FERC. We encourage a thorough examination of all recommendations for consistency with existing federal regulations, should they be considered further.

We also recognize that most rights-of-way are not land that is owned in fee by a natural gas companies; therefore, a landowner's desire for property restoration, consistent with the negotiated easements and any other federal requirements, are important in considering the overall avoidance, minimization, and mitigation measures suggested by some of the recommendations.

FERC staff appreciates the opportunity to be part of the Governor’s Pipeline Infrastructure Task Force and a resource for questions concerning our requirements for interstate natural gas projects under the jurisdiction of FERC. We look forward to a continued cooperation with the Commonwealth of Pennsylvania and the Pennsylvania Department of Environmental Protection.

*These comments do not necessarily reflect the views of the Commission or any Commissioner.

Name: **Mark Gutshall**, LandStudies

General Statement:

I have read every public comment and attachment files submitted. Additionally, the written comments from the PITF members were all read. This information was helpful for preparing my voting decisions.

There are numerous recommendations that may have redundancy with existing regulations. I have voted “Agreed” to be sure it is acknowledged and to address “Our Charge” that the practice “May reduce environmental and community impacts by modification of variables within the current regulations”. This may not constitute a new regulation but may modify it for the benefit of our natural resources.

Recommendation #1 - Educate Landowners on Pipeline Development Issues

Landowners need to be informed better throughout the process of Pipeline Development Issues. The State has an obligation to assist in this effort due to the numbers of individuals being affected. This should be comprehensive including but not limited to local, regional, state and federal economic benefits as well as environmental risks\benefits and potential short and long term consequences. Issues should address a range of topics including permitting, legal, easements, policy, safety, PA constitutional law, FERC, water and soil health, etc. Ie – Establishment of a Statewide Information Resource Center. This comment applies to all education recommendations.

Recommendation #4 - Communicate Pipeline Development Conservation Practices to the Public

This should be done in a balanced manner that provides necessary information while maintaining privacy and enabling security of infrastructure. The type of farmers varies throughout the state and information (pending level of detail) on their farms may be confidential. There may be a need to coordinate with County Conservation Districts or Non-Government Organizations (such as Lancaster Farmland Trust or equivalent).

Recommendation #30 - Counties Should Partner in Implementation of Task Force Recommendations

This should not be mandatory. Counties have indicated this will benefit the public and local municipalities through better communication\coordination engagement. This comment applies to all County recommendations.

Recommendation #139 - Establish Publicly Available Pipeline Inspection Information

This should be done in a manner that protects the security of the infrastructure. Example: Consider the county to be the custodian of related information.

Recommendation #152 - Amend General Information Form to Require Information on Public Participation

Could be better addressed in the Educational recommendations.

Recommendation #45 - Coordinate Pipeline Mapping Plans

Mapping (GIS) should be performed and provided to entities for multi-purpose and coordinated efforts. At the same time, specific information that could be used for illicit purposes should be managed accordingly. This comment applies to all GIS related recommendations.

Recommendation #117 - Consider Limited Permit Review Assistance Using Qualified Contractors

Recommendation #161 - Create Third Party Consultant Staffing at DEP

This should be done in a manner to prevent “Conflict of Interest.”

Recommendation #6 - Use a Landscape Approach for Planning and Siting Rights-of-Way Corridors

Recommendation #63 - Sponsors Should Use Landscape Level Planning

This should be done to allow Counties and Municipalities to engage in the planning process but not be used as a way to intentionally delay the project. Public input via County and local planning is important and an appropriate tool that addresses a regional approach would benefit the public and natural resources.

Recommendation #8 – Mitigate the Loss of Public Use of Public Lands Resulting from Pipeline Development

Any mitigation should be directed to the area of interest via Stewardship fund or equivalent.

Recommendation #14 - Develop Rare Species Work Windows to Avoid Impacts

Mitigation should not be limited to Water Quality. This should also address wetlands, streams, habitat, endangered species, forested areas; as well as Total Maximum Daily Load (TMDL) and Municipal Separate Storm Sewer Systems (MS4) issues.

Recommendation #23 – Provide Recreational Opportunities in Pipeline Development

Recommendation #24 - Reseed Right-of-Ways Using Native Plants

Where appropriate and with landowner approval

Recommendation #37 - Amend Municipalities Planning Code to Empower County Comprehensive Plan

The County, along with the Municipalities should be involved in the planning process

Recommendation #65 - Do Not Locate Pipelines Parallel to Streams Within its 100-Year Floodway

Recommendation #68 - Conduct Joint Agency Coordination Meetings During Pre-Application and Planning

Larger regional context “Landscape Planning” may dictate the results on why this would need to happen.

Recommendation #70 - Share Rights-of-Ways

When and where practical and feasible

Recommendation #82 - Develop Plans for No Net Loss of Forests in Headwater Watersheds

Recommendation #83 - Develop Plans for No Net Loss of Forested Riparian Buffers

Recommendation #84 - Develop Plans for No Net Loss of Wetlands

Recommendation #105 - Establish Forest Mitigation Program

This could be interrelated with Mitigation planning, MS4, and TMDL issues for Municipal and County planning.

Recommendation #120 - Incorporate Cumulative Impacts into Applications and Review Process

To the extent possible this should be aligned with County or Multi-County planning objectives as part of the process. The planning process should not be a tool to intentionally delay the project. Cumulative impacts should be addressed in at a regional scale and align with mitigation objectives.

Name, Organization: **Steve Tambini**, Delaware River Basin Commission

COMMENTS ON RECOMMENDATION: **All**

Workgroup Name: **All**

Recommendation Number and Title: **All**

Comments:

As Executive Director of the Delaware River Basin Commission (DRBC), I appreciate the opportunity to serve on the Pennsylvania Pipeline Infrastructure Task Force (PA PITF or “Task Force”) and to contribute input and resources on behalf of the DRBC staff to support this effort. As an active participant on both the Task Force and the Environmental Protection Working Group, I am committed to supporting the PA PITF process and the work of the Department of Environmental Protection on a continuing basis as needed.

Please note, however, that neither the DRBC nor any of its five members (the governors of Delaware, New Jersey, New York and Pennsylvania and the North Atlantic Division Commander of the U.S. Army Corps of Engineers) or their alternates, in their capacity as DRBC Commissioners, have formally reviewed or endorsed the PA PITF survey submissions, votes, comments, draft BMPs, draft reports, or working group products to which the staff contributed. Therefore any work product furnished to the PA PITF effort on behalf of the DRBC staff should not be interpreted as a DRBC policy, position, or guidance on pipeline infrastructure matters.

Name, Organization – **Justin Trettel**, Rice Energy Inc., Midstream Operations and Engineering

COMMENTS ON RECOMMENDATION – Agree, as long as this is run in parallel with the DEP permitting process and not in succession.

Workgroup Name – Environmental Protection

Recommendation Number and Title – 55, Establish Early Coordination with Local Non-Governmental Groups

COMMENTS ON RECOMMENDATION – Already a BMP for the Midstream Industry since we rely on landowner cooperation for our routes.

Workgroup Name – Environmental Protection

Recommendation Number and Title – 56, Establish Early Coordination with Local Landowners and Lessors

COMMENTS ON RECOMMENDATION – Already a BMP for the Midstream Industry since we rely on landowner cooperation for our routes.

Workgroup Name – Historical/Cultural/Tribal

Recommendation Number and Title – 123, Improve Communication with Landowners

COMMENTS ON RECOMMENDATION – Only to the extent that the recommendation is a BP that does not create additional compliance obligations or changes to existing laws.

Workgroup Name – Pipeline Safety and Integrity

Recommendation Number and Title – 147, Create A Public Education Program on Gathering Systems

COMMENTS ON RECOMMENDATION – Only to the extent that the recommendation is a BP that does not create additional compliance obligations or changes to existing laws. Public awareness is already required by Act 127 for gathering systems located in any class location greater than 1.

Workgroup Name – Pipeline Safety and Integrity

Recommendation Number and Title – 148, Enhance Public Awareness of Pipeline Location

COMMENTS ON RECOMMENDATION – Only to the extent that the recommendation is a BP that does not create additional compliance obligations or changes to existing laws. Public awareness is already required by Act 127 for gathering systems located in any class location greater than 1.

Workgroup Name – Pipeline Safety and Integrity

Recommendation Number and Title – 149, Develop Public Education Program for Emergencies

COMMENTS ON RECOMMENDATION – Already required under 49CFR 192.615

Workgroup Name – Emergency Preparedness

Recommendation Number and Title – 42, Standardize Emergency Response Plans

COMMENTS ON RECOMMENDATION – Agree as long as maps are only shared with local emergency response groups and maintained as proprietary, confidential, business information. I do not agree with sharing this information due to concerns over pipeline safety and competitive advantage.

Workgroup Name – Emergency Preparedness

Recommendation Number and Title – 45, Coordinate Pipeline Mapping Plans

COMMENTS ON RECOMMENDATION – Already a best practice in use by many operators.

Workgroup Name – Emergency Preparedness

Recommendation Number and Title – 52, Assigning a 9-1-1 Address to Pipeline-Related Facilities

COMMENTS ON RECOMMENDATION – The impact fee already paid by unconventional producers should be used for this purpose, not an additional fee.

Workgroup Name – Emergency Preparedness

Recommendation Number and Title – 53, Authorize a Fee for Emergency Response to Pipeline Incidents

COMMENTS ON RECOMMENDATION – Use of dry seals are already preferred in the industry, but a wet seal should be permitted when determined appropriate by the operator.

Workgroup Name – Environmental Protection

Recommendation Number and Title – 73, Use Dry Seals for Centrifugal Compressors

COMMENTS ON RECOMMENDATION – Further steps taken to minimize methane emissions should be applicable to all industries and not single out the O&G industry.

Workgroup Name – Environmental Protection

Recommendation Number and Title – 86, Minimize Methane Emissions

COMMENTS ON RECOMMENDATION – Agree with the concept of operators diligently monitoring for and repairing leaks when discovered, but the prescriptive nature of the “recommendations” contained in this BMP are excessive, overly complicated and generally unnecessary.

Workgroup Name – Environmental Protection

Recommendation Number and Title – 103, Implement Leak Detection and Repair for all Above-Ground Components of Pipeline Infrastructure

COMMENTS ON RECOMMENDATION – Current PHMC requirements already cover this BMP.

Workgroup Name – Historical/Cultural/Tribal

Recommendation Number and Title – 126, Implement Best Practices for Upstream and Midstream Oil and Gas Development that Fall Outside of USACE Permit Areas

COMMENTS ON RECOMMENDATION – Disagree with additional mandatory leak surveys that are in addition to those already required by CFR 49 192.

Workgroup Name – Pipeline Safety and Integrity

Recommendation Number and Title – 137, Require Leak Detection Survey Schedules

COMMENTS ON RECOMMENDATION – Disagree with additional mandatory leak repair schedules that are in addition to those already required by CFR 49 192.

Workgroup Name – Pipeline Safety and Integrity

Recommendation Number and Title – 138, Require Leak Repair Schedules

COMMENTS ON RECOMMENDATION – Agree in concept that buried steel pipelines, production lines, etc. should employ CP as an industry best practice (most operators already do), however I disagree with this recommendation to the extent that it imposes mandatory obligations that exceed or require changes to existing law or regulation.

Workgroup Name – Pipeline Safety and Integrity

Recommendation Number and Title – 140, Require a Cathodic Protection Program

COMMENTS ON RECOMMENDATION – Agree with the concept that integrity management best practices should be considered for certain gathering lines, however, I disagree with how this BMP is currently written as there are significant operational, technical, and cost issues that would result from this BMP that are not properly addressed.

Workgroup Name – Pipeline Safety and Integrity

Recommendation Number and Title – 141, Require an Integrity Management Program (IMP) for Gathering Pipelines

COMMENTS ON RECOMMENDATION – Disagree that additional authorization is required to grant the PAPUC jurisdiction. PUC Act 127 already grants the PAPUC jurisdiction to enforce provisions in the federal pipeline safety standards. PHMSA safety standards should maintain primacy to ensure compatibility across the industry.

Workgroup Name – Pipeline Safety and Integrity

Recommendation Number and Title – 142, Authorize PA Public Utility Commission (PUC) Regulation of Non-Jurisdictional Pipelines

COMMENTS ON RECOMMENDATION – While several of the BMPs are already in practice by Operators, there are many listed in the full recommendation that are impracticable or impossible to implement.

Workgroup Name – Agriculture and Conservation and Natural Resources

Recommendation Number and Title – 3, Develop Best Management Practices for Pipeline Development on Agricultural Operations

COMMENTS ON RECOMMENDATION – Already required by DEP regulatory requirements.

Workgroup Name – Conservation and Natural Resources

Recommendation Number and Title – 26, Require Performance-Based Metrics for Long-Term Maintenance of Right-of-Ways

COMMENTS ON RECOMMENDATION – Agree, but requirements should not be limited to the pipeline industry.

Workgroup Name – Conservation and Natural Resources

Recommendation Number and Title – 27, Prevent Invasive Plant Species Establishment

COMMENTS ON RECOMMENDATION – Withdrawals are already regulated under DEP requirements, further regulation is not needed.

Workgroup Name – Environmental Protection

Recommendation Number and Title – 64, Minimize Water Withdrawals for Testing

COMMENTS ON RECOMMENDATION – Agree in principle that construction should be completed during the season(s) that are most conducive to this activity, however, PNDI and DEP permitting requirements need to be amended to allow this to happen. Species protection requirements are not aligned with taking steps to minimize erosion and sedimentation.

Workgroup Name – Environmental Protection

Recommendation Number and Title – 66, Employ Smart Timing of Construction

COMMENTS ON RECOMMENDATION – Agree that these BMPs should be utilized where practical, but Landowner requirements typically prohibit us from doing so.

Workgroup Name – Environmental Protection

Recommendation Number and Title – 97, Create Onsite Habitat

COMMENTS ON RECOMMENDATION – Already required under Chapter 102 and 105 where use of PNDI tool is required.

Workgroup Name – Conservation and Natural Resources

Recommendation Number and Title – 17, Develop Rare Species Work Windows to Avoid Impacts

COMMENTS ON RECOMMENDATION – Already required under Chapter 105.

Workgroup Name – Conservation and Natural Resources

Recommendation Number and Title – 18, Minimize Impacts to Riparian Areas at Stream Crossings

COMMENTS ON RECOMMENDATION – Agree, where practicable.

Workgroup Name – Environmental Protection

Recommendation Number and Title – 70, Share Rights-of-Ways

COMMENTS ON RECOMMENDATION – Already in place under current DEP policies

Workgroup Name – Environmental Protection

Recommendation Number and Title – 83, Develop Plans for No Net Loss of Forested Riparian Buffers

COMMENTS ON RECOMMENDATION – Already in place under current DEP policies

Workgroup Name – Environmental Protection

Recommendation Number and Title – 84, Develop Plans for No Net Loss of Wetlands

COMMENTS ON RECOMMENDATION – Further discussions needed.

Workgroup Name – Environmental Protection

Recommendation Number and Title – 85, Study Long-Term Impacts of Pipeline Infrastructure on Water Resources and Sensitive Landscape

COMMENTS ON RECOMMENDATION – Already in place under current DEP policies

Workgroup Name – Environmental Protection

Recommendation Number and Title – 93, Sponsors Should Review the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Tool

COMMENTS ON RECOMMENDATION – Measures are already in place at the State and Local level to require operators to repair roads to as-good or better condition.

Workgroup Name – Local Government

Recommendation Number and Title – 130, Minimize Impact on Local Roads



The Honorable John Quigley
Pennsylvania Department of Environmental Protection Office of Policy
Rachel Carson State Office Building PO Box 2063
Harrisburg, PA 17105

15 January 2016

Subject: Pipeline Infrastructure Task Force
Comments on Recommendations Report

I thank Governor Wolf for the opportunity to serve the state of Pennsylvania as an appointee to the Pipeline Infrastructure Task Force (PITF), and as a member of the Natural Gas Use (NGU) workgroup. I also thank Secretary Quigley for his leadership as Chair of the PITF, and all the PADEP staff that assisted in coordinating the meetings and materials.

PROCESS

The PITF members were not allowed ample time to review, consider, discuss, edit, or combine the recommendations published in this report.

Intent or details in the recommendations were allowed little-to-no discussion by Secretary Quigley during the PITF meetings, even when the majority of the members requested further discussion multiple times, an item expressed during the first round of voting. All recommendations are included in this report, whether or not the PITF members reached a consensus.

Several recommendation titles are not reflective of the actual content within the recommendations, and are at times misleading.

Several recommendations overlap, and several exhibit lack of knowledge on existing policy/regulation/BMPs/guidance/agency authority.

The NGU workgroup worked on its own for the vast majority of its time. Two of our members participated in one Economic Development workgroup meeting; each still submitted overlapping recommendations independently of each other.

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VOTING

Each recommendation deserves further discussion. However, votes logged as 2 (Disagree) indicate that as written, the recommendation needs further clarification on intent, or as written it conflicts with an existing r policy/regulation/BMPs/guidance/agency authority, or it may not have relevance to the stated mission of the PITF.

Votes logged as 3 (Abstain) indicate my own lack of expertise in this subject matter which is required to provide an educated response.

Votes logged as 4 (Agree) indicate that most of the recommendation, or its intent, is agreeable but still would benefit from further discussion and clarification.

Additionally, I make note of the following:

Recommendations that as written, conflict with, or overlap an existing regulation/BMP/policy/guidance/agency authority in some manner:

Agriculture: 3

Conservation and Natural Resources: 1, 3, 4, 5, 7, 8, 9, 10, 11, 14, 15, 23, 24

County Government: 6, 7, 10

Emergency Preparedness: 5, 7, 10

Environmental Protection: 5, 7, 8, 12, 19, 23, 26, 27, 28, 31, 34, 40, 41, 42, 47, 51, 102

Historical/Cultural/Tribal: 2, 3, 4

Local Government: 2

Recommendations that fall outside the scope of the PITF mission, or are not relevant to the PITF mission as written:

Agriculture: 2

Conservation and Natural Resources: 6 County Government: 8, 12

Emergency Preparedness: 12

Environmental Protection: 8, 11, 20, 39

Recommendations that may apply to any land development project (including renewable energy projects), but as written, are narrowly applied to or selectively targeting the natural gas pipeline industry:

Conservation and Natural Resources: 4, 5, 6, 7, 8, 9, 12, 14, 15, 18, 19, 24

County Government: 11

Economic Development: 2, 5, 6

Emergency Preparedness: 10, 11

Environmental Protection: 8, 2, 4, 5, 6, 7, 9, 14, 15, 19, 27, 29, 30, 31, 32, 33, 37, 38, 39, 40, 41, 42, 43, 48, 51, 52, 53, 54, 56, 57, 59, 60, 61, 64, 65, 66

For Other Workgroups: 2 Historical/Cultural/Tribal: 1, 2, 3, 4, 5, 6

Local Government: 2

Public Participation: 5

Siting & Routing: 1, 3, 5

Sincerely,

Cristina Jorge Schwarz, PG
Director, Industrial Re/Development
Apex Companies, LLC

January 15, 2016

The Honorable Tom Wolf
Governor of Pennsylvania
508 Main Capitol Building
Harrisburg, PA 17120

Secretary John Quigley
Department of Environmental Protection
400 Market Street
P. O. Box 2063
Harrisburg, PA 17105-2063

Dear Governor Wolf and Secretary Quigley;

Thank you for the effort to bring order to the chaos of PIPELINES in Pennsylvania. The significant effort the task force and the work groups have identified in the 12 areas of review can bring order to the growth in Pennsylvania's energy infrastructure. Pipelines have been serving Pennsylvania since the world's first in Venango County around 1860. The Commonwealth's 350,000 conventional oil and gas wells are connected by approximately 70,000 miles of pipelines that were not built to industry standard and have not had adequate records maintained over the years they have been in place. These lines currently do not fall under Federal or State regulations. This past July one of these lines installed in 2010 was hit by a dozer operator who had complied with the One Call Law. The dozer operator later died due to his burns and the owner of the pipeline still has not included West Franklin Twp. In their PA One Call notification area, even though the 12" pipeline has been in operation for several years.

The 184 recommendations address a variety of issues and concerns. The actual pipeline concerns have very significant existing regulations to plan, site, and permit which will achieve the actual goals you have outlined in commissioning the PITF. Every state in the Continental US has regulations on all pipelines except Pennsylvania. Therefore we have 47 other models and scores of existing studies and Best Practices to address this need. Most of the estimates talked about the number of miles of unregulated pipeline in the Commonwealth. The number referenced in the PITF document is seriously understated. Three years ago in its Act 13 testimony, PIOGA stated there are 60,000 miles of gathering line that they were aware of, and there are around 4,000 conventional wells added per year. Shale has similar well growth numbers and that adds another 35,000-40,000 miles of large diameter high pressure lines. Please note these miles are not on the PHMSA National Pipeline Mapping System or their reports. There are other lines missing from the NPMS, including the LDC mains, service lines and local transmission lines which serve millions of Pennsylvania gas consumers in the more populated areas of the Commonwealth.

PITF OBJECTIVES AND RESPONSIBILITIES

The purpose and goals of the Task Force are to define a series of best practices and recommendations to:

- Plan, site and route pipelines in ways that avoid or reduce environmental and community impacts;
 - There is a significant study adopted by PHMSA, Pipeline Safety Trust and numerous agencies and organizations that can be used directly without much work by simply incorporating them by reference in PA Law or Regulation. See attached Resource Guide for the PIPA and related document links.
 - There are also a number of organizations that have produced quality information on this matter. The Pipeline Safety Trust, the Mayors Pipeline Safety Coalition, and the Pipeline Safety Coalition are number of which are PA based. The League of Woman Voters are also very active.

- Amplify and engage in meaningful public participation;
 - PA One Call, the Energy Association of PA, 6 Common Ground Alliance Regional Partners, 3 Chapters of American Public Works Association (Delaware Valley Chapter, Central PA Chapter, Western PA Chapter), The Corrosion Control Committee of Western Pa., The Pittsburgh Public Service Coordinating Committee, Pittsburgh Connect, C.O.G.E.N.T. in the northern Tier, Chester County Pipeline Information Center, Pennsylvania Pipeline Awareness, along with PA Builders Association, PA National Utility Contractors Association, both of which have seats on our Board. PA AGC Chapters (APC & CAWP) ABC Chapters, PA Association of Plumbers/Heating/Cooling Contractors and numerous others are working together towards Preventing Damage to Underground Utilities.

- Maximize opportunities for predictable and efficient permitting;
 - Coordination of Permitting into a SINGLE effort allowing for a single entry system is critical to getting all agencies and permittee's through the process in a reasonable period of time much like the Design Process required under the current One Call Law which is currently up for reauthorization. HB 445 is in The Consumers Affairs Committee. The Law has helped keep pipelines that are currently regulated by either the PUC or PHMSA safe since 1975. The current system includes over 3,500 facility owners but only a small group of the hundreds of gathering line owners.

- Employ construction methods that reduce environmental and community impact; and
 - If PIPA is adopted as a requirement and all of the existing 40 CFR 192 & 195 Regulations are enforced there would be no reason to add additional regulations. ALL underground lines should be subject to the Underground Utility Line Protection Law as the contractor organizations asked for back in 1979. All underground users were subject to the first UULPL passed in 1974. Our organizations, your office, and the General Assembly have annually signed a

Proclamations for Safe Digging Month in April since 1980. This would be a great kickoff event for your PITF Initiative getting all Pennsylvanians involved in Safety and Damage Prevention. The new PHMSA Damage Prevention Enforcement Regulations went into effect January 1, what better way to show PENNSYLVANIA is working towards the Best and Safest Pipeline Infrastructure possible.

- Ensure pipeline safety and integrity during operation of the pipeline.
 - Putting the recommendations in place and enforcing the current laws and associated regulations on all project owners, designers, excavators and facility owners with adequate resources working TOGETHER will get the job done faster, at a lower cost and smoother than creating new regulations and processes requiring mobilization and education to address these issues.

For nearly 45 years, Pennsylvania One Call (a Pennsylvania nonprofit) has lead Damage Prevention efforts in the Commonwealth and the Nation. Our Board consists of representatives from all involved stakeholders. In 1996 we incorporated enforcement and state agencies into the Law. The Secretaries of Transportation and Labor and Industry as well as the Director of PEMA and the Chairman of the PUC have seats on our Board and we have worked diligently to reduce excavation damage and promote cooperation between stakeholders. We pledge our support in making this Initiative work. Thank you for the opportunity to help make Pennsylvania a safer place.

Respectfully,

William G. Kiger
President & CEO
PA One Call System, Inc.
Team Member PITF 2015-16 / Emergency Preparedness Workgroup

Attachment

Pipeline Damage Prevention and Emergency Preparedness links for your library September 2015

DOT – THE STATE OF THE NATIONAL PIPELINE INFRASTRUCTURE
[http://opsweb.phmsa.dot.gov/pipelineforum/docs/Secretarys%20Infrastructure%20Report Revis
ed%20per%20PHC_103111.pdf](http://opsweb.phmsa.dot.gov/pipelineforum/docs/Secretarys%20Infrastructure%20Report%20Revised%20per%20PHC_103111.pdf)

Emergency Official Web Page
<http://primis.phmsa.dot.gov/comm/EmergencyOfficials.htm?nocache=2277>

Emergency Responder statement
<http://marcelluscoalition.org/marcellus-shale/community/>

Industry Group that has a wealth of info available
<http://www.pipelineawareness.org/featured-video-pipelines>

MSC- Recommended Practices
<http://marcelluscoalition.org/category/library/recommended-practices/>

NASFM – Pipeline Emergencies
<http://www.pipelineemergencies.com/>

Summary Report for Elected and Appointed County Officials
<http://www.naco.org/sites/default/files/documents/Pipelines-Report-June2011.pdf>

Pennsylvania Pipeline Awareness
<http://www.pennsylvaniapipeline.com/Index.html>

PHMSA – Gathering Line FAQ Gathering Pipelines: Frequently Asked Questions
<http://phmsa.dot.gov/portal/site/PHMSA/menuitem.6f23687cf7b00b0f22e4c6962d9c8789/?vgnextoid=4351fd1a874c6310VgnVCM1000001ecb7898RCRD&vgnextchannel=f7280665b91ac010VgnVCM1000008049a8c0RCRD&vgnextfmt=print>

PHMSA Pennsylvania Page
<http://primis.phmsa.dot.gov/comm/StatePages/Pennsylvania.htm>

PHMSA PSA Banner
<http://phmsa.dot.gov/pipeline/library/pipeline-safety-awareness-archive/psa-banner>

Pipelines and Informed Planning Alliance
<http://primis.phmsa.dot.gov/comm/pipa/landuseplanning.htm>
<http://www2.apwa.net/documents/Meetings/Congress/2009/Handouts/5328.pdf>

Pipeline Association for Public Awareness
<http://www.pipelineawareness.org/>

Pipeline Education
<http://www.pipeline101.com/>

Pipeline Safety Awareness & Emergency Response Programs
http://www.palcall.org/PA811/Public/POCS_Content/News/2015_Pipeline_Safety_Awareness_Programs.aspx

Pipeline Safety Trust
<http://www.pst.org>

Texas Organization
http://pipeline-safety.org/Common_Ground_Alliance

Common Ground Alliance
Common Ground Alliance
BEST PRACTICES Version 12.0
811 TOOLKIT

VAULT TECHNOLOGY LIBRARY
ADVOCACY Resource Library

DIRT Report 2014

Alternative Energy
<http://www.windfarmaction.com/rethinking-wind-power.html>

Compiled by:
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Name: **Michael Helbing**, Citizens for Pennsylvania’s Future

General Comment:

PennFuture is honored to serve on the governor's Pipeline Infrastructure Task Force. PennFuture joined the Task Force with the goal of minimizing environmental and public health impacts of any new or replacement pipeline infrastructure that may be built – not to support an extensive build-out of pipeline infrastructure. Throughout the Task Force process, PennFuture has listened to the concerns of Pennsylvania’s citizens and worked cooperatively with other stakeholders in an attempt to ensure that the Pennsylvania Constitution’s guarantee of the “right to clean air, pure water, and to the preservation of the natural, scenic, historic and esthetic values of the environment” would be realized in spite of any pipeline infrastructure buildout that could potentially occur. Although we do not agree with every recommendation in the Task Force’s report, we believe that the many environmentally protective recommendations represent a starting point for protecting Pennsylvania from another cycle of natural resource extraction. We note that, because of the limited mission of the Task Force, the report does not address commitments that would prevent and mitigate the climate change impacts of consuming fossil fuels – including natural gas. As climate change calls into serious question the desirability of any build-out of fossil fuel infrastructure in Pennsylvania, it is clear that additional discussion about the future of Pennsylvania’s energy policy is needed. PennFuture looks forward to working with other stakeholders in the weeks and months ahead to continue the discussion started here—a discussion, which must include at its heart a commitment to limiting the temperature increase from climate change to a 1.5°C increase over pre-industrial levels, as agreed by a consensus of 196 nations in the Paris Agreement.

Amplifying and Engaging in Meaningful Public Participation

34	<i>County Government</i>	5	Develop Tools to Educate the Public on Pipeline Development	4	As these tools are being developed, it is important that they include information about environmental and conservation impacts. These tools should be designed to ensure that people in underserved and overburdened communities are able to access and effectively use the information. Environmental justice requires that all communities share equitably in the benefits of clean air and water.
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35	<i>County Government</i>	6	Operators Should Engage in Timely Communication	4	It is important that these communications include information about environmental and conservation impacts.
40	<i>County Government</i>	11	Create a Commonwealth Library of Pipeline Information	4	It is important that this library include information about environmental and conservation impacts.
127	<i>Historical/Cultural/Tribal</i>	5	Conduct Early Outreach with Affected Communities	5	Special care should be given to ensure that individuals in underserved and overburdened communities receive adequate information and have the opportunity to act on it in a meaningful way. Environmental justice requires that all communities share equitably in the benefits of clean air and water.
151	<i>Public Participation</i>	2	Adopt Guidelines for Public Participation	4	I wholeheartedly agree with the concept of adopting guidelines for public participation. I don't necessarily endorse either of the draft guidelines included with the recommendation. More discussion is necessary to determine the final content of these guidelines.

Developing Long-term Operations and Maintenance Plans to Ensure Pipeline Safety and Integrity

53	<i>Emergency Preparedness</i>	12	Authorize a Fee for Emergency Response to Pipeline Incidents	2	I support the idea of authorizing a fee that would require pipeline operators/owners to compensate emergency responders for services related to pipeline infrastructure. Before
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					<p>voting in support of this recommendation, I would want more specifics about the "appropriate statutory changes to ensure fair and consistent municipal regulation which does not unreasonably impede the development of the pipeline infrastructure" suggested in the recommendation.</p> <p>Compensation for emergency responders is beneficial, but it should not come at the expense of municipal officials' ability to fulfill their obligation to ensure citizens' environmental rights, guaranteed by article I, section 27 of the Pennsylvania Constitution.</p>
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Employing Construction Methods that Reduce Environmental Impact

87	<i>Environmental Protection</i>	34	Minimize Impacts of Stream Crossings	5	<p>This recommendation should be construed to apply to both pipeline crossings as well as temporary and permanent road crossings associated with pipeline construction and maintenance.</p> <p>This recommendation should also be read to recommend that the pre-construction course, condition, capacity, and location of surface waters should be maintained to the maximum extent practicable.</p>
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100	<i>Environmental Protection</i>	47	Conduct Quantitatively Site Monitoring Where Appropriate	5	Quantitative site monitoring can help ensure that vegetation is being established as necessary along pipeline corridors to minimize erosion and sedimentation. Data collected can be used to guide future restoration efforts to result in best practices without unnecessary duplication of effort.
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Maximizing Opportunities for Predictable and Efficient Permitting

117	<i>Environmental Protection</i>	64	Consider Limited Permit Review Assistance Using Qualified Contractors	2	DEP's resources should be devoted to hiring full-time staff that can fulfill its obligations to protect Pennsylvania's environment.
183	<i>For Other Workgroups</i>	2	Ensure Pipeline Permit Consistency	2	I support an effort to ensure greater consistency in pipeline permit applications, but before voting in support of such a recommendation, I would want an assurance that any changes to the pipeline permit application process would ensure that all current environmental protections are either upheld or strengthened. (If there are inconsistent requirements between two different types of permit applications, the more environmentally protective requirement should be applied.)
131	<i>Local Government</i>	3	Clarify and Examine Need for Local Regulation of Surface Facilities	4	I support the local regulation of surface facilities to the extent not preempted by federal law. Local governments have obligations to protect the

					environmental rights of Pennsylvania's citizens under article I, section 27 of the Pennsylvania Constitution. Local governments should be given the authority to meaningfully fulfill that obligation by regulating the placement of surface facilities in their municipalities. Among other things, municipalities can help to address the placement of compressor stations and to ensure that appropriate noise abatement measures are taken.
161	<i>Siting and Routing</i>	6	Create Third Party Consultant Staffing at DEP	2	DEP's resources should be devoted to hiring full-time staff that can fulfill its obligations to protect Pennsylvania's environment.

Planning, Siting, and Routing Pipelines to Avoid/Reduce Environmental and Community Impacts

5	<i>Conservation and Natural Resources</i>	2	Develop Public Access to Pipeline GIS Information	5	Making pipeline GIS information available to the public could help reduce the environmental impact of pipelines in several ways. Among other things, it could help prevent a member of the public from inadvertently digging into a pipeline. It may also help the public to identify opportunities for utility co-location that it can propose to pipeline companies and government regulators. In response to concerns of other commenters: Security from tampering is only one
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					of many factors that should be taken into account when evaluating whether the overall benefit of releasing the information to the public outweighs the overall cost.
8	<i>Conservation and Natural Resources</i>	5	Mitigate the Loss of Public Use of Public Lands Resulting from Pipeline Development	5	Article I, §27 of the Pennsylvania Constitution requires the Commonwealth to conserve and maintain public natural resources for the benefit of all the people (including generations yet to come). Loss of the use of public land is a significant cost of pipeline/natural gas development on public land. That cost should rightly be internalized by the private actor who is advocating for the action. Mitigation can be achieved by ensuring that adequate funds are set aside for restoring land to its original state or for purchasing new public lands that can provide the same benefits as the lands that are impacted by natural gas development. In all cases, the funds should be sufficient to ensure an adequate replacement.
37	<i>County Government</i>	8	Amend Municipalities Planning Code to Empower County Comprehensive Plan	4	I would support giving counties authority to the extent that such authority is not preempted by law.

72	<i>Environmental Protection</i>	19	Evaluate Existing and Needed Setbacks from Wetlands and Watercourses	5	It is important to establish adequate setbacks to protect surface waters from pollution. The Nature Conservancy recommends preserving a buffer of at least 330 feet around freshwater habitats. This recommendation is a common sense solution to protecting our environmental resources.
82	<i>Environmental Protection</i>	29	Develop Plans for No Net Loss of Forests in Headwater Watersheds	5	The Stroud Research Center has emphasized the importance of protecting headwater watersheds. http://www.stroudcenter.org/research/PDF/ProtectingHeadwaters.pdf The small scale of headwaters can make them vulnerable to degradation when landscapes are altered by construction or agriculture. Properly preserved headwater watersheds can, among other things, protect waters from point source and non-point source pollution, slow erosion from flooding, and maintain appropriate water temperature. This recommendation, combined with Environmental Protection recommendation #52 (creating forest mitigation program) will help protect our headwaters from unnecessary degradation.
85	<i>Environmental Protection</i>	32	Study Long-Term Impacts of Pipeline Infrastructure on Water Resources and Sensitive Landscape	5	In response to public comment, I support extending this proposed study to also include health impacts of pipelines and

				<p>related infrastructure such as compressor stations. It is also important to study the impact of any increased sedimentation in light of Pennsylvania's existing obligations. The Chesapeake Bay Total Maximum Daily Load (TMDL) is a historic and comprehensive pollution limit meant to restore clean water in the Chesapeake Bay and the region's streams, creeks, and rivers. Although Pennsylvania doesn't border the Chesapeake Bay, more than half of the state lies within the Bay watershed and the Susquehanna basin is the largest tributary of the Chesapeake Bay. It is clear that reducing pollution levels in Pennsylvania's waterways is integral to meeting the pollution limits established by the Bay TMDL. Pipeline infrastructure development poses risks of increased erosion and sedimentation throughout the Bay watershed. Any increased nutrient and sediment runoff from pipeline development should be accounted for and must be offset with reductions elsewhere to meet, and maintain, pollution limits set in the Chesapeake Bay TMDL.</p>
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120	<i>Environmental Protection</i>	67	Incorporate Cumulative Impacts into Applications and Review Process	5	The cumulative impact of numerous projects of varying types over many years has the potential to significantly impact the environment. The Department of Environmental Protection is required to consider "the cumulative impact of this project and other potential or existing projects" when evaluating a water obstruction and encroachment permit application under Chapter 25 of the Pa. Code. 25 Pa. Code §105.14(b)(14). Some of the preliminary Task Force comments regarding this recommendation suggest that some stakeholders may not even be aware of this regulatory requirement. These comments further emphasize the need for the Department to revisit its process for evaluating this factor during Chapter 105 permit reviews.
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Workforce/Economic Development

173	<i>Economic Development</i>	3	Create Last Mile Funding	1	It would be inappropriate to use taxpayer money to pay for new infrastructure to provide natural gas access to corporations. The cost of the build-out of new natural gas pipelines should be internalized by those corporations who will benefit from the new line. This way, the users can
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					determine for themselves whether the economic cost of building a new distribution line is worth the cost of constructing the line.
174	<i>Economic Development</i>	4	Enact statute to permit the use of a charge for new service, to permit recovery of gas service advertising by utilities and to amortize new construction costs over longer time period for new customers.	1	It would be inappropriate to allow natural gas distribution companies to impose a fee on all ratepayers to pay for new natural gas infrastructure, especially if those fees could be used to pay for "advertising costs, which assist in messaging of natural gas opportunities to citizens of PA." The cost of the build-out of new natural gas pipelines should be internalized by the company and those who will benefit from the new line. This way, the stakeholders who will benefit from the new line can determine for themselves whether the economic cost of building a new distribution line is worth the cost of constructing the line.
175	<i>Economic Development</i>	5	Encourage Natural Gas Use in Ports	2	I support replacing the use of diesel fuel in Pennsylvania's ports, but we should prioritize the use of renewable energy sources to minimize carbon pollution, instead of focusing on the use of fossil fuels like natural gas. Further, despite identifying the need for spur lines or laterals, no environmental impacts were identified in the "Issues to Address" section. As discussed throughout the PITF report,

					any new natural gas infrastructure would have the potential for considerable environmental impact.
176	<i>Economic Development</i>	6	Develop Targeted Investment, Business Attraction Effects and Regional Energy Hubs	1	As the reality of climate change becomes more apparent, societies across the globe are taking aggressive action to minimize the effects of carbon pollution. As more clean energy alternatives come on line and become less expensive, industry that remains dependent on fossil fuels will be at an economic disadvantage. Rather than actively trying to recruit industries that rely on fossil fuel consumption, the Commonwealth would be better served by working to attract businesses that use renewable energy sources.
177	<i>Economic Development</i>	7	Collaborate to Promote Downstream Shale Manufacturing Opportunity	1	The Commonwealth should not actively try to attract companies that consume large amounts of natural gas. As more clean energy alternatives come on line and become less expensive, industry that remains dependent on fossil fuels will be at an economic disadvantage. Rather than actively trying to recruit industries that rely on fossil fuel consumption, the Commonwealth would be better served by working to attract businesses that use renewable energy sources.

178	<i>Economic Development</i>	8	Encourage Virtual Pipeline (Trucking) Delivery Systems	1	<p>The Commonwealth should not encourage the use of “virtual pipeline” (trucks and oil trains) delivery systems to deliver natural gas to potential customers who cannot feasibly be connected to hardline distribution systems. Trucks and trains are less economically efficient than pipelines, and they carry higher risk to public health. Instead of funding alternative methods of transporting natural gas to customers, the Commonwealth should incentivize the use of carbon-free energy sources, which will help prepare Pennsylvania for the future.</p>
179	<i>Economic Development</i>	9	Allow Creation of Natural Gas Municipal Authorities	2	<p>The Commonwealth should not encourage the formation of natural gas municipal authorities. Authorities are generally useful to help the public finance and operate large public utility systems that would be difficult to operate in the absence of a special governmental unit. Such an authority is not needed for the distribution of natural gas. Natural gas distribution has been effectively provided across the Commonwealth using the traditional model. Further, considering the global efforts underway to minimize greenhouse gas emissions, it would be inappropriate for the public to invest heavily in fossil fuel infrastructure. In the</p>

					long-term, many of these investments are likely to become “stranded” because they will no long be needed to fulfill the purpose for which they are intended.
181	<i>Economic Development</i>	11	Support Natural Gas for Compliance with Pennsylvania’s Clean Power Plan (CPP)	1	We should not be advocating for the expansion of natural gas. We favor a state Clean Power Plan with a mass-based cap on emission. Under such an approach, every ton of emissions is a step in the wrong direction. While we expect a certain amount of gas will continue to be used for generation in the future, we do not believe that expanding gas generation is the best choice for Pennsylvania.
134	<i>Natural Gas End Use</i>	3	Create Energy Opportunity Zones	1	The Commonwealth should not create tax incentives exclusively for companies that use natural gas for energy. Natural gas is a fossil fuel that emits greenhouse gases when consumed. Considering the global efforts underway to minimize greenhouse gas emissions, it would be inappropriate for the Commonwealth to incentivize additional generation of greenhouse gases. In the long term, many investments in natural gas infrastructure are likely to become “stranded” because that infrastructure will no longer be needed to fulfill the purpose for which it is intended. Instead, the Commonwealth should

					create “Clean Energy Opportunity Zones” designed to attract businesses that rely exclusively on renewable energy sources. These businesses are better suited to lead Pennsylvania into the future.
135	<i>Natural Gas End Use</i>	4	Enact Statute to Permit Use of a Charge for New Services (Similar to a Distribution System Improvement Charge (DSIC))	1	It would be inappropriate to allow natural gas distribution companies to impose a fee on ratepayers to pay for new natural gas infrastructure. The cost of the build-out of new natural gas pipelines should be internalized by the company and those who will benefit from the new line. This way, the stakeholders who will benefit from the new line can determine for themselves whether the economic cost of building a new distribution line is worth the cost of constructing the line.
165	<i>Workforce Development</i>	1	Commission Workforce Assessment and Economic Development Impact Study	3	If this assessment is developed for the construction of pipeline infrastructure, similar studies should be done for the economic development impacts of renewable energy sources.
168	<i>Workforce Development</i>	4	Attract Military Veterans to the Energy Workforce	4	I strongly support the integration of military veterans into the workforce of the energy industry. I believe that the program described in this recommendation could provide greater long-term benefit to military veterans if it worked to integrate

					them into the renewable energy industry, instead of the natural gas industry.
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APPENDIX B – TASK FORCE VOTING RESULTS

TALLY SHEET

Voting instructions:	Voting Scale
Please type your name in the box provided above. Using the voting scale at right, enter in the "Vote" column the number that corresponds to your vote for each recommendation.	Disagree Strongly =1
	Disagree=2
	Abstain/Neutral=3
	Agree=4
	Agree Strongly=5

Amplifying and engaging in meaningful public participation										
Number	Work group	Work group #	Recommendation	Sum of Weighted Votes	David Woodwell	Justin Trettel	Steve Tambini	David Sweet	Michael Smith	David Smith
1	<i>Agriculture</i>	1	Educate Landowners on Pipeline Development Issues	179	4	4	4	4	4	4
4	<i>Conservation and Natural Resources</i>	1	Communicate Pipeline Development Conservation Practices to the Public	170	4	4	4	4	4	4
30	<i>County Government</i>	1	Counties Should Partner in Implementation of Task Force Recommendations	160	4	4	4	4	4	4
33	<i>County Government</i>	4	Develop Training Opportunities for County Officials	167	4	4	4	4	4	4

Number	Work group	Work group #	Recommendation	Sum of Weighted Votes	Sarah Battisti	Curtis Biondich	Terry Bossert	Gladys Brown	Dave Callahan	Edward Chamberlayne	Keith Coyle	Kathi Cozzone	Fred Dalena	Dennis Davin	Dan Devlin	Michael DiMatteo	Andrew Dinniman	Joe Fink	Richard Flinn	Anthony Gallagher	Wayne Gardner	Nicholas Geanopoulos	Michael Gross	Mark Gritshall	John Haner	David Hanolic	Michael Helbing	Walter Hufford	Thomas Hutchins	Cindy Ivey	Cristina Jorge Schwarz	William Keller	Don Kiel	William Kieger	Kenneth Klenow	Josiah McGinn	Dane McLearn	David Messersmith	Marvin Meter	Karen Murthy	Lauren Parker	Duane Peters	John Quijley	Mark Reeves	Leslie Richards	Heather Smiles	David Smith	Michael Smith	David Sweet	Steve Tambini	Justin Trettel	Davitt Woodwell	
34	<i>County Government</i>	5	Develop Tools to Educate the Public on Pipeline Development	176	4	4	4	4	3		4	5	3	5	5	5		4	5	3	5		4	4	5		4	3	3	5	4		5	4	5	3	5	5	5	5	4	4	5	5	4	4	4	4	4				
35	<i>County Government</i>	6	Operators Should Engage in Timely Communication	168	4	4	4	4	3		4	5	3	3	4	5		4	5	2	5		4	4	5		4	2	4	3	4	5	4	5	2	5	5	5	5		4	3	5	4	4	3	4	4	5	4	4	4	4
40	<i>County Government</i>	11	Create a Commonwealth Library of Pipeline Information	168	4	4	4	3	3		4	5	3	5	4	4		3	4	3	4		4	4	4		4	4	4	4	4	4	5	4	5	3	5	5	4	4	3	5	4	3	5	5	4	4	4	4	4	4	
55	<i>Environmental Protection</i>	2	Establish Early Coordination with Local Non-Governmental Groups	159	4	4	4	4	1		4	5	3	3	4	4		3	4	3	3		4	4	4		5	4	4	4	4	5	5	5	2	5	5	2	4	1	5	5	4	4	2	4	4	3	4	4	4	4	4
56	<i>Environmental Protection</i>	3	Establish Early Coordination with Local Landowners and Lessors	187	4	4	4	4	4		4	5	4	5	5	5		4	3	5	5		4	4	5		5	4	4	4	4	5	4	5	5	5	5	4	4	3	5	5	5	5	5	5	5	5	5	5	4	4	
123	<i>Historical / Cultural / Tribal</i>	1	Improve Communication with Landowners	170	3	4	4	5	2		4	5	2	5	4	5		4	3	2	4		4	4	5		5	4	2	4	5	5	5	2	5	5	5		4	4	5	5	4	3	3	4	5	3	5	4	4	4	
124	<i>Historical / Cultural / Tribal</i>	2	Consult with Federally Recognized Tribes on Section 106-Related Projects	152	3	4	2	4	3		4	5	2	3	4	4		2	3	4	3		4	4	3		5	3	3	3	4	4	4	5	4	5	5	2	4	3	4	5	4	3	4	3	3	3	4	4	4	4	4

Number	Workgroup	Work group #	Recommendation	Sum of Weighted Votes																																																
					Sarah Battisti	Curtis Biondich	Terry Bossert	Gladys Brown	Dave Callahan	Edward Chamberlayne	Keith Coyle	Kathi Cozzone	Fred Dalena	Dennis Davin	Dan Devlin	Michael DiMatteo	Andrew Dinniman	Joe Fink	Richard Flinn	Anthony Gallagher	Wayne Gardner	Nicholas Geanopoulos	Michael Gross	Mark Gritshall	John Hanser	David Hanobic	Michael Helbing	Walter Hufford	Thomas Hutchins	Cindy Ivey	Cristina Jorge Schwarz	William Keller	Don Kiel	William Kieger	Kenneth Klemow	Josiah McGinn	Dane McLearn	David Messersmith	Marvin Meter	Karen Murthy	Lauren Parker	Duane Peters	John Quijey	Mark Reeves	Leslie Richards	Heather Smiles	David Smith	Michael Smith	David Sweet	Steve Tambini	Justin Trettel	Davitt Woodwell
125	<i>Historical / Cultural / Tribal</i>	3	Consult with Citizens' Groups, Including Heritage and Historical Organizations and Non-Federally Recognized (NFR) Tribes for Oil and Gas Development	139	3	4	2	4	1		4	5	2	3	4	4		3	3	1	3		4	4	3	2	3	4		5	5	5	1	5	5	2		3	1	4	4	4	3	3	3	1	4					
127	<i>Historical / Cultural / Tribal</i>	5	Conduct Early Outreach with Affected Communities	160	4	4	2	5	1		4	5	2	5	4	5		3	4	3	5		4	4	4		5	4	2	4	3		5	5	5	2	5	5	4		3	2	5	5	5	3	4	4	3	1	4	
129	<i>Local Government</i>	1	Communicate Early and Often with Local Government Officials	154	1	4	4	5	1		2	5	2	5	5	5		3	5	2	4		1	4	3		5	4	2	4	2		5	4	5	2	5	5	5		4	4	5	4	5	3	3	4	3	4	2	4
139	<i>Pipeline Safety and Integrity</i>	3	Establish Publicly Available Pipeline Inspection Information	162	1	4	3	5	3		4	5	2	5	5	4		2	4	2	5		4	4	5		5	2	4	4	3		5	3	5	2	5	5	5		3	4	4	4	5	3	4	5	5	4	2	4
147	<i>Pipeline Safety and Integrity</i>	11	Create A Public Education Program on Gathering Systems	154	4	4	2	5	1		4	5	2	3	3	4		4	5	2	5		4	4	3		5	4	2	4	3		5	4	5	2	5	5	4		2	4	4	4	3	3	4	3	3	4	4	4
148	<i>Pipeline Safety and Integrity</i>	12	Enhance Public Awareness of Pipeline Location	152	3	4	2	5	1		4	5	2	3	4	4		3	4	2	4		4	4	4		5	4	2	2	3		5	2	5	2	5	5	4		3	4	5	4	3	3	4	4	4	4	4	4
149	<i>Pipeline Safety and Integrity</i>	13	Develop Public Education Program for Emergencies	166	3	4	2	5	1		4	5	2	4	4	4		4	5	2	5		4	4	4		5	4	2	4	3		5	5	5	2	5	5	5		4	4	4	5	5	3	5	4	4	4	4	4
150	<i>Public Participation</i>	1	Establish Statewide Pipeline Information Resource Center	173	4	4	3	4	2		4	5	2	5	5	4		3	4	2	4		4	4	5		5	4	4	5	4		5	5	5	2	5	5	4		4	4	4	5	5	3	5	5	5	4	4	4

Number	Workgroup	Work group #	Recommendation	Sum of Weighted Votes	Voters																																														
					Sarah Battisti	Curtis Biondich	Terry Bossert	Gladys Brown	Dave Callahan	Edward Chamberlayne	Keith Coyle	Kathi Cozzone	Fred Dalena	Dennis Davin	Dan Devlin	Michael DiMatteo	Andrew Dinniman	Joe Fink	Richard Flinn	Anthony Gallagher	Wayne Gardner	Nicholas Geanonulos	Michael Gross	Mark Gutschall	John Hanger	David Hanohic	Michael Helbing	Walter Hufford	Thomas Hutchins	Cindy Ivey	Cristina Jorge Schwarz	William Keller	Don Kiel	William Kiger	Kenneth Klemow	Josesh McGinn	Donn McLearen	David Messersmith	Marvin Meter	Karen Murphv	Lauren Parker	Duane Peters	John Quioley	Mark Reeves	Leslie Richards	Heather Smiles	David Smith	Michael Smith	David Sweet	Steve Tambini	Justin Trettel
151	<i>Public Participation</i>	2	Adopt Guidelines for Public Participation	158	3	4	4	5	1		4	5	2	5	4	4	3	4	2	4		3	4	4	4	3	4	5	4		5	4	4	2	5	5	4		4	4	4	4	4	4	4	1	4				
152	<i>Public Participation</i>	3	Amend General Information Form to Require Information on Public Participation	126	3	4	1	4	1		4	5	2	2	2	4	2	3	2	4		4	4	2	5	3	2	4	4		5	4	3	2	5	4	2		2	2	2	4	2	3	2	2	2	4	1	4	
153	<i>Public Participation</i>	4	Form Pipeline Advisory Committee	125	3	4	3	4	1		4	5	2	1	1	4	1	4	4	2		3	4	1	5	4	2	3	2		5	2	5	3	4	5	2		2	4	1	4	1	4	4	1	4				
154	<i>Public Participation</i>	5	Require Publication of Intent to Apply for DEP Permits Associated with Pipeline Development	113	3	2	1	4	1		4	5	2	2	2	2	2	3	1	3		3	4	2	5	2	2	4	4		5	2	5	1	4	4	2		2	2	2	2	2	3	2	2	2	4	2	2	
155	<i>Public Participation</i>	6	Issue Annual Report Implementations on the PITF Recommendations	141	3	4	3	4	3		4	5	3	1	1	2		3	4	4	5		4	4	1	5	2	4	4	4		5	4	5	3	5	5	5		2	4	1	4	1	4	2	1	1	4	4	4
163	<i>Siting and Routing</i>	8	Pipeline Developers Should Engage with Private and Governmental Stakeholder Engagement and Educate Landowners	176	4	4	4	5	3		4	5	4	5	5	4		4	3	4	3		4	4	5	5	4	2	4	4		5	2	5	4	5	5	4		4	3	5	5	5	5	5	5	4	4	4	4

Number	Workgroup	Work group #	Recommendation	Sum of Weighted Votes	Sarah Battisti	Curtis Biondich	Terry Bossert	Gladys Brown	Dave Callahan	Edward Chamberlayne	Keith Coyle	Kathi Cozzone	Fred Dalena	Dennis Davin	Dan Devlin	Michael DiMatteo	Andrew Dinniman	Joe Fink	Richard Flinn	Anthony Gallagher	Wayne Gardner	Nicholas Geanopoulos	Michael Gross	Mark Gritshall	John Haner	David Hanolic	Michael Helbing	Walter Hufford	Thomas Hutchins	Cindy Ivey	Cristina Jorge Schwarz	William Keller	Don Kiel	William Kieger	Kenneth Klenow	Josesh McGinn	Dane McLearn	David Messersmith	Marvin Meter	Karen Murthy	Lauren Parker	Duane Peters	John Quijley	Mark Reeves	Leslie Richards	Heather Smiles	David Smith	Michael Smith	David Sweet	Steve Tambini	Justin Trettel	Davitt Woodwell
Developing long-term operations and maintenance plans to ensure pipeline safety and integrity																																																				
41	<i>County Government</i>	12	Require Pipeline Abandonment Plans	144	3	4	2	3	1		2	5	2	4	4	5		4	3	2	5		3	4	5		5	3	2	1	2		5	2	5	2	5	4	5		3	3	4	4	3	3	5	4	4	4	1	4
42	<i>Emergency Preparedness</i>	1	Standardize Emergency Response Plans	169	4	4	4	4	1		4	5	2	5	5	5		4	5	2	5		4	5	5		5	2	2	1	3		5	5	5	2	5	5	5		4	4	5	4	5	3	4	5	5	4	4	4
43	<i>Emergency Preparedness</i>	2	Train Emergency Responders	191	4	4	5	5	5		4	5	4	5	5	5		4	5	5	4		4	5	5		5	4	4	5	3		5	5	5	5	5	5	5		4	4	5	5	5	3	4	5	5	4	4	4
45	<i>Emergency Preparedness</i>	4	Coordinate Pipeline Mapping Plans	153	1	4	3	4	3		2	5	2	3	4	4		3	5	4	4		1	5	3		5	2	2	1	3		5	4	5	4	5	4	4		4	4	5	4	5	3	5	4	3	4	4	4
46	<i>Emergency Preparedness</i>	5	PUC Should Develop a Comprehensive List of Pipeline Classifications	143	3	4	1	3	1		2	5	2	3	3	5		2	5	2	4		4	5	3		5	2	2	1	3		5	4	5	2	4	5	5		2	4	5	4	3	3	4	3	3	4	4	4
47	<i>Emergency Preparedness</i>	6	Enhance Emergency Response Training for Responder Agencies	182	3	4	4	5	5		4	5	4	5	4	5		4	5	5	4		4	5	5		5	4	2	5	3		5	4	5	4	5	5	5		4	4	5	5	4	3	4	4	5	4	4	4
48	<i>Emergency Preparedness</i>	7	Create County/Regional Safety Task Forces	160	3	4	4	4	3		4	5	4	5	4	5		4	5	2	3		4	5	3		5	4	2	3	3		4	5	5	1	4	4	4		4	4	2	4	4	3	4	4	3	4	5	4
49	<i>Emergency Preparedness</i>	8	Provide Training to Local Emergency Responders	182	4	4	4	4	3		4	5	4	5	5	5		4	5	5	3		4	5	5		5	4	2	5	3		5	5	5	5	5	5	2		4	4	5	5	5	3	4	5	5	4	5	4
50	<i>Emergency Preparedness</i>	9	Assess Need for Additional Training for Local Responders	172	3	4	5	4	3		4	5	4	5	4	5		4	5	4	5		4	5	3		5	3	2	3	3		4	4	5	4	5	5	4		4	4	5	5	4	3	4	4	3	4	5	4

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51	<i>Emergency Preparedness</i>	10	Establish Protocol for Emergency Movement of Heavy Equipment during Off-Hours	154	3	4	4	4	3		4	5	3	3	5	3		4	5	4	3		4	4	3		5	4	2	3	3		4	4	5	4	2		2	4	3	4	5	3	2	3	3	3	4	4	4		
52	<i>Emergency Preparedness</i>	11	Assigning a 9-1-1 Address to Pipeline-Related Facilities	166	3	4	4	5	3		3	5	2	3	4	4		4	5	4	3		4	4	4		5	3	2	3	3		5	5	5	4	5	5	5		4	4	4	4	5	3	4	4	4	4	4	4	4
53	<i>Emergency Preparedness</i>	12	Authorize a Fee for Emergency Response to Pipeline Incidents	128	1	4	1	4	1		4	5	2	3	3	3		3	5	2	2		4	3	3		2	2	2	2	3		4	4	5	2	4	4	4		3	4	3	2	3	3	4	3	3	4	1	4	
73	<i>Environmental Protection</i>	20	Use Dry Seals for Centrifugal Compressors	151	3	4	3	4	3		4	5	2	5	3	3		4	3	2	2		3	3	5		5	3	4	3	3		4	3	5	2	5	5	4		3	3	4	5	3	3	4	3	5	3	4	4	
74	<i>Environmental Protection</i>	21	Minimize Methane Emissions During Compressor Station Shutdown Periods	166	3	4	2	4	3		3	5	2	5	5	5		3	4	4	4		3	4	5		5	3	4	3	3		5	4	5	4	5	5	4		3	3	5	5	5	3	2	5	5	3	4	5	
75	<i>Environmental Protection</i>	22	Use Pump-Down Techniques Before Maintenance and Repair	157	4	4	2	4	3		3	5	2	5	4	5		3	4	4	3		4	4	5		5	3	4	3	3		4	3	5	4	5	5	2		3	3	5	5	3	3	2	3	5	3	4	4	
76	<i>Environmental Protection</i>	23	Develop Plans for Construction, Operation, and Maintenance	158	4	4	2	3	3		4	5	2	5	4	5		4	4	4	3		4	4			5	3	4	1	4		5	4	5	4	5	5	4		4	3	4	5	3	4	2	4	4	4	4	4	
77	<i>Environmental Protection</i>	24	Implement Directed Inspection and Maintenance Program for Compressor Stations	162	4	4	2	3	3		2	5	2	5	5	5		4	3	4	3		4	4	5		5	3	4	1	3		5	4	5	4	5	5	4		3	3	5	4	5	4	2	5	5	3	4	4	

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86	<i>Environmental Protection</i>	33	Minimize Methane Emissions	180	4	4	2	5	3		4	5	2	5	5	5		4	4	4	4		3	4	5		5	4	4	4	4		5	5	5	4	5	4		4	4	5	5	4	4	4	5	4	4	5		
89	<i>Environmental Protection</i>	36	Require Shutoff Valves for Liquid Product Pipelines	161	4	4	2	4	1		4	5	2	3	4	5		4	5	2	4		4	4	5		5	4	2	3	3		5	3	5	2	5	5	5		3	4	4	4	3	4	4	3	5	5	5	4
102	<i>Environmental Protection</i>	49	Properly Use and Maintain Pipeline Components	179	4	4	4	5	3		4	5	2	5	5	4		4	4	4	3		4	4	5		5	4	4	3	4		5	3	5	4	5	5	5		4	4	5	5	4	4	5	5	4	5	4	
103	<i>Environmental Protection</i>	50	Implement Leak Detection and Repair for all Above-Ground Components of Pipeline Infrastructure	156	3	4	2	3	1		2	5	2	5	5	4		3	5	2	4		3	4	4		5	3	1	3	4		4	4	5	2	5	5	5		3	4	5	4	5	4	4	5	4	4	2	5
126	<i>Historical / Cultural / Tribal</i>	4	Implement Best Practices for Upstream and Midstream Oil and Gas Development that Fall Outside of USACE Permit Areas	150	3	5	1	4	1		4	5	2	3	5	4		2	3	4	3		4	4	3		5	4	4	3	4		5	4	5	4	5	5	2		4	1	4	4	4	3	2	4	3	3	4	4
137	<i>Pipeline Safety and Integrity</i>	1	Require Leak Detection Survey Schedules	149	1	4	1	5	1		2	5	2	5	5	4		3	4	4	5		2	4	5		5	2	4	1	3		4	4	5	2	5	5	5		2	4	5	2	3	3	4	4	5	5	1	4
138	<i>Pipeline Safety and Integrity</i>	2	Require Leak Repair Schedules	148	1	4	1	5	1		2	5	2	5	5	4		3	4	4	3		2	4	5		5	2	4	1	3		4	5	5	2	5	5	5		2	4	5	2	3	3	4	4	5	5	1	4
140	<i>Pipeline Safety and Integrity</i>	4	Require a Cathodic Protection Program	148	1	4	1	5	1		2	5	2	5	4	4		3	4	4	5		2	4	3		5	2	4	5	3		4	5	5	3	5	5	4		2	4	5	2	3	3	4	3	3	4	2	4

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141	<i>Pipeline Safety and Integrity</i>	5	Require An Integrity Management Program (IMP) for Gathering Pipelines	143	1	4	1	5	1		2	5	2	5	4	4		3	4	4	5		2	4	3	3	5	2	4	3		4	5	5	2	5	5	4		2	4	4	2	3	3	4	3	3	4	2	4	
142	<i>Pipeline Safety and Integrity</i>	6	Authorize PA Public Utility Commission (PUC) Regulation of Non-Jurisdictional Pipelines	130	1	4	1	5	1		4	5	2	3	4	3		2	4	2	3		2	3	4		4	2	4	3	3		4	5	5	2	4	2	4		2	4	4	2	3	3	2	3	3	3	2	4
143	<i>Pipeline Safety and Integrity</i>	7	Require Best Practices and Standards for Production Lines Located Beyond the Well Pad and Gas Gathering Lines in Class 1 Locations	150	1	4	1	5	1		4	5	2	4	4	4		2	4	4	4		2	4	5		5	2	4	4	3		4	5	5	2	5	4	4		2	4	4	4	4	3	4	3	5	4	2	4
145	<i>Pipeline Safety and Integrity</i>	9	Designate PA PUC As Enforcement Agency for Underground Utility Line Protection Law	171	3	4	3	5	3		5	5	2	5	5	3		4	4	5	5		4	3	5		5	4	4	3	3		4	5	3	5	4	5	4		4	4	4	4	5	3	2	5	5	4	5	4

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Employing construction methods that reduce environmental impact																																																				
3	<i>Agriculture and Conservation and Natural Resources</i>	1	Develop Best Management Practices for Pipeline Development on Agricultural Operations	152	3	4	2	4	2		4	5	2	5	5	4		3	3	4	4		4	4	5		5	2	2	3	2		5	4	5	4	5	5	2		4	2	4	2	4	3	4	5	4	4	1	4
10	<i>Conservation and Natural Resources</i>	7	Implement Full-Time Environmental Inspections During Pipeline Construction	124	1	4	1	4	1		2	5	2	3	3	4		1	4	2	4		1	4	3		5	2	1	2	2		4	4	5	2	5	4	4		2	4	1	2	3	4	4	3	3	4	1	4
11	<i>Conservation and Natural Resources</i>	8	Monitor Water Quality During Construction	130	1	4	2	4	1		2	5	2	3	3	5		2	4	2	5		2	4	3		5	2	2	2	2		5	4	5	2	5	5	2		2	2	4	2	3	4	2	3	3	5	1	4
12	<i>Conservation and Natural Resources</i>	9	Implement Post-Construction Monitoring for an Appropriate Period	140	1	4	2	4	1		2	5	2	1	5	5		1	4	4	5		2	4	3		5	2	3	4	2		5	4	5	4	5	5	3		2	3	4	2	4	4	2	4	3	5	1	4
26	<i>Conservation and Natural Resources</i>	23	Require Performance-Based Metrics for Long-Term Maintenance of Right-of-Ways	135	1	4	2	4	3		4	4	2	2	2	4		3	3	4	4		2	4	2		5	4	4	3	2		4	4	5	4	5	5	2		2	2	2	4	2	3	3	2	2	4	4	4
27	<i>Conservation and Natural Resources</i>	24	Prevent Invasive Plant Species Establishment	166	3	4	4	4	2		4	5	2	5	5	5		4	3	2	3		4	4	5		5	4	4	4	4		5	4	5	2	5	5	4		2	4	4	4	3	4	4	5	5	4	4	4
29	<i>Conservation and Natural Resources</i>	26	DEP Should Follow the 2008 Final Mitigation Rule for All Mitigation Sites	155	3	4	2	4	3		3	5	2	5	3	3		4	3	4	4		4	4	4		4	3	4	3	5		3	4	4	4	5	5	4		4	3	4	3	3	3	4	3	4	4	4	4

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61	<i>Environmental Protection</i>	8	Develop Standard Water Quality Monitoring Practices	147	3	4	2	4	1		3	5	2	1	5	5		3	4	3	3		3	4	3	5	2	2	3	2		4	4	5	3	5	5	4		2	3	4	4	4	4	4	4	3	5	4	4
64	<i>Environmental Protection</i>	11	Minimize Water Withdrawals for Testing	155	3	4	2	4	3		4	5	2	3	3	4		4	3	4	4		4	4	3	5	3	2	4	2		5	4	5	4	5	5	5		3	3	4	4	3	4	4	4	3	5	2	4
66	<i>Environmental Protection</i>	13	Employ Smart Timing of Construction	144	3	4	2	4	1		3	5	2	4	4	5		2	3	1	4		3	4	4	5	3	2	2	4		5	4	5	1	5	4	2		4	2	5	4	4	4	2	4	3	4	4	4
79	<i>Environmental Protection</i>	26	Use Antidegradation Best Available Combination of Technologies to Protect EV and HQ Waters	178	4	4	2	4	3		4	5	2	5	5	5		4	3	4	4		4	4	5	5	4	4	4	4		4	4	5	4	5	5	3		4	4	5	5	5	5	4	5	5	5	5	4
87	<i>Environmental Protection</i>	34	Minimize Impacts of Stream Crossings	179	4	4	2	4	3		4	5	2	5	5	5		4	3	4	4		4	4	5	5	4	2	4	4		5	5	5	4	5	5	5		4	3	5	5	5	5	4	5	5	5	5	4
88	<i>Environmental Protection</i>	35	Conduct Research to Improve Revegetation BMPs	175	4	4	2	4	3		4	5	3	5	4	4		4	3	4	4		4	4	5	5	4	4	4	4		5	4	5	4	5	5	4		4	4	4	5	4	4	4	5	5	4	5	4
90	<i>Environmental Protection</i>	37	Use Dust Suppression Controls Near Water Resources	166	4	4	2	4	3		4	5	2	4	4	4		4	3	2	4		4	4	4	5	4	4	4	4		5	4	5	2	5	5	5		4	4	4	4	4	4	4	5	4	4	4	4
91	<i>Environmental Protection</i>	38	Test Efficacy of Silt Fencing	167	4	4	3	4	5		4	5	3	4	4	4		4	3	4	4		4	4	4	5	4	4	4	4		5	3	5	4	5	4	2		4	4	4	4	4	4	2	4	4	4	5	4
92	<i>Environmental Protection</i>	39	Test Soils in Acid Deposition Impaired Watersheds to Identify Need for Additional Liming	142	3	4	1	4	3		3	5	2	3	3	3		3	3	2	3		3	4	4	5	3	4	3	4		4	4	5	2	5	5	2		2	4	4	4	3	4	2	3	4	4	2	4

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94	<i>Environmental Protection</i>	41	Develop Construction Sequencing Plan	160	4	4	1	4	3		4	5	2	3	4	5		4	4	4	2		4	4	2	3	4		5	4	5	4	5	5	2		4	3	4	5	3	4	4	3	4	4	5	4			
95	<i>Environmental Protection</i>	42	Stockpile Topsoil During Construction for Use in Restoration	168	4	4	1	4	3		4	5	2	3	4	5		4	3	4	3		4	4	4	5	4	2	4	4	5	4	5	5	4		4	4	4	5	4	4	4	5	4	5	5	4			
96	<i>Environmental Protection</i>	43	Soften Forest/Right-of-Ways Edges and Promote Canopy Closure	157	4	4	2	4	1		4	5	2	5	5	5		4	3	1	3		4	4	5	5	4	2	2	4	5	4	5	1	5	5	2		4	3	5	4	5	4	2	5	4	4	4		
97	<i>Environmental Protection</i>	44	Create Onsite Habitat	147	4	4	2	4	1		4	5	2	5	4	5		4	3	2	3		4	4	3	5	4	1	3	4	5		5	5	2	5	5	2		4	2	4	4	3	4	4	3	3	4	4	
98	<i>Environmental Protection</i>	45	Prevent Invasive Species from Entering Sites	158	4	4	2	4	3		4	5	2	5	5	5		4	3	2	3		4	4	5	5	4	2	4	4	5		5	5	2	5	5	4		2	4	4	4	3	4	2	5	5	4	4	4
99	<i>Environmental Protection</i>	46	Ensure Ecologically Sensitive Revegetation of Right-of-Ways	150	3	4	2	4	1		2	5	2	4	4	5		3	3	2	4		4	4	4	5	3	2	2	4	5	4	5	2	5	5	4		4	3	5	4	4	4	2	4	4	4	2	4	
100	<i>Environmental Protection</i>	47	Conduct Quantitatively Site Monitoring Where Appropriate	128	1	4	2	4	1		3	5	2	3	3	4		2	3	2	4		2	4	3	5	2	2	2	2	4	4	4	5	2	4	5	2		2	2	4	4	3	4	2	3	3	4	2	4
101	<i>Environmental Protection</i>	48	Conduct Regular Site Maintenance	154	1	4	2	4	3		3	5	2	3	5	5		2	4	2	4		2	4	4	5	4	2	2	4	4	4	5	2	5	5	4	4	4	3	4	4	4	4	4	4	4	4	2	4	
104	<i>Environmental Protection</i>	51	Clarify Remediation of Spills Under Shale Regulation	146	1	4	4	4	1		2	5	2	3	3	4		2	4	2	3		5	4	3	5	2	4	2	2	4	4	4	5	2	5	5	4	4	3	4	4	4	3	4	4	3	3	4	2	4

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116	<i>Environmental Protection</i>	63	Create Pipeline Erosion and Sediment Control Manual	173	4	4	4	4	3		4	5	3	3	4	5		4	3	2	4		5	4	4	5	4	2	4	5		5	4	5	2	5	5	3	4	4	5	4	4	4	4	4	4	4	4	5	5	4
160	<i>Siting and Routing</i>	5	Create DEP Plans and Procedures Design Manual for Pipeline Construction	171	1	4	4	4	3		4	5	2	5	4	4		4	4	4	2		4	4	4	5	4	2	4	4		5	4	5	4	5	5	4	4	4	5	4	4	4	3	4	4	4	5	4	4	
Maximizing opportunities for predictable and efficient permitting																																																				
13	<i>Conservation and Natural Resources</i>	10	Tie Permitting Standards to the Duration of Impact	134	3	4	2	4	1		3	5	2	3	4	4		3	3	4	4		2	4	4		5	3	2	2	2		3	4	3	4	4	5	3	3	2	2	4	2	3	4	2	4	3	2	2	2
172	<i>Economic Development</i>	2	Coordinate Project Management for Projects Using Natural Gas in PA	159	4	4	4	4	3		4	5	4	3	3	4		4	3	5	3		4	4	3		3	4	4	3	4		5	4	3	5	4	5	3	3	4	4	2	4	3	3	4	3	4	3	5	2
54	<i>Environmental Protection</i>	1	Establish Early Partnerships and Coordination in Relationships with Regulatory Agencies	183	4	4	4	5	3		4	5	4	5	5	5		4	4	5	4		4	4	5		5	4	3	4	4		5	4	5	5	3	5	2	5	4	3	5	5	4	4	4	4	5	5	4	4
59	<i>Environmental Protection</i>	6	Sponsors Should Request Pre-Application Meetings with Regulatory Agencies	166	4	4	2	4	3		4	5	2	5	4	5		4	3	4	4		4	4	3		5	4	3	4	2		5	4	5	4	4	5	2	5	2	4	5	4	4	4	4	4	3	4	4	4
106	<i>Environmental Protection</i>	53	Implement Electronic Permit Submissions for Chapters 102 and 105	187	4	4	4	4	5		4	4	3	5	5	5		4	3	5	4		4	4	5		5	4	4	4	5		5	4	5	5	3	5	4	5	4	5	5	5	5	3	4	5	5	3	5	4

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107	<i>Environmental Protection</i>	54	Establish Electronic Payment for Chapters 102 and 105 Permit Fees	183	4	4	4	4	5		4	4	3	5	5	5		4	3	5	4		4	4	5		4	4	2	4	5		5	4	4	5	3	5	4	5	5	5	3	4	5	5	3	5	4			
108	<i>Environmental Protection</i>	55	Evaluate Need for Hard Copies of Chapter 102 and 105 Permit Submissions	169	4	4	4	4	5		4	4	3	5	4	4		4	3	5	3		4	4	3		4	4	4	4	4		5	5	4	5	3	5	4	4	4	5	3	5	3	3	3	3	5	4		
109	<i>Environmental Protection</i>	56	Evaluate Erosion and Sediment Control General Permit (ESCGP-2) Expedited Review	185	4	4	4	4	5		4	5	3	5	5	4		5	3	5	4		4	4	5		5	4	4	4	5		5	4	3	5	4	5	3	4	4	5	5	5	3	4	5	5	3	5	4	
110	<i>Environmental Protection</i>	57	Ensure Adequate Agency Staffing for Reviewing Pipeline Infrastructure Projects	188	4	4	4	5	5		4	5	3	5	5	5		5	4	4	5		4	4	5		5	4	2	4	5		5	4	5	4	4	5	3	5	5	5	3	4	5	5	3	5	4			
111	<i>Environmental Protection</i>	58	Evaluate DEP Retention and Attrition of Staff and Succession Planning	172	4	4	4	5	5		4	4	3	4	4	2		5	3	4	5		4	4	4		5	4	3	4	4		5	4	5	4	4	5	3	4	4	4	3	4	4	4	3	5	4			
112	<i>Environmental Protection</i>	59	Evaluate the Effectiveness of the Permit Decision Guarantee Policy	161	4	4	4	4	5		4	5	3	3	4	2		4	3	5	3		4	4	3		4	4	3	4	5		4	4	5	5	4	5	3	1	4	5	1	4	3	3	4	3	3	3	5	4
113	<i>Environmental Protection</i>	60	Evaluate the Permit Decision Guarantee Priority Status Hierarchy	160	4	4	4	4	3		4	5	3	3	3	2		4	3	5	3		5	4	3		3	4	3	4	5		4	4	5	5	4	5	3	1	4	5	3	4	3	3	4	3	3	3	5	4

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182	<i>For Other Workgroups</i>	1	Assess Requirement of Consulting Services for Permitting	151	3	4	4	4	3		4	5	3	3	3	3		4	3	4	3		4	4	3		3	4	3	3	4		4	4	5	4	4	5	4	1	2	5	1	4	3	3	3	3	3	3	3	3	3	5	4
183	<i>For Other Workgroups</i>	2	Ensure Pipeline Permit Consistency	159	5	4	4	5	3		4	5	3	3	3	2		4	3	5	4		4	4	3		2	3	2	3	4		4	4	5	5	5	5	4	3	2	5	2	4	3	3	5	3	3	3	5	4			
131	<i>Local Government</i>	3	Clarify and Examine Need for Local Regulation of Surface Facilities	107	1	2	1	3	1		1	5	2	3	3	3		1	3	1	2		1	4	3		4	2	1	1	2		4	4	4	1	4	2	5	4	2	3	4	1	3	3	2	3	3	3	3	1	1		
132	<i>Natural Gas End Use</i>	1	Create A State Level Permit Coordinator	157	5	4	5	4	5		4	4	2	3	3	4		4	3	5	4		5	4	3		3	3	2	4	5		5	4	5	5	3	4	4	1	4	3	1	4	3	3	3	3	3	4	4				
158	<i>Siting and Routing</i>	3	Create Statewide Technical Review Committee Within DEP for Multi-Region Pipeline Applications	160	4	4	5	4	3		4	5	2	3	3	4		4	4	4	4		4	4	3		5	4	2	4	4		3	4	5	4	4	5	4	4	2	3	2	4	3	4	4	3	3	4	4	4			
161	<i>Siting and Routing</i>	6	Create Third Party Consultant Staffing at DEP	138	4	4	4	3	5		4	4	3	1	1	2		4	3	4	2		5	4	1		2	4	4	4	4		4	4	2	4	1	5	3	1	4	5	1	4	3	3	3	1	2	3	5	4			

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Planning, siting and routing pipelines to avoid/reduce environmental and community impacts																																																				
2	<i>Agriculture</i>	2	Build a GIS Database of PA's Farms	163	3	4	3	4	3	4	5	3	5	5	2		3	4	3	3		4	4	5		5	3	3	4	2		5	4	4	3	5	3	3	5	4	4	5	3	5	3	2	5	5	3	4	4	
5	<i>Conservation and Natural Resources</i>	2	Develop Public Access to Pipeline GIS Information	125	1	4	2	4	1		2	5	2	3	3	4		2	4	1	2		1	4	3		5	1	1	1	1		5	4	4	1	5	4	4	5	2	4	5	2	3	3	3	3	3	3	1	4
6	<i>Conservation and Natural Resources</i>	3	Use a Landscape Approach for Planning and Siting Rights-of-Way Corridors	140	1	4	2	4	1		2	5	2	4	4	5		1	3	2	3		2	4	4		5	2	2	2	2		5	4	5	2	5	4	4	5	3	3	5	4	4	4	3	5	2	4		
7	<i>Conservation and Natural Resources</i>	4	Give Special Consideration to Protected / Designated Lands in Pipeline Siting	168	3	4	2	4	3		4	5	2	3	5	5		4	3	4	3		2	4	5		5	3	3	4	4		5	4	5	4	5	5	3	5	4	1	5	4	3	4	4	4	5	5	4	4
8	<i>Conservation and Natural Resources</i>	5	Mitigate the Loss of Public Use of Public Lands Resulting from Pipeline Development	144	1	4	1	4	3		2	5	2	3	5	4		4	3	2	4		2	4	4		5	2	2	3	2		4	4	4	2	5	5	3	5	2	1	5	2	3	4	4	4	4	4	4	
9	<i>Conservation and Natural Resources</i>	6	Avoid Geologic Hazards During Planning	153	3	2	2	4	2		2	5	2	3	4	5		4	5	2	4		3	4	4		5	2	4	1	4		5	4	5	2	5	5	4	5	4	3	5	2	3	3	4	4	4	4	2	4
14	<i>Conservation and Natural Resources</i>	11	Implement a Mitigation Bank to Improve Water Quality	150	3	4	2	4	1		3	5	2	5	3	3		1	3	2	3		4	4	3		5	3	2	4	4		4	4	5	2	5	5	3	4	3	4	4	4	4	4	4	3	3	4	4	4

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32	<i>County Government</i>	3	Counties Should Make GIS Mapping Available to Operators and Require Them to Provide Their Mapping to Counties and Municipalities	138	1	4	2	4	1		2	5	2	3	3	5	3	5	1	4		1	4	3	5	2	2	1	4		5	2	5	1	5	5	4	5	2	3	4	2	3	3	3	4	3	3	4	4	4		
36	<i>County Government</i>	7	Develop Advisory Standards for Pipeline Setback and Buffers	137	1	4	1	4	1		3	5	2	3	5	2	2	5	2	4		3	4			5	2	2	1	4		5	4	5	2	5	5	3	5	2	3	5	2	4	3	4	3	3	4	1	4		
37	<i>County Government</i>	8	Amend Municipalities Planning Code to Empower County Comprehensive Plan	124	1	2	1	3	1		3	5	2	3	3	4		1	4	1	2		3	4	3		4	2	2	3	2		5	4	5	1	4	5	2	5	3	3	4	2	3	3	3	3	3	1	3		
38	<i>County Government</i>	9	Consider Opportunities for Shared Rights-of-Ways	160	3	4	2	4	1		3	5	2	5	5	2		3	4	4	4		3	4	4		5	3	2	2	2		5	4	5	4	5	5	4	5	4	3	5	4	4	5	4	4	4	1	5		
39	<i>County Government</i>	10	Empower GIS Mapping	151	1	4	2	4	3		3	5	2	5	3	4		3	5	3	3		1	4	3		5	3	4	1	2		5	4	5	3	5	5	3	5	2	3	5	4	4	3	4	5	3	4	2	4	
171	<i>Economic Development</i>	1	Develop a Pipeline Map	146	2	4	2	3	1		2	5	2	5	4	4		3	5	2	2		1	4	4		5	3	4	2	2		5	4	5	2	5	5	4	5	2	4	4	2	4	3	4	5	3	3	2	4	
44	<i>Emergency Preparedness</i>	3	Require Infrastructure Mapping	149	2	4	4	4	3		2	5	2	3	3	5		3	5	2	4		1	4	3		5	2	4	2	3		5	4	5	2	5	5	4	5	4	4	4	4	2	3	3	4	3	3	4	1	4
57	<i>Environmental Protection</i>	4	Project Sponsors Should Review Pennsylvania Stormwater BMP Manual	170	4	4	1	4	3		4	5	2	4	3	5		4	3	5	3		4	4	3		5	4	2	4	5		5	4	5	5	5	5	3	5	4	4	5	4	4	4	4	4	3	3	5	4	4

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58	<i>Environmental Protection</i>	5	Sponsors Should Review the Pennsylvania Erosion and Sediment Pollution Control Program Manual	170	4	4	1	4	3		4	5	4	3	3	5		4	3	5	3		4	4	2	4	4		5	4	5	5	5	5	3	5	4	4	5	4	4	4	4	3	3	5	4	4					
60	<i>Environmental Protection</i>	7	Sponsors Should Perform Alternatives Analysis to Avoid/Minimize Impacts	166	3	4	1	4	1		4	5	2	3	4	5		4	3	4	4		4	4	4	4	4		5	4	5	4	5	5	3	5	5	4	1	5	4	3	4	4	4	4	4	5	4	4			
62	<i>Environmental Protection</i>	9	Develop An Advanced High-Quality Environmental Resources Planning Tool	178	4	4	2	4	3		3	5	2	5	5	5		5	3	4	3		4	4	5		5	4	4	4	5		5	4	5	4	5	5	2	5	5	2	4	5	4	5	4	4	5	5	4	5	4
63	<i>Environmental Protection</i>	10	Sponsors Should Use Landscape Level Planning	142	3	4	2	4	1		2	5	2	3	3	5		1	3	2	2		2	4	3		5	3	2	2	2		5	4	5	2	5	5	3	5	4	2	5	4	3	4	4	3	3	5	2	4	
65	<i>Environmental Protection</i>	12	Do Not Locate Pipelines Parallel to Streams Within its 100-Year Floodway	151	3	4	3	4	1		3	5	2	3	3	4		3	4	2	3		4	4	3		5	2	2	3	4		5	4	5	2	5	5	4	5	4	3	5	2	3	4	4	3	3	5	2	4	
67	<i>Environmental Protection</i>	14	Assess Potential Subsurface Hazards in Planning	166	3	4	2	4	3		4	5	2	3	5	4		2	4	4	4		4	4	3		5	4	2	4	4		5	4	5	4	5	5	4	5	4	3	5	4	3	4	4	4	3	4	4	4	
68	<i>Environmental Protection</i>	15	Route Pipelines to Minimize Disturbance to Forest Interiors	154	4	4	2	4	1		3	5	2	4	5	4		3	3	2	4		4	4	4		5	4	2	2	4		5	4	5	2	5	5	2	5	2	3	5	2	3	4	3	4	4	4	4	4	

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69	<i>Environmental Protection</i>	16	Avoid Steep Slopes and Highly Erodible Soils	147	1	4	2	4	1		3	5	2	4	5	4		3	3	2	3		4	4	3	2		5	4	5	2	5	5	2	5	2	5	2	3	5	2	3	4	4	4	3	4	4	4			
70	<i>Environmental Protection</i>	17	Share Rights-of-Ways	177	3	4	4	4	2		4	5	2	5	5	5		3	3	4	4		4	4	5		5	4	5	4	5	5	4	5	4	5	4	3	5	4	5	4	4	4	5	5	5	4	4			
71	<i>Environmental Protection</i>	18	Identify Barriers to Sharing Rights-of-Ways	184	4	4	4	4	2		4	5	3	5	5	4		5	3	5	4		4	4	5		5	4	5	5	5	5	4	5	4	4	4	5	4	5	4	5	5	4	5	5	4	4	4			
72	<i>Environmental Protection</i>	19	Evaluate Existing and Needed Setbacks from Wetlands and Watercourses	141	1	4	1	4	1		2	5	2	4	4	4		4	3	1	5		2	4	4		5	2	3	2	2		4	4	5	1	5	5	4	5	2	1	5	2	4	4	3	4	4	5	1	4
78	<i>Environmental Protection</i>	25	Implement Wetland Banking/Mitigation Measures	178	4	4	4	4	3		4	5	2	5	5	4		4	3	4	4		4	4	5		5	4	2	4	4		4	4	5	4	4	4	4	5	4	4	5	5	5	5	5	5	4			
80	<i>Environmental Protection</i>	27	Avoid Dams and Reservoirs	175	4	4	3	4	3		4	5	2	3	4	5		4	3	4	3		4	4	3		5	4	4	4	4		5	4	5	4	5	5	5	5	4	3	5	5	3	4	4	5	3	5	5	4
81	<i>Environmental Protection</i>	28	Avoid Water and/or Wastewater Discharges	174	4	4	4	4	3		4	5	2	3	4	4		4	3	4	4		4	4	4		5	4	4	4	4		5	4	5	4	5	5	4	5	4	3	5	5	3	4	4	3	4	5	4	4
82	<i>Environmental Protection</i>	29	Develop Plans for No Net Loss of Forests in Headwater Watersheds	139	1	4	2	4	1		2	5	2	3	5	4		2	3	2	3		2	4	5		5	2	4	2	2		3	4	4	2	5	3	3	5	2	1	5	4	3	4	4	3	5	5	1	4
83	<i>Environmental Protection</i>	30	Develop Plans for No Net Loss of Forested Riparian Buffers	150	3	2	2	4	1		4	5	2	3	5	4		4	3	2	3		4	4	3		5	4	4	4	2		4	4	5	2	5	5	2	5	2	1	5	4	3	4	2	4	3	5	4	4

Number	Workgroup	Work group #	Recommendation	Sum of Weighted Votes	Voters																																															
					Sarah Battisti	Curtis Biondich	Terry Bossert	Gladys Brown	Dave Callahan	Edward Chamberlayne	Keith Coyle	Kathi Cozzone	Fred Dalena	Dennis Davin	Dan Devlin	Michael DiMatteo	Andrew Dinniman	Joe Fink	Richard Flinn	Anthony Gallagher	Wayne Gardner	Nicholas Geanopoulos	Michael Gross	Mark Gritshall	John Hanzer	David Hanolic	Michael Helbing	Walter Hufford	Thomas Hutchins	Cindy Ivey	Cristina Jorge Schwarz	William Keller	Don Kiel	William Kieger	Kenneth Klenow	Josiah McGinn	Dane McLearn	David Messersmith	Marvin Meter	Karen Murphy	Lauren Parker	Duane Peters	John Quijey	Mark Reeves	Leslie Richards	Heather Smiles	David Smith	Michael Smith	David Sweet	Steve Tambini	Justin Trettel	Davitt Woodwell
84	<i>Environmental Protection</i>	31	Develop Plans for No Net Loss of Wetlands	166	3	4	2	4	3		4	5	2	3	5	5		4	3	4	3		4	4	4	4	4		4	4	5	4	5	3	3	5	2	1	5	4	3	4	4	4	4	5	5	4	4			
85	<i>Environmental Protection</i>	32	Study Long-Term Impacts of Pipeline Infrastructure on Water Resources and Sensitive Landscape	162	4	4	2	4	2		3	5	2	4	4	5		3	3	2	4		3	4	4		5	3	3	3	4		5	4	5	2	5	5	3	5	4	3	5	4	4	4	4	3	4	5	4	4
93	<i>Environmental Protection</i>	40	Sponsors Should Review the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Tool	174	4	4	1	4	4		4	5	2	5	5	5		4	3	4	4		4	4	3		5	4	4	4	4		5	4	5	4	5	5	2	5	5	4	4	4	4	4	3	4	4	4		
105	<i>Environmental Protection</i>	52	Establish Forest Mitigation Program	134	1	4	3	4	1		2	5	2	3	3	3		2	3	2	4		2	4	3		5	3	2	1	2		4	4	4	2	5	5	2	5	3	1	5	4	3	4	4	3	3	4	1	4
120	<i>Environmental Protection</i>	67	Incorporate Cumulative Impacts into Applications and Review Process	130	1	4	1	4	1		2	5	2	3	4	4		2	3	2	3		3	4	4		5	2	2	2	2		4	4	5	2	4	4	2	5	2	1	5	2	4	4	2	3	4	3	1	4
184	<i>For Other Workgroups</i>	3	Reform Application of the Pennsylvania Natural Diversity Index (PNDI)	156	4	4	4	4	5		4	5	4	3	3	5		3	3	2	3		3	4	3		3	4	4	4	4		4	4	5	3	4	5	3	3	2	4	2	4	3	3	4	4	4			
128	<i>Historical / Cultural / Tribal</i>	6	Conduct County-Based Siting and Mitigation Research	139	4	4	3	4	2		4	5	2	3	3	4		2	4	2	2		3	4	3		5	3	3	3	4		5	4	5	2	5	5	2		2	1	4	4	3	3	2	3	3	3	4	3
130	<i>Local Government</i>	2	Minimize Impact on Local Roads	151	3	4	4	4	2		4	5	2	4	4	4		3	4	2	4		4	4	3		5	3	2	3	2		5	4	4	2	5	5	5		4	4	4	4	5	3	2	4	3	3	2	4

Number	Workgroup	Work group #	Recommendation	Sum of Weighted Votes	Voters																																														
					Sarah Battisti	Curtis Biondich	Terry Bossert	Gladys Brown	Dave Callahan	Edward Chamberlayne	Keith Coyle	Kathi Cozzone	Fred Dalena	Dennis Davin	Dan Devlin	Michael DiMatteo	Andrew Dinniman	Joe Fink	Richard Flinn	Anthony Gallagher	Wayne Gardner	Nicholas Geanopoulos	Michael Gross	Mark Gritshall	John Hanzer	David Hanolic	Michael Helbing	Walter Hufford	Thomas Hutchins	Cindy Ivey	Cristina Jorge Schwarz	William Keller	Don Kiel	William Kieger	Kenneth Klenow	Josesh McGinn	Dane McLearn	David Messersmith	Marvin Meter	Karen Murphy	Lauren Parker	Duane Peters	John Quijley	Mark Reeves	Leslie Richards	Heather Smiles	David Smith	Michael Smith	David Sweet	Steve Tambini	Justin Trettel
144	<i>Pipeline Safety and Integrity</i>	8	Establish Mapping/GIS for Emergency Response	154	1	4	3	5	1		2	5	2	5	4	5		4	5	2	4		1	4	4	5	3	2	2	3		5	4	5	2	5	5	5		2	4	4	4	5	3	4	5	4	4	4	4
146	<i>Pipeline Safety and Integrity</i>	10	Enhance Public Awareness via Mapping/GIS	134	1	4	2	5	2	4	5	2	3	3	5		2	4	2	3		1	4	3	5	2	2	1	3		5	4	4	1	5	5	3		2	4	5	2	3	3	4	3	3	4	2	4	
156	<i>Siting and Routing</i>	1	Utilize Planning Process Appropriate for the Scale of the Pipeline Project	126	1	4	2	4	1		2	5	2	3	3	4		2	3	2	3		2	4	3	5	2	3	1	2		5	4	5	2	4	5	4		3	1	2	4	3	3	2	3	3	4	2	4
157	<i>Siting and Routing</i>	2	Create an Inter-Agency Coordinating Committee to Resolve Conflicting Construction Requirements	154	3	4	3	4	3		4	5	2	3	3	4		4	3	4	5		4	4	3	5	3	2	1	5		5	4	5	4	4	5	2	3	4	2	2	4	3	3	4	3	3	4	5	4
159	<i>Siting and Routing</i>	4	Explore the Creation of a Taskforce of Affected Stakeholders to Study the Creation of a New Regulatory Entity, or Empower Existing Regulatory Entity to Review and Approve the Siting and Routing of Intrastate Gas Transmission Lines	120	1	2	3	4	3		4	5	2	3	3	4		1	3	3	2		3	4	3	5	2	2	1	2		4	2	5	3	3	2	2	1	2	1	1	4	3	3	4	3	3	4	1	4

Number	Workgroup	Work group #	Recommendation	Sum of Weighted Votes	List of Members																																																
					Sarah Battisti	Curtis Biondich	Terry Bossert	Gladys Brown	Dave Callahan	Edward Chamberlayne	Keith Coyle	Kathi Cozzone	Fred Dalena	Dennis Davin	Dan Devlin	Michael DiMatteo	Andrew Dinniman	Joe Fink	Richard Flinn	Anthony Gallagher	Wayne Gardner	Nicholas Geanopoulos	Michael Gross	Mark Gritshall	John Hanser	David Hanolic	Michael Helbing	Walter Hufford	Thomas Hutchins	Cindy Ivey	Cristina Jorge Schwarz	William Keller	Don Kiel	William Kieger	Kenneth Klenow	Josiah McGinn	Dane McLearn	David Messersmith	Marvin Meter	Karen Murphy	Lauren Parker	Duane Peters	John Quielley	Mark Reeves	Leslie Richards	Heather Smiles	David Smith	Michael Smith	David Sweet	Steve Tambini	Justin Trettel	Davitt Woodwell	
162	<i>Siting and Routing</i>	7	Expand PA1Call for All Classes of Pipelines	193	4	4	4	5	4		4	5	4	5	5	4	5	5	4	5		5	4	5	4	4	4	4	5	5	5	5	5	5	5	5	4	4	5	4	5	3	4	5	5	4	5	4	5	4	5	4	
164	<i>Siting and Routing</i>	9	Invest in Digital Infrastructure to Improve Data Availability	161	4	4	3	4	3		4	5	2	5	3	4	4	5	3	4		4	4	4	5	4	2	4	2	5	4	5	3	1	5	3		4	4	4	4	4	5	3	4	4	4	4	4	4	5	4	4
Workforce/Economic Development																																																					
173	<i>Economic Development</i>	3	Create Last Mile Funding	153	5	4	4	4	3		5	5	3	5	5	3		5	3	3	4		4	5		1	4	4	3	4	5	3	3	1	5	4	3	3	4	2	4	5	3	4	3	5	3	4	3				
174	<i>Economic Development</i>	4	Enact statute to permit the use of a charge for new service, to permit recovery of gas service advertising by utilities and to amortize new construction costs over longer time period for new customers.	152	4	4	4	4	4		5	2	4	3	5	3		5	3	4	4		4	5		1	4	4	3	4	5	4		3	4	3	4	3	3	4	3	3	4	3	5	3	4	2					
175	<i>Economic Development</i>	5	Encourage Natural Gas Use in Ports	166	5	4	4	4	5		5	4	3	5	3	4		5	3	4	4		5	3		2	4	4	5	5	5	4	3	4	3	5	5		4	4	3	5	4	3	4	3	5	3	5	4			
176	<i>Economic Development</i>	6	Develop Targeted Investment, Business Attraction Effects and Regional Energy Hubs	168	5	4	4	4	3		5	3	4	5	3	4		5	3	4	4		5	4	4		1	4	4	5	5	5	4	3	4	3	5	4	3	4	4	3	5	4	3	4	4	4	3	5	2		

Number	Workgroup	Work group #	Recommendation	Sum of Weighted Votes	Sarah Battisti	Curtis Biondich	Terry Bossert	Gladys Brown	Dave Callahan	Edward Chamberlayne	Keith Coyle	Kathi Cozzone	Fred Dalena	Dennis Davin	Dan Devlin	Michael DiMatteo	Andrew Dinniman	Joe Fink	Richard Flinn	Anthony Gallagher	Wayne Gardner	Nicholas Geanopoulos	Michael Gross	Mark Gritshall	John Hanzer	David Hanolic	Michael Helbing	Walter Hufford	Thomas Hutchins	Cindy Ivey	Cristina Jorge Schwarz	William Keller	Don Kiel	William Kieger	Kenneth Klenow	Josiah McGinn	Dane McLearn	David Messersmith	Marvin Meter	Karen Murphy	Lauren Parker	Duane Peters	John Quijley	Mark Reeves	Leslie Richards	Heather Smiles	David Smith	Michael Smith	David Sweet	Steve Tambini	Justin Trettel	Davitt Woodwell
177	<i>Economic Development</i>	7	Collaborate to Promote Downstream Shale Manufacturing Opportunity	173	5	4	5	5	5		5	2	4	5	3	4		5	3	4	4		5	4	4		1	4	4	5	5	5	5	5	3	4	3	5	4	4	4	3	5	3	4	5	4	3	5	4		
178	<i>Economic Development</i>	8	Encourage Virtual Pipeline (Trucking) Delivery Systems	144	4	4	3	5	3		5	2	3	3	5	3		5	3	4	4		4	4	5		1	4	4	3	4	5	1	3	4	1	5	2		4	4	3	3	1	3	2	3	5	3	5	2	
179	<i>Economic Development</i>	9	Allow Creation of Natural Gas Municipal Authorities	133	3	4	3	3	3		4	2	2	3	3	3		5	3	4	3		4	3	3		1	4	4	3	2	5	2	3	4	1	5	2		3	4	3	3	3	3	3	4	3	3	4	3	
180	<i>Economic Development</i>	10	Compile Funding and Resource Guidebook	159	4	4	4	4	5		4	4	3	3	3	4		5	4	2	4		5	4	3		3	4	4	4	5	5	4	3	2	3	5	3	3	4	4	3	4	3	3	3	3	4	4	4		
181	<i>Economic Development</i>	11	Support Natural Gas for Compliance with Pennsylvania's Clean Power Plan (CPP)	169	5	4	4	5	4		5	4	3	3	3	4		5	3	4	5		5	4	3		1	4	5	4	5	5	5	3	4	5	5	5	3	4	4	4	3	5	3	3	4	3	3	3	5	2
133	<i>Natural Gas End Use</i>	2	Create Regional Energy Corridors and Energy Action Teams	151	5	4	4	4	4		5	4	2	3	3	4		5	3	4	4			4	3		1	4	3	4	5	5	4	3	4	3	5	4		4	4	2	5	3	3	4	3	3	3	5	2	
134	<i>Natural Gas End Use</i>	3	Create Energy Opportunity Zones	145	5	4	4	4	5		5	4	2	1	1	4		5	3	4	4		5	4	1		1	4	4	4	5	5	4	3	4	3	5	4	1	4	4	1	5	1	3	4	1	1	3	4	2	
135	<i>Natural Gas End Use</i>	4	Enact Statute to Permit Use of a Charge for New Services (Similar to a Distribution System Improvement Charge (DSIC))	149	5	4	4	4	5		5	2	2	3	3	3		4	3	4	4		4	4	3		1	4	3	3	3	5	4	3	4	3	5	3		4	4	3	4	3	3	4	3	3	3	5	3	
136	<i>Natural Gas End Use</i>	5	Develop Municipal Guidelines for Natural Gas Distribution Lines	154	5	4	4	2	3		4	5	2	4	4	4		4	4	4	4		4	4	3		3	4	1	3	4	5	3	4	4	3	5	4		4	4	3	4	3	3	4	3	3	3	5	4	4

Number	Workgroup	Work group #	Recommendation	Sum of Weighted Votes	Sarah Battisti	Curtis Biondich	Terry Bossert	Gladys Brown	Dave Callahan	Edward Chamberlayne	Keith Coyle	Kathi Cozzone	Fred Dalena	Dennis Davin	Dan Devlin	Michael DiMatteo	Andrew Dinniman	Joe Fink	Richard Flinn	Anthony Gallagher	Wayne Gardner	Nicholas Geanopoulos	Michael Gross	Mark Gritshall	John Hanzer	David Hanolic	Michael Helbing	Walter Hufford	Thomas Hutchins	Cindy Ivey	Cristina Jorge Schwarz	William Keller	Don Kiel	William Kieger	Kenneth Klenow	Josesh McGinn	Dane McLearn	David Messersmith	Marvin Meter	Karen Murphy	Lauren Parker	Duane Peters	John Quijey	Mark Reeves	Leslie Richards	Heather Smiles	David Smith	Michael Smith	David Sweet	Steve Tambini	Justin Trettel	Davitt Woodwell
165	<i>Workforce Development</i>	1	Commission Workforce Assessment and Economic Development Impact Study	166	3	4	4	4	5	5	5	5	4	5	5	4		4	3	4	4	4	4	3	4	5	4	4	3	4	5	4	3	4	4	5	2		4	4	3	4	3	3	3	4	5	3	5	4		
166	<i>Workforce Development</i>	2	Enhance STEM Education	179	5	4	4	4	5	5	5	5	4	5	5	4		3	3	5	3		5	4	5		5	4	4	5	3	5	5	4	5	2		4	4	4	5	5	3	4	5	5	3	4	4			
167	<i>Workforce Development</i>	3	Promote Apprenticeship and On-the-Job Training	179	5	4	4	4	5	5	5	5	4	5	5	5		4	3	5	4		5	4	5		3	4	4	3	5	5	4	3	5	2		4	4	3	5	5	3	4	5	5	4	5	4			
168	<i>Workforce Development</i>	4	Attract Military Veterans to the Energy Workforce	185	5	4	5	5	5	5	5	5	4	5	5	4		4	4	5	4		5	4	5		4	4	4	4	5	5	5	3	5	4	4	4	4	3	5	5	3	4	5	5	3	5	4			
169	<i>Workforce Development</i>	5	Conduct a State Employee Workforce Audit to Identify Training and Other Needs of Pertinent State Agencies	162	5	4	4	4	5	5	5	5	4	5	4	4		3	4	3	4		5	4	3		5	4	2	4	4	5	4	3	3	4	5	3		4	4	3	3	3	3	4	3	3	3	4	4	
170	<i>Workforce Development</i>	6	Enhance Workforce Training	176	5	4	4	5	3	5	5	5	4	5	5	5		3	4	5	4		5	4	5		3	4	2	4	4	5	4	3	5	4	5	3		4	4	3	4	5	3	4	5	5	4	5	4	

APPENDIX C – FINAL VOTING SURVEY

43/48 voting					
Number	Workgroup	Work group #	Recommendation	Sum of Weighted Votes	Agency Assignment
Amplifying and engaging in meaningful public participation					
56	<i>Environmental Protection</i>	3	Establish Early Coordination with Local Landowners and Lessors	187	Industry
1	<i>Agriculture</i>	1	Educate Landowners on Pipeline Development Issues	179	PDA
34	<i>County Government</i>	5	Develop Tools to Educate the Public on Pipeline Development	176	DEP - OPI
163	<i>Siting and Routing</i>	8	Pipeline Developers Should Engage with Private and Governmental Stakeholder Engagement and Educate Landowners	176	Industry
150	<i>Public Participation</i>	1	Establish Statewide Pipeline Information Resource Center	173	DCED or Gov's Office
4	<i>Conservation and Natural Resources</i>	1	Communicate Pipeline Development Conservation Practices to the Public	170	DCNR & DEP
123	<i>Historical / Cultural / Tribal</i>	1	Improve Communication with Landowners	170	Industry
35	<i>County Government</i>	6	Operators Should Engage in Timely Communication	168	County Government
40	<i>County Government</i>	11	Create a Commonwealth Library of Pipeline Information	168	DCED

Number	Workgroup	Work group #	Recommendation	Sum of Weighted Votes	Agency Assignment
33	<i>County Government</i>	4	Develop Training Opportunities for County Officials	167	DEP - Communications
149	<i>Pipeline Safety and Integrity</i>	13	Develop Public Education Program for Emergencies	166	County & Local Government
139	<i>Pipeline Safety and Integrity</i>	3	Establish Publicly Available Pipeline Inspection Information	162	DEP, PUC
30	<i>County Government</i>	1	Counties Should Partner in Implementation of Task Force Recommendations	160	County Government
127	<i>Historical / Cultural / Tribal</i>	5	Conduct Early Outreach with Affected Communities	160	Industry
55	<i>Environmental Protection</i>	2	Establish Early Coordination with Local Non-Governmental Groups	159	DEP - Internal Workgroup
151	<i>Public Participation</i>	2	Adopt Guidelines for Public Participation	158	Gov's Office
129	<i>Local Government</i>	1	Communicate Early and Often with Local Government Officials	154	County & Local Government
147	<i>Pipeline Safety and Integrity</i>	11	Create A Public Education Program on Gathering Systems	154	County & Local Government
124	<i>Historical / Cultural / Tribal</i>	2	Consult with Federally Recognized Tribes on Section 106-Related Projects	152	COE & FERC
148	<i>Pipeline Safety and Integrity</i>	12	Enhance Public Awareness of Pipeline Location	152	County & Local Government
155	<i>Public Participation</i>	6	Issue Annual Report Implementations on the PITF Recommendations	141	Governor's Office

Number	Workgroup	Work group #	Recommendation	Sum of Weighted Votes	Agency Assignment
125	<i>Historical / Cultural / Tribal</i>	3	Consult with Citizens' Groups, Including Heritage and Historical Organizations and Non-Federally Recognized (NFR) Tribes for Oil and Gas Development	139	DEP - Internal Workgroup
152	<i>Public Participation</i>	3	Amend General Information Form to Require Information on Public Participation	126	DEP
153	<i>Public Participation</i>	4	Form Pipeline Advisory Committee	125	DEP
154	<i>Public Participation</i>	5	Require Publication of Intent to Apply for DEP Permits Associated with Pipeline Development	113	DEP
Developing long-term operations and maintenance plans to ensure pipeline safety and integrity					
43	<i>Emergency Preparedness</i>	2	Train Emergency Responders	191	PEMA & PSP
47	<i>Emergency Preparedness</i>	6	Enhance Emergency Response Training for Responder Agencies	182	PEMA
49	<i>Emergency Preparedness</i>	8	Provide Training to Local Emergency Responders	182	OSFC
86	<i>Environmental Protection</i>	33	Minimize Methane Emissions	180	DEP - WARR
102	<i>Environmental Protection</i>	49	Properly Use and Maintain Pipeline Components	179	DEP - O&G
50	<i>Emergency Preparedness</i>	9	Assess Need for Additional Training for Local Responders	172	PEMA

Number	Workgroup	Work group #	Recommendation	Sum of Weighted Votes	Agency Assignment
145	<i>Pipeline Safety and Integrity</i>	9	Designate PA PUC As Enforcement Agency for Underground Utility Line Protection Law	171	General Assembly
42	<i>Emergency Preparedness</i>	1	Standardize Emergency Response Plans	169	PEMA
52	<i>Emergency Preparedness</i>	11	Assigning a 9-1-1 Address to Pipeline-Related Facilities	166	PEMA
74	<i>Environmental Protection</i>	21	Minimize Methane Emissions During Compressor Station Shutdown Periods	166	DEP - WARR
77	<i>Environmental Protection</i>	24	Implement Directed Inspection and Maintenance Program for Compressor Stations	162	DEP - Internal Workgroup
89	<i>Environmental Protection</i>	36	Require Shutoff Valves for Liquid Product Pipelines	161	DEP - Internal Workgroup
48	<i>Emergency Preparedness</i>	7	Create County/Regional Safety Task Forces	160	County Government
76	<i>Environmental Protection</i>	23	Develop Plans for Construction, Operation, and Maintenance	158	DEP - Internal Workgroup
75	<i>Environmental Protection</i>	22	Use Pump-Down Techniques Before Maintenance and Repair	157	DEP - WARR
103	<i>Environmental Protection</i>	50	Implement Leak Detection and Repair for all Above-Ground Components of Pipeline Infrastructure	156	DEP - WARR

Number	Workgroup	Work group #	Recommendation	Sum of Weighted Votes	Agency Assignment
51	<i>Emergency Preparedness</i>	10	Establish Protocol for Emergency Movement of Heavy Equipment during Off-Hours	154	DOT
45	<i>Emergency Preparedness</i>	4	Coordinate Pipeline Mapping Plans	153	PEMA
73	<i>Environmental Protection</i>	20	Use Dry Seals for Centrifugal Compressors	151	DEP - WARR
126	<i>Historical / Cultural / Tribal</i>	4	Implement Best Practices for Upstream and Midstream Oil and Gas Development that Fall Outside of USACE Permit Areas	150	DEP - Internal Workgroup
143	<i>Pipeline Safety and Integrity</i>	7	Require Best Practices and Standards for Production Lines Located Beyond the Well Pad and Gas Gathering Lines in Class 1 Locations	150	General Assembly
137	<i>Pipeline Safety and Integrity</i>	1	Require Leak Detection Survey Schedules	149	DEP - WARR
138	<i>Pipeline Safety and Integrity</i>	2	Require Leak Repair Schedules	148	DEP - WARR
140	<i>Pipeline Safety and Integrity</i>	4	Require a Cathodic Protection Program	148	PUC
41	<i>County Government</i>	12	Require Pipeline Abandonment Plans	144	PUC
46	<i>Emergency Preparedness</i>	5	PUC Should Develop a Comprehensive List of Pipeline Classifications	143	PUC

Number	Workgroup	Work group #	Recommendation	Sum of Weighted Votes	Agency Assignment
141	<i>Pipeline Safety and Integrity</i>	5	Require An Integrity Management Program (IMP) for Gathering Pipelines	143	PUC
142	<i>Pipeline Safety and Integrity</i>	6	Authorize PA Public Utility Commission (PUC) Regulation of Non-Jurisdictional Pipelines	130	General Assembly
53	<i>Emergency Preparedness</i>	12	Authorize a Fee for Emergency Response to Pipeline Incidents	128	General Assembly
Employing construction methods that reduce environmental impact					
87	<i>Environmental Protection</i>	34	Minimize Impacts of Stream Crossings	179	DEP - Internal Workgroup
79	<i>Environmental Protection</i>	26	Use Antidegradation Best Available Combination of Technologies to Protect EV and HQ Waters	178	DEP - Internal Workgroup
88	<i>Environmental Protection</i>	35	Conduct Research to Improve Revegetation BMPs	175	DCNR
116	<i>Environmental Protection</i>	63	Create Pipeline Erosion and Sediment Control Manual	173	DEP - Internal Workgroup
160	<i>Siting and Routing</i>	5	Create DEP Plans and Procedures Design Manual for Pipeline Construction	171	DEP - Internal Workgroup
95	<i>Environmental Protection</i>	42	Stockpile Topsoil During Construction for Use in Restoration	168	DEP - Internal Workgroup
91	<i>Environmental Protection</i>	38	Test Efficacy of Silt Fencing	167	DEP - Internal Workgroup

Number	Workgroup	Work group #	Recommendation	Sum of Weighted Votes	Agency Assignment
27	<i>Conservation and Natural Resources</i>	24	Prevent Invasive Plant Species Establishment	166	DCNR
90	<i>Environmental Protection</i>	37	Use Dust Suppression Controls Near Water Resources	166	DEP - Internal Workgroup
94	<i>Environmental Protection</i>	41	Develop Construction Sequencing Plan	160	DEP - Internal Workgroup
98	<i>Environmental Protection</i>	45	Prevent Invasive Species from Entering Sites	158	DEP - Internal Workgroup
96	<i>Environmental Protection</i>	43	Soften Forest/Right-of-Ways Edges and Promote Canopy Closure	157	DEP - Internal Workgroup
29	<i>Conservation and Natural Resources</i>	26	DEP Should Follow the 2008 Final Mitigation Rule for All Mitigation Sites	155	DEP - BWEW
64	<i>Environmental Protection</i>	11	Minimize Water Withdrawals for Testing	155	DEP - Internal Workgroup
101	<i>Environmental Protection</i>	48	Conduct Regular Site Maintenance	154	Industry
3	<i>Agriculture and Conservation and Natural Resources</i>	1	Develop Best Management Practices for Pipeline Development on Agricultural Operations	152	PDA
99	<i>Environmental Protection</i>	46	Ensure Ecologically Sensitive Revegetation of Right-of-Ways	150	DEP - Internal Workgroup
61	<i>Environmental Protection</i>	8	Develop Standard Water Quality Monitoring Practices	147	DEP - BCW
97	<i>Environmental Protection</i>	44	Create Onsite Habitat	147	DEP - Internal Workgroup

Number	Workgroup	Work group #	Recommendation	Sum of Weighted Votes	Agency Assignment
104	<i>Environmental Protection</i>	51	Clarify Remediation of Spills Under Shale Regulation	146	DEP
66	<i>Environmental Protection</i>	13	Employ Smart Timing of Construction	144	DEP - Internal Workgroup
92	<i>Environmental Protection</i>	39	Test Soils in Acid Deposition Impaired Watersheds to Identify Need for Additional Liming	142	DEP - Internal Workgroup
12	<i>Conservation and Natural Resources</i>	9	Implement Post-Construction Monitoring for an Appropriate Period	140	DEP
26	<i>Conservation and Natural Resources</i>	23	Require Performance-Based Metrics for Long-Term Maintenance of Right-of-Ways	135	DEP
11	<i>Conservation and Natural Resources</i>	8	Monitor Water Quality During Construction	130	DEP
100	<i>Environmental Protection</i>	47	Conduct Quantitatively Site Monitoring Where Appropriate	128	Industry
10	<i>Conservation and Natural Resources</i>	7	Implement Full-Time Environmental Inspections During Pipeline Construction	124	DEP
Maximizing opportunities for predictable and efficient permitting					
110	<i>Environmental Protection</i>	57	Ensure Adequate Agency Staffing for Reviewing Pipeline Infrastructure Projects	188	General Assembly

Number	Workgroup	Work group #	Recommendation	Sum of Weighted Votes	Agency Assignment
106	<i>Environmental Protection</i>	53	Implement Electronic Permit Submissions for Chapters 102 and 105	187	DEP - IT
109	<i>Environmental Protection</i>	56	Evaluate Erosion and Sediment Control General Permit (ESCGP-2) Expedited Review	185	DEP - Internal Workgroup
54	<i>Environmental Protection</i>	1	Establish Early Partnerships and Coordination in Relationships with Regulatory Agencies	183	DEP - Internal Workgroup
107	<i>Environmental Protection</i>	54	Establish Electronic Payment for Chapters 102 and 105 Permit Fees	183	DEP - IT
114	<i>Environmental Protection</i>	61	Increase DEP Staff Training	179	DEP
121	<i>Environmental Protection</i>	68	Conduct Joint Agency Coordination Meetings During Pre-Application and Planning	178	DEP - Internal Workgroup
115	<i>Environmental Protection</i>	62	Eliminate Duplicate Questions in Erosion and Sediment Control General Permit (ESCGP-2) Notice of Intent (NOI)	174	DEP - Internal Workgroup
111	<i>Environmental Protection</i>	58	Evaluate DEP Retention and Attrition of Staff and Succession Planning	172	DEP
122	<i>Environmental Protection</i>	69	Assess Oil and Gas Program Chapter 102 Training	171	DEP - BWEW

Number	Workgroup	Work group #	Recommendation	Sum of Weighted Votes	Agency Assignment
108	<i>Environmental Protection</i>	55	Evaluate Need for Hard Copies of Chapter 102 and 105 Permit Submissions	169	DEP - Internal Workgroup
119	<i>Environmental Protection</i>	66	Re-Assess and Update Standing Memoranda of Understanding (MOUs) Between State and Federal Agencies	168	DEP - Internal Workgroup
59	<i>Environmental Protection</i>	6	Sponsors Should Request Pre-Application Meetings with Regulatory Agencies	166	Industry
112	<i>Environmental Protection</i>	59	Evaluate the Effectiveness of the Permit Decision Guarantee Policy	161	DEP (done)
113	<i>Environmental Protection</i>	60	Evaluate the Permit Decision Guarantee Priority Status Hierarchy	160	DEP - Policy
118	<i>Environmental Protection</i>	65	Convene Annual Regulatory Agency Meetings	160	DEP - Internal Workgroup
158	<i>Siting and Routing</i>	3	Create Statewide Technical Review Committee Within DEP for Multi-Region Pipeline Applications	160	DEP
172	<i>Economic Development</i>	2	Coordinate Project Management for Projects Using Natural Gas in PA	159	DCED
183	<i>For Other Workgroups</i>	2	Ensure Pipeline Permit Consistency	159	DEP
132	<i>Natural Gas End Use</i>	1	Create A State Level Permit Coordinator	157	DEP

Number	Workgroup	Work group #	Recommendation	Sum of Weighted Votes	Agency Assignment
182	<i>For Other Workgroups</i>	1	Assess Requirement of Consulting Services for Permitting	151	DEP
117	<i>Environmental Protection</i>	64	Consider Limited Permit Review Assistance Using Qualified Contractors	144	DEP
161	<i>Siting and Routing</i>	6	Create Third Party Consultant Staffing at DEP	138	DEP
13	<i>Conservation and Natural Resources</i>	10	Tie Permitting Standards to the Duration of Impact	134	DEP - BWEW
131	<i>Local Government</i>	3	Clarify and Examine Need for Local Regulation of Surface Facilities	107	DCED
Planning, siting and routing pipelines to avoid/reduce environmental and community impacts					
162	<i>Siting and Routing</i>	7	Expand PA1Call for All Classes of Pipelines	193	PUC
71	<i>Environmental Protection</i>	18	Identify Barriers to Sharing Rights-of-Ways	184	PUC
62	<i>Environmental Protection</i>	9	Develop An Advanced High-Quality Environmental Resources Planning Tool	178	DEP - Internal Workgroup
78	<i>Environmental Protection</i>	25	Implement Wetland Banking/Mitigation Measures	178	DEP - BWEW
70	<i>Environmental Protection</i>	17	Share Rights-of-Ways	177	DEP - Internal Workgroup
24	<i>Conservation and Natural Resources</i>	21	Reseed Right-of-Ways Using Native Plants	176	DCNR

Number	Workgroup	Work group #	Recommendation	Sum of Weighted Votes	Agency Assignment
80	<i>Environmental Protection</i>	27	Avoid Dams and Reservoirs	175	DEP - Internal Workgroup
81	<i>Environmental Protection</i>	28	Avoid Water and/or Wastewater Discharges	174	DEP - Internal Workgroup
93	<i>Environmental Protection</i>	40	Sponsors Should Review the Pennsylvania Natural Diversity Inventory (PNDI) Environmental Review Tool	174	DCNR
16	<i>Conservation and Natural Resources</i>	13	Promote Biodiversity in Pipeline Development	170	DCNR
25	<i>Conservation and Natural Resources</i>	22	Use Pennsylvania-Sourced Plant and Seed Vendors and Landscape Services	170	Industry
57	<i>Environmental Protection</i>	4	Project Sponsors Should Review Pennsylvania Stormwater BMP Manual	170	Industry
58	<i>Environmental Protection</i>	5	Sponsors Should Review the Pennsylvania Erosion and Sediment Pollution Control Program Manual	170	Industry
28	<i>Conservation and Natural Resources</i>	25	Finalize Functional Protocols for Impacts and Offsets	169	DEP - BWEW
7	<i>Conservation and Natural Resources</i>	4	Give Special Consideration to Protected / Designated Lands in Pipeline Siting	168	DEP - Internal Workgroup

Number	Workgroup	Work group #	Recommendation	Sum of Weighted Votes	Agency Assignment
19	<i>Conservation and Natural Resources</i>	16	Promote Wildlife Habitat Opportunities Along Pipeline Corridors	168	DCNR
18	<i>Conservation and Natural Resources</i>	15	Minimize Impacts to Riparian Areas at Stream Crossings	166	DCNR
60	<i>Environmental Protection</i>	7	Sponsors Should Perform Alternatives Analysis to Avoid/Minimize Impacts	166	Industry
67	<i>Environmental Protection</i>	14	Assess Potential Subsurface Hazards in Planning	166	DEP - Internal Workgroup
84	<i>Environmental Protection</i>	31	Develop Plans for No Net Loss of Wetlands	166	DEP - Internal Workgroup
2	<i>Agriculture</i>	2	Build a GIS Database of PA's Farms	163	PDA
85	<i>Environmental Protection</i>	32	Study Long-Term Impacts of Pipeline Infrastructure on Water Resources and Sensitive Landscape	162	All Agencies
164	<i>Siting and Routing</i>	9	Invest in Digital Infrastructure to Improve Data Availability	161	Commonwealth Agencies
38	<i>County Government</i>	9	Consider Opportunities for Shared Rights-of-Ways	160	General Assembly
20	<i>Conservation and Natural Resources</i>	17	Restore and Maintain a Border Zone in Forested Areas	159	DCNR

Number	Workgroup	Work group #	Recommendation	Sum of Weighted Votes	Agency Assignment
15	<i>Conservation and Natural Resources</i>	12	Reduce Forest Fragmentation in Pipeline Development	157	DCNR
17	<i>Conservation and Natural Resources</i>	14	Develop Rare Species Work Windows to Avoid Impacts	156	DCNR
22	<i>Conservation and Natural Resources</i>	19	Minimize Recreational Impacts in Pipeline Development	156	DCNR
184	<i>For Other Workgroups</i>	3	Reform Application of the Pennsylvania Natural Diversity Index (PNDI)	156	DCNR
21	<i>Conservation and Natural Resources</i>	18	Minimize Aesthetic Impacts in Pipeline Development	154	DCNR
68	<i>Environmental Protection</i>	15	Route Pipelines to Minimize Disturbance to Forest Interiors	154	DEP - Internal Workgroup
144	<i>Pipeline Safety and Integrity</i>	8	Establish Mapping/GIS for Emergency Response	154	PUC
157	<i>Siting and Routing</i>	2	Create an Inter-Agency Coordinating Committee to Resolve Conflicting Construction Requirements	154	DEP
9	<i>Conservation and Natural Resources</i>	6	Avoid Geologic Hazards During Planning	153	DCNR
39	<i>County Government</i>	10	Empower GIS Mapping	151	OA

Number	Workgroup	Work group #	Recommendation	Sum of Weighted Votes	Agency Assignment
65	<i>Environmental Protection</i>	12	Do Not Locate Pipelines Parallel to Streams Within its 100-Year Floodway	151	DEP - Internal Workgroup
130	<i>Local Government</i>	2	Minimize Impact on Local Roads	151	DOT
14	<i>Conservation and Natural Resources</i>	11	Implement a Mitigation Bank to Improve Water Quality	150	DEP - BWEW
83	<i>Environmental Protection</i>	30	Develop Plans for No Net Loss of Forested Riparian Buffers	150	DEP - Internal Workgroup
44	<i>Emergency Preparedness</i>	3	Require Infrastructure Mapping	149	General Assembly
69	<i>Environmental Protection</i>	16	Avoid Steep Slopes and Highly Erodible Soils	147	DEP - Internal Workgroup
171	<i>Economic Development</i>	1	Develop a Pipeline Map	146	PUC
8	<i>Conservation and Natural Resources</i>	5	Mitigate the Loss of Public Use of Public Lands Resulting from Pipeline Development	144	DEP - Internal Workgroup
63	<i>Environmental Protection</i>	10	Sponsors Should Use Landscape Level Planning	142	Industry
72	<i>Environmental Protection</i>	19	Evaluate Existing and Needed Setbacks from Wetlands and Watercourses	141	DEP - Internal Workgroup
6	<i>Conservation and Natural Resources</i>	3	Use a Landscape Approach for Planning and Siting Rights-of-Way Corridors	140	DEP - Internal Workgroup
23	<i>Conservation and Natural Resources</i>	20	Provide Recreational Opportunities in Pipeline Development	140	DCNR

Number	Workgroup	Work group #	Recommendation	Sum of Weighted Votes	Agency Assignment
31	<i>County Government</i>	2	Counties Should Include Pipelines Development in County Comprehensive Plans	139	County Government
82	<i>Environmental Protection</i>	29	Develop Plans for No Net Loss of Forests in Headwater Watersheds	139	DEP - Internal Workgroup
128	<i>Historical / Cultural / Tribal</i>	6	Conduct County-Based Siting and Mitigation Research	139	County & Local Government
32	<i>County Government</i>	3	Counties Should Make GIS Mapping Available to Operators and Require Them to Provide Their Mapping to Counties and Municipalities	138	County Government
36	<i>County Government</i>	7	Develop Advisory Standards for Pipeline Setback and Buffers	137	DEP - BWEW
105	<i>Environmental Protection</i>	52	Establish Forest Mitigation Program	134	DCNR
146	<i>Pipeline Safety and Integrity</i>	10	Enhance Public Awareness via Mapping/GIS	134	PUC
120	<i>Environmental Protection</i>	67	Incorporate Cumulative Impacts into Applications and Review Process	130	DEP - Internal Workgroup
156	<i>Siting and Routing</i>	1	Utilize Planning Process Appropriate for the Scale of the Pipeline Project	126	Industry
5	<i>Conservation and Natural Resources</i>	2	Develop Public Access to Pipeline GIS Information	125	DEP - Internal Workgroup

Number	Workgroup	Work group #	Recommendation	Sum of Weighted Votes	Agency Assignment
37	<i>County Government</i>	8	Amend Municipalities Planning Code to Empower County Comprehensive Plan	124	General Assembly
159	<i>Siting and Routing</i>	4	Explore the Creation of a Taskforce of Affected Stakeholders to Study the Creation of a New Regulatory Entity, or Empower Existing Regulatory Entity to Review and Approve the Siting and Routing of Intrastate Gas Transmission Lines	120	Governor's Office
Workforce/Economic Development					
168	<i>Workforce Development</i>	4	Attract Military Veterans to the Energy Workforce	185	L&I
166	<i>Workforce Development</i>	2	Enhance STEM Education	179	DCED
167	<i>Workforce Development</i>	3	Promote Apprenticeship and On-the-Job Training	179	DCED
170	<i>Workforce Development</i>	6	Enhance Workforce Training	176	L&I
177	<i>Economic Development</i>	7	Collaborate to Promote Downstream Shale Manufacturing Opportunity	173	DCED
181	<i>Economic Development</i>	11	Support Natural Gas for Compliance with Pennsylvania's Clean Power Plan (CPP)	169	All Agencies

Number	Workgroup	Work group #	Recommendation	Sum of Weighted Votes	Agency Assignment
176	<i>Economic Development</i>	6	Develop Targeted Investment, Business Attraction Effects and Regional Energy Hubs	168	DCED
175	<i>Economic Development</i>	5	Encourage Natural Gas Use in Ports	166	DCED
165	<i>Workforce Development</i>	1	Commission Workforce Assessment and Economic Development Impact Study	166	DCED
169	<i>Workforce Development</i>	5	Conduct a State Employee Workforce Audit to Identify Training and Other Needs of Pertinent State Agencies	162	L&I
180	<i>Economic Development</i>	10	Compile Funding and Resource Guidebook	159	DCED
136	<i>Natural Gas End Use</i>	5	Develop Municipal Guidelines for Natural Gas Distribution Lines	154	DCED
173	<i>Economic Development</i>	3	Create Last Mile Funding	153	DCED
174	<i>Economic Development</i>	4	Enact statute to permit the use of a charge for new service, to permit recovery of gas service advertising by utilities and to amortize new construction costs over longer time period for new customers.	152	General Assembly
133	<i>Natural Gas End Use</i>	2	Create Regional Energy Corridors and Energy Action Teams	151	DCED

Number	Workgroup	Work group #	Recommendation	Sum of Weighted Votes	Agency Assignment
135	<i>Natural Gas End Use</i>	4	Enact Statute to Permit Use of a Charge for New Services (Similar to a Distribution System Improvement Charge (DSIC))	149	PUC
134	<i>Natural Gas End Use</i>	3	Create Energy Opportunity Zones	145	DCED
178	<i>Economic Development</i>	8	Encourage Virtual Pipeline (Trucking) Delivery Systems	144	DCED
179	<i>Economic Development</i>	9	Allow Creation of Natural Gas Municipal Authorities	133	PUC



**Governor's
Pipeline Infrastructure
Task Force
(PITF)
Report**

**Public Comment
Document**

INTRODUCTION

On November 14, 2015, the Pennsylvania Department of Environmental Protection (DEP) published notice in the *Pennsylvania Bulletin* of the Governor's Pipeline Task Force Draft Report for public review and comment. The public comment period closed on December 29, 2015.

This Public Comment Document summarizes the comments submitted to DEP by 1530 commentators during the public participation process. Each public comment is listed with the identifying commentator ID number at the end of the comment. A list of the commentators, including names and affiliations (if any) is provided as follows:

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107	Kevin Sunday 417 Walnut St Harrisburg, PA 17101 ksunday@pachamber.org	PA Chamber of Business and Industry
108	Sarah Barczyk 300 Woodcliff Drive Suite 102 Canonsburg, PA 15317 sbarczyk@cpg.com	Columbia Pipeline Group
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115	Karl Kimmich 3000 Village Run Rd.,Unit 103, #223 Wexford, PA 15090 trincorp@consolidated.net	Bear Lake Properties, LLC
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118	Debbie Beaver Sixty Sixty American Plaza Suite 700 Tulsa, OK 74145 dbeaver@gpaglobal.org	Gas Processors Association
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120	Joanne Kilgour P.O. Box 606 Harrisburg, PA 17108 joanne.kilgour@sierraclub.org	12 Public Interest Organizations Sierra Club Pennsylvania Chapter
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140	Stan LaFuria 200 Shady Lane Philipsburg, PA 16866 slafuria@mvedp.org	Moshannon Valley Econ. Dev. Partnership

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148	Gregory Adams 225 Oak St Collegeville PA 19426	
149	Suzanne Adams 124 E Union St West Chester PA 19382	
150	Vicki Adams 9003 Elm St Allison Park PA 15101	
151	Linda Addis 5144 Lamor Rd Hermitage PA 16148	
152	S Ader 94 Adamstown Rd Reinholds PA 17569	
153	Elise Adibi 1154 Wightman St Pittsburgh PA 15217	

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155	Richard Van Aken 68 Murray Rd Southampton PA 18966	
156	Damon Albert 44 Highland Ave Belmont Hills PA 19004	
157	Richard Aldred 37 Twin Pine Way Glen Mills PA 19342-	
158	Mark Allain 657 Imperial Dr Mohnton PA 19540	
159	Sharon Allen 137 Orchard Dr Prospect PA 16052	
160	Jeff Alper 905 Melrose Ave Elkins Park PA 19027	
161	Robert Altmire 1180 State Route 56 E Apollo PA 15613	
162	Michelle Alvare 134 Hastings Ave Havertown PA 19083	
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164	Marlene and Bill Ament 163 Ohio St Apollo PA 15613	
165	Gabriele Amersbach 2395 Cloverton Dr Columbia PA 17512	
166	Donna Anderson 131 Hulmeville Ave Penn del PA 19047	
167	Elizabeth Anderson 209 Forks Hill Rd Montrose PA 18801	

168	William Anderson 3039 Baltz St Philadelphia PA 19121	
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170	Kim Androliia 125 Pinehurst Rd Darlington PA 16115	
171	Philip Angert 109 September Dr Butler PA 16002	
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173	Jerry Antner 824 W Rolling Rd Springfield PA 19064	
174	Melvin Armolt 5229 Applecross Ave Chambersburg PA 17202	
175	Carol Armon 1005 Dell Ln Wyncote PA 19095	
176	Chara Armon 309 Dogwood Ln Wallingford PA 19086	
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179	Henrietta Aronson 3330 Dogwood Ln Willow Grove PA 19090	
180	Oneida Arosarena 635 Dupont St Philadelphia PA 19128	
181	David and Ruth Asbel 232 Whitemarsh Rd Ardmore PA 19003	

182	M Ellen Asbell 247 Mountain Mary Rd Boyertown PA 19512	
183	Ina Asher 301 N Latches Ln Merion Station PA 19066-	
184	Rebecca Ashkettle 125 Marose Dr Pittsburgh PA 15235	
185	Frank Asturino 5679 Steubenville Pike Mc Kees Rocks PA 15136	
186	Micheal Atherton 916 Essex Dr Greensburg PA 15601	
187	Thomas Au 1528 Dogwood Dr Harrisburg PA 17110	
188	Greta Aul 917 Columbia Ave Ste 622 Lancaster PA 17603	
189	Rand Axelrod 52 Deerfield Rd Lancaster PA 17601	
190	Frank Ayers 346 Brush Mountain Rd Hollidaysburg PA 16648	
191	Susan B 319 S 10th St Apt 133 Philadelphia PA 19107	
192	Michael Babb 140 Dogwood Dr Fleetwood PA 19522	
193	Andrelene Babbitt 4410 Sybil Dr Orefield PA 18069	
194	Samy Badawy 620 Hermit St Philadelphia PA 19128	
195	William Bader 1402 Lorain Ave Bethlehem PA 18018	

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199	Randall Baird 1273 Highland Street Ext Dubois PA 15801	
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203	Shannon Ball 1210 Gemini St Nanticoke PA 18634	
204	Sarah Ballard 1233 Middletown Rd Hummelstown PA 17036	
205	Yvette Banton 176 Chester Ct Downingtown PA 19335	
206	Sidne Baqlini 203 Channing Ave Malvern PA 19355	
207	Jean Barker 127 Crosslands Dr Kennett Square PA 19348	
208	Deborah Barndt 406 Stonehedge Ln Mechanicsburg PA 17055	
209	Raymond Bartlett 6907 Buffalo Rd Harborcreek PA 16421	

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211	S Bartolone 34 Drumm Rd Danville PA 17821	
212	Karen Barton 714 Old Lancaster Rd Bryn Mawr PA 19010	
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214	Cynthia Bauer 112 Snowden Dr Pittsburgh PA 15229	
215	Kate Bauer 1207 Perkiomenville Rd Perkiomenville PA 18074	
216	Aimee Bauman 722 Kilbuck Dr Cranberry Twp PA 16066	
217	Scott Baumann 128 S Graham St Pittsburgh PA 15206	
218	George Baxter 208 Arborlea Ave Yardley PA 19067	
219	Suzanne Baxter 101 Woodside Rd Unit C Ardmore PA 19003	
220	Linda Bazan 205 Elysian St Pittsburgh PA 15206	
221	Yuriko Beaman 1454 Oak Ln Reading PA 19604	
222	Julie Beck 301 S Broad St Apt 2 Nazareth PA 18064	
223	Sherrie Becker 2928 Greenbriar Ln Allentown PA 18103	

224	Jill Beech 6 Park Ave Coatesville PA 19320	
225	Tom Bejgrowicz 10 N Plum St Lancaster PA 17602	
226	Avram Bell 2050 E Huntingdon St Philadelphia PA 19125	
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228	Shirley Beningo 40 Pine Grove Ln Elverson PA 19520	
229	Kevin Bennett 156 N Main St Mountain Top PA 18707	
230	Lamberto Bentivoglio 3 Maple Ct Carversville PA 18913	
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235	Henry Berkowitz 141 Sperry and Young Rd Sabinsville PA 16943	
236	Linda Berry 208 S Joslyn Dr Pittsburgh PA 15235	
237	Michael Berwind 4810 Ridge Ave Feasterville Treiose PA 19053	

238	Frank Bettler 6215 Hunters Hill Rd Germansville PA 18053	
239	Lela Betts 7721 Beech Ln Wyndmoor PA 19038	
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244	Dionna Bittle 2037 N 8th St Philadelphia PA 19122	
245	Lois Bjornson 1578 E National Pike Scenery Hill PA 15360	
246	Cindy Black 2320 Wagon Wheel Dr Easton PA 18040	
247	Dave Blair 101 S Louis Ct Monaca PA 15061	
248	Mark Blomfield 2109 Main St Bethlehem PA 18017	
249	Robert Bloom 100 Heidi Dr Selinsgrove PA 17870	
250	Valerie Bloom 500 Penn Ave Glenside PA 19038	
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258	Donna Bookheimer 600C Lake Dr Douglassville PA 19518	
259	Aaron Booz 3181 Bel Air Pittsburgh PA 15227	
260	James Bordell 209 Broadview Dr Jim Thorpe PA 18229	
261	Debra Borowiec 3629 Baxter Dr New Kensington PA 15068	
262	Scott Bostic 2700 Stanwood Ln Bensalem PA 19020	
263	Shirley Boulay 313 E Allens Ln Philadelphia PA 19119	
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271	Heather Marg Bracken 234 Ashland Ave Bala Cynwyd PA 19004	
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273	Ron Brauchle 13 Somerset Ln Easton PA 18045	
274	Pamela Breneman 5 Oak Dr Wernersville PA 19565	
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276	Thomas Brenner 512 Bella St Hollidaysburg PA 16648	
277	June Bricker 54 Nickle Dr Mifflintown PA 17059	
278	Jennifer Briggs 7708 Abbott St Pittsburgh PA 15221	
279	Mary Jo Brinker 161 Leonhardt Ln Ellwood City PA 16117	

280	Kris Brinsky 121 Grand Ridge Rd Bethel Park PA 15102	
281	Jasper and Lindsay Brinton 1044 Western Rd Phoenixville PA 19460	
282	William Brisbane 363 Poplar Run Rd Normalville PA 15469	
283	Joan Bristol 415 Rokeby Rd Coatesville PA 19320	
284	Robert Brobst 1387 S Keim St Pottstown PA 19465	
285	Lisa Brockell 513 N School Ln Lancaster PA 17603	
286	Daniel Brocklebank 3 Ferndale Rd Seven Valleys PA 17360	
287	John Bromberg 639 S Preston Rd Lakewood PA 18439	
288	james brough 31 E 2nd St Lansdale PA 19446	
289	Brian Brown 87 Henry B Ln Lewisburg PA 17837	
290	Lauren Brown 837 Emerald Dr New Kensington PA 15068	
291	Linda Brown 179 Mott Rd Beach Lake PA 18405	
292	Paul Brown 105 Marlboro Rd Pittsburgh PA 15238	
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295	Michael Buchanan 21 Wheatfield Dr Carlisle PA 17015	
296	Judy Buchsbaum 610 Spruce St Philadelphia PA 19106	
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304	Megan Burkholder 125 Broad St Akron PA 17501-	
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310	Liz C 150 Protzman Rd Butler PA 16002-	
311	Diane Calkins 5831 Drexel Rd Philadelphia PA 19131	
312	Shawnya Calp 217 Fair Ave Hanover PA 17331	
313	Chris Calvert 2412 Fitzgerald St Philadelphia PA 19145	
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407	Robert Debalso 580 Hexenkoph Rd Hellertown PA 18055	
408	Norman Decindis 203 W Rose Tree Rd Media PA 19063	
409	Richard Decker 3234 Glendon Rd Bethlehem PA 18017	
410	Lisa Decusati 43 Crossview Trl Fairfield PA 17320	
411	John Deegan 37 Aldwyn Ln Villanova PA 19085	
412	Richard Defazio 639 Brown Ave Erie PA 16502	
413	Elaine Dellande 1220 Graham St Fountain Hill PA 18015	
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427	Sherry Diamond 139 Timothy Cir Wayne PA 19087	
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429	Ann Dickman 400 Lakeview Ct Langhorne PA 19053	
430	Pamela Diesel 139 Pine Ln Rockwood PA 15557	
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440	Stephen Disch 142 S Hoernerstown Rd Hummelstown PA 17036	
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443	Ryan Dodson 175 Hess Blvd Lancaster PA 17601	
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451	Joshua Dougherty 92 Knollwood Dr Lancaster PA 17601	
452	Richard Doughty 1435 Potter Ln Wayne PA 19087	
453	John Dowdell 334 Allandale Dr Bethel Park PA 15102	
454	Todd Drabinsky 471 Orchard Rd Fleetwood PA 19522	
455	Elise Drake 2633 Cedarvue Dr Pittsburgh PA 15241	
456	Jon Drucker 5021 Baltimore Ave Philadelphia PA 19143	
457	Erin Drum 5843 Wilson Dr Bethel Park PA 15102	
458	James Duellman 2849 Ellis Rd East Springfield PA 16411	
459	Michelle Dugan 222 Maypole Rd Upper Darby PA 19082	
460	Faustino Dunckhorst 5153 Villaview Dr Pittsburgh PA 15236	

461	Susan Duncumb 505 Woodland Rd Mount Pocono PA 18344	
462	Jack Dunham 3343 Wilawana Rd Sayre PA 18840	
463	Tess Dunlap 258 Needle Point Rd Evans City PA 16033	
464	Bertram Dunlop 611 Bennett St Montoursville PA 17754	
465	Charles and Mrs.June Dunn 407 S Miller St Shillington PA 19607	
466	Mary Durando 523 Chesterville Rd Landenberg PA 19350	
467	Eric Durante 241 Goss Hollow Ln Port Matilda PA 16870-	
468	B Durkin 5124 McLean Station Rd Green Lane PA 18054	
469	James Durko 165 Fawn Valley Dr McMurray PA 15317	
470	Kate Dushel 12 Chantilear Ct Stewartstown PA 17363	
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477	Philomena Easley 505 Concord Ln Fairless Hills PA 19030	
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479	Melissa Eddy 333 Evergreen Dr North Wales PA 19454	
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481	Richard Edwards 1326 E Montgomery Ave Philadelphia PA 19125	
482	Richard Edwards 523 13th Ave Prospect Park PA 19076	
483	Robert Edwards 163 Willow St Wilkes Barre PA 18702	
484	Nancy Egolf 244 W King St Pottstown PA 19464	
485	Gary Eichelberger 1713 Spruce St Philadelphia PA 19103	
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488	Carol Elkington PO Box 455 Boiling Springs PA 17007	

489	Shannon Elliott 1690 Point Dr Bensalem PA 19020	
490	Terry Elliott 96 Maximus Ln Wysox PA 18854	
491	Angele Ellis 6 Clarendon Pl Pittsburgh PA 15206	
492	Elaine Ellison 1840 Middle St Pittsburgh PA 15215	
493	Barbara Ellmaker PO Box 479 Chester Springs PA 19425	
494	Herbert Elwell 350 Button Hill Rd Lawrenceville PA 16929	
495	Milton Emont 3300 Darby Rd Apt 7316 Haverford PA 19041	
496	Susan English 4656 Hidden Pond Dr Allison Park PA 15101	
497	Harry Enright 224 Shadybrooke Dr N Douglassville PA 19518	
498	Theresa Epp 4736 Osage Ave Philadelphia PA 19143	
499	Jay Erb 1153 Temple Rd Pottstown PA 19465	
500	Zuleikha Erbedinger-Bjork 21 Forest Hills Rd Pittsburgh PA 15221	
501	George Erceg 3079 Donnellville Rd Natrona Heights PA 15065	
502	Sheila Erlbaum 7150 Bryan St Philadelphia PA 19119	

503	Ursula Bauer Erpenbeck 1545 High Country Rd Downingtown PA 19335	
504	Kathleen Espamer 321 N 30th St Camp Hill PA 17011	
505	Brenda Estine 626 South Ave Secane PA 19018	
506	Janice Etchison 803 E Grandview Blvd #201 Erie PA 16504	
507	Judy Evans 4068 Hills Church Rd Export PA 15632	
508	Marie Evans 114 Honeysuckle Rd Nottingham PA 19362	
509	Sara Evans 28 Cemetery Rd Hunlock Creek PA 18621	
510	Ann Eves 232 Treaty Rd Drexel Hill PA 19026	
511	Mark Fabian 30 Pearl Dr Pittsburgh PA 15227	
512	Jill Fackenthal 408 W Market St Pottsville PA 17901	
513	Laura Fake 443 W High St Womelsdorf PA 19567	
514	Susang-Talamo Family 4959 Simmons Cir Export PA 15632	
515	Clare Farabaugh 301 Lake St # 370 Dallas PA 18612	
516	Michaela Farber 7008 Greene St Philadelphia PA 19119	

517	Pauline Farmer 440 Columbia Hill Rd Smethport PA 16749	
518	Veronica Farmer 701 Pickering Ln Phoenixville PA 19460	
519	Wendy Farnsworth 7 W Centre St Ashland PA 17921	
520	Mike Farver PO Box G Mifflinville PA 18631	
521	Donald Fatzinger 520 Whitehall Rd Reinholds PA 17569	
522	Kristin Faulkner 4412 W Chester Dr Aston PA 19014	
523	Robert Fenstermaker 327 Daleville Hwy Covington Twp PA 18444	
524	Mark Fenwick 3101 Elroy Ave Pittsburgh PA 15227	
525	Travis Ferrell 133 E Hillcrest Dr Carlisle PA 17013	
526	Louis Ferretti 250 Shirley Ln Norristown PA 19403	
527	Mary Ferrigno 132 Watkins St Philadelphia PA 19148	
528	Cate Fetterman 1680 Hillside Rd Southampton PA 18966	
529	Jed Fetterman 309 Nursery Rd Penn Run PA 15765	
530	Tobi Fields 9240 Westwood Dr Tobyhanna PA 18466	

531	Joyce Filauri 1507 Staunton Dr Coraopolis PA 15108	
532	Deborah Fine 100 Llanalew Rd Unit 11 Haverford PA 19041	
533	Leonard Finegold 306 Jamestown Media PA 19063	
534	Mary Fineran 110 W Wissahickon Ave Flourtown PA 19031	
535	Brian Fink 1806 Green St Philadelphia PA 19130	
536	Richard Firestine 702 N Goodwill St Myerstown PA 17067	
537	Tuula Fischer 174 Brink Hill Rd Greentown PA 18426	
538	Andrew Fisher 769 Fetters Mill Rd Huntingdon Valley PA 19006	
539	Keith Fisher 37 Russell Rd Willow Grove PA 19090	
540	Lee Fisterq 638 N 12th St Allentown PA 18102	
541	Silvio Fittipaldi 5018 N Convent Ln Apt I Philadelphia PA 19114	
542	Kathleen Fitzgerald 404 W Durham St Philadelphia PA 19119	
543	Kelli Fizzano 4306 Meadowridge Ln Collegeville PA 19426	
544	Betsy Flick 713 Sherwood Rd New Cumberland PA 17070	

545	Keith Flury 400 Glendale Rd Havertown PA 19083	
546	Rich Flynn 13 Bradford St Curwensville PA 16833	
547	Monty Foley 1041 Big Four Rd Warren PA 16365	
548	Michael Follman 1019 Honor Dr Bethlehem PA 18017	
549	Russell Foo 763 S 8th St Philadelphia PA 19147	
550	Valeri Fornagiel 343 Kelly Rd Wellsboro PA 16901	
551	Lesley Forrester 404 Middle Ave Unit A Wilmerding PA 15148	
552	Jean Forsberg 245 Julian Woods Ln Julian PA 16844	
553	Beverly Foster 364 Conestoga Rd Wayne PA 19087	
554	Todd Foster 245 Candlebrook Rd King of Prussia PA 19406	
555	Tonya Foster 245 Candlebrook Rd King of Prussia PA 19406	
556	Travis Foster 3291 Shellers Bnd Apt 752 State College PA 16801	
557	Kathy Fox 1513 Elm St Bethlehem PA 18017	
558	Marilyn Foy 1663 Bristol Pike Bensalem PA 19020	

559	Rosemary Frain 20 Lawrence Ave Holland PA 18966	
560	Henry Frank 2763 Island Ave Philadelphia PA 19153	
561	Judith Frank 3429 Garnet Mine Rd Garnet Valley PA 19060	
562	Lani Frank 14 Meadow View Ln Malvern PA 19355	
563	Glenn Frantz 27 E Central Ave Paoli PA 19301	
564	Robert Freeborn 119 Amblewood Way State College PA 16803	
565	Christy Freeman 1055 William Penn Ave Johnstown PA 15906	
566	Edward Freeman 6235 Chestnut St Apt 304L Philadelphia PA 19139	
567	Long Cloud Freeman 200 Outer Dr Dingmans Ferry PA 18328	
568	Jean Friday Avenue Rise Above 118-73635 Belle Vernon PA 15012	
569	Deborah Friedman 1481 Laurel Dr Pittsburgh PA 15235	
570	Monica Frolander-Ulf 436 Lee Dr Pittsburgh PA 15235	
571	Sherri Fryer 910 Sage St Clymer PA 15728	
572	Corey Fuhrer 310 Fisher Dr York PA 17404	

573	Kathleen Furness 201 N 3rd St Apt 206 Allentown PA 18102	
574	Joan Gabrie 1000 Revere Way Perkasie PA 18944	
575	Michael Gadomski PO Box 80 Sterling PA 18463	
576	Susan Gage 7313 Boyertown Pike Douglassville PA 19518	
577	Michael Gagne 338 Plush Mill Rd Wallingford PA 19086	
578	B Gallagher 309 13th Ave Scranton PA 18504	
579	Tina Gallaway 2458 Baker St Harrisburg PA 17103	
580	Robert Gamble 537 Penllyn Blue Bell Pike Blue Bell PA 19422	
581	Kristine Gannon 1590 Shadyside Rd West Chester PA 19380	
582	Joanne Garing 760 Peregrine Dr N Huntingdon PA 15642	
583	Thomas Garrett 1791 Sapphire Rd York PA 17408	
584	D Garrott 792 Crumm RD Cowansville PA 16218	
585	Glenn Gawinowicz 806 Hunters Ln Oreland PA 19075	
586	Dana Gaynor 5507 Bayberry Ln Whitehall PA 18052	

587	Melinda Geiger 74 Seldom Seen Rd Bradfordwoods PA 15015	
588	Nathan Geiger 2144 N Oak Ln State College PA 16803	
589	Donna Gensler 1730 Duffield St Pittsburgh PA 15206	
590	Nick Gentile 5563 Nancy Lou Ln Stewartstown PA 17363	
591	Jim Gergat 1689 S Main St Bechtelsville PA 19505	
592	Carl Gershenson 2029 Saint Albans St Philadelphia PA 19146	
593	Lisa Geyer 192 Falmouth Rd Bainbridge PA 17502	
594	Margaret Ghiardi 349 Perrysville Rd Avonmore PA 15618	
595	Alaina Gilchrist 1236 Denniston St Pittsburgh PA 15217	
596	Kristen Gilkeson 228 Melrose Ave Lansdowne PA 19050	
597	Cynthia Gilliard 7309 Sherwood Rd Philadelphia PA 19151	
598	Martha Gilliland 101 Ableview Dr Apt 5 Butler PA 16001	
599	Joyce Gilmore 27 Garman Rd Kutztown PA 19530	
600	Steve Gimson 600 Valley Rd Apt C66 Warrington PA 18976	

601	Lynn Glace 253 Sunbury St Dalmatia PA 17017	
602	Scott Gladfelter 515 W King St East Berlin PA 17316	
603	Eli Glatstein 220 W Rittenhouse Sq Philadelphia PA 19103	
604	Tania Glazer 6000 Devonshire Rd Harrisburg PA 17112	
605	Elaine Gleason 351 Park Ave New Cumberland PA 17070	
606	Dorothy Glebes 148 Virginia Ave Uniontown PA 15401	
607	Matthew Glinn 4992 Saddlebrook Dr Harrisburg PA 17112	
608	Rich Glosser 4 Spruce Ave Plains PA 18705	
609	Marcia Godich 115 Belleauwood Blvd Trafford PA 15085	
610	Steven Goetter 4801 Rush Dr Pipersville PA 18947	
611	Eva Goll 3247 E Galen Hall Rd Reinholds PA 17569	
612	June Gollatz 1819 Richmond Ave Bethlehem PA 18018	
613	Warren Goodling 310 Maywood Rd York PA 17402	
614	Jackie Goodman 1300 Lombard St Apt 616 Philadelphia PA 19147	

615	Lynn Goodman 6055 Stump Rd Pipersville PA 18947	
616	Marcia Gordon 3008 Valley Dr West Chester PA 19382	
617	William Gordon PO Box 484 Glenolden PA 19036	
618	Susan Gottfried 619 Cricklewood Dr State College PA 16803	
619	Peggy Gottshall 13S Hanover st apt.301 Carlisle PA 17013	
620	Julianne Gould 124 Rosewood Ln East Stroudsburg PA 18301	
621	Linda Granato 2772 Maxwell St Philadelphia PA 19136	
622	Karen Granche 24 Lincoln Street Ridgway PA 15853	
623	William Granche 24 Lincoln St. Ridgway PA 15853	
624	Dan Grandel 2943 Jefferson Dr Chambersburg PA 17201	
625	Renee Grant 58 Chandler Cir Pen Argyl PA 18072	
626	Harrold Gray 31 Holiday Dr Kingston PA 18704	
627	Joe Greco 3116 Township Woods Rd East Greenville PA 18041	
628	Bernard Greenberg 894 Jefferson Way West Chester PA 19380	

629	David Greene 283 Carpenter Ln North Huntingdon PA 15642	
630	Lucinda Greene 201 W Main St Harrison Valley PA 16927	
631	Dawn Grib 1170 S York Rd Dillsburg PA 17019	
632	Trina Gribble 203 Harris St Harrisburg PA 17102	
633	John Gricas 817 Conrad Ave North Charleroi PA 15022	
634	Michael Griffin PO Box 516 Morgantown PA PA 19543	
635	Chris Grimley 52 Shannon Dr North Wales PA 19454	
636	Brooke Groskopf 2320 Aspen St Philadelphia PA 19130	
637	Linda Groves 201 Alderfer Rd Harleysville PA 19438	
638	Maureen Groves 12 E Evans Way Aston PA 19014	
639	Rex Grubb 1074 Dry Wells Rd Quarryville PA 17566	
640	Larissa Gula 424 Coolidge Ave Pittsburgh PA 15228	
641	Ronald Gulla 302 Linden Creek Rd Canonsburg PA 15317	
642	Peggy Gunton 1655 Wildberry Rd Bethlehem PA 18015	

643	Marta Guttenberg 226 W Rittenhouse Sq Apt 3018 Philadelphia PA 19103	
644	Mary Guzowski 119 Sumner Ave Apt 1 Pittsburgh PA 15221	
645	Susan Haag 724 Tamarack Trl Reading PA 19607	
646	Evelyn Haas 7832 Lister St Phila PA 19152	
647	Susan Habecker 702 S 4th St Apt 4 Lebanon PA 17042	
648	Christine Haftl 835 8th Ave Apt B Prospect Park PA 19076	
649	Aj Hager 1202 Saint Clair Rd Oreland PA 19075	
650	Connie Hahn 100 Sunset Ave Hanover PA 17331	
651	John and Janice Hahn 159 W Shore Rd Shohola PA 18458	
652	Sara Hale 724 Fern St Yeadon PA 19050	
653	Sonja Hallett 101 Murray St Apt 5J Bangor PA 18013-	
654	Bob Hamburg 532 Georgian Rd Glenside PA 19038	
655	Bernice Hamel 7823 Winston Rd Philadelphia PA 19118	
656	Nic Hammer 10 Treasure Lk Dubois PA 15801	

657	Ronald Hammill 1449 Prospect Rd Pittsburgh PA 15227	
658	Pamela Hardgrove 507 Ferncastle Dr Downingtown PA 19335	
659	Miriam Harlan 1929 Spruce St Philadelphia PA 19103	
660	Ronald Harley 421 Willow Rd Walnutport PA 18088-	
661	Sharon Harley 2465 Tennis Ct Bethlehem PA 18015	
662	Melinda Harp 1726 Turkey Bird Rd Newport PA 17074	
663	Robin Harper 27 Wallingford Ave Apt C7 Wallingford PA 19086	
664	Candice Harris 2646 Skyview Ave Feasterville Trevoise PA 19053	
665	Thomas Harris 93 Verona Rd Broomall PA 19008	
666	Christian Hartleben 732 Spring Ln Philadelphia PA 19128	
667	Brenda Hartman 1138 Douglass St Reading PA 19604	
668	Stacie Hartman 206 Main St Blossburg PA 16912	
669	William Hatfield 945 Brill St Philadelphia PA 19124	
670	Terence Hauger 8 E Parkway Ave Chester PA 19013	

671	Robert Havrilla 1501 Monterey St Pittsburgh PA 15212	
672	Don Hawkins 515 52nd St Pittsburgh PA 15201	
673	Carol Hayes 602 Pine Grove Rd State College PA 16801	
674	Chad Hayes 115 W Hortter St Philadelphia PA 19119	
675	Erin Hayes 18 Erin Dr Danville PA 17821	
676	Chelsea Haylett 7968 Lincoln Way W Saint Thomas PA 17252	
677	Jane Hayward 221 S 15th St Lewisburg PA 17837	
678	Lorraine Heagy 6 Sussex Pl Lititz PA 17543	
679	Jeff Healy 631 Lake Ave Altoona PA 16602	
680	Jasmine Hearn 4404 Woolslayer Way Pittsburgh PA 15224	
681	Jeffrey Hearn 6 Sawtooth Ln Hatboro PA 19040	
682	Martin Hecht 6810 Meade St Apt 1 Pittsburgh PA 15208	
683	Charles Heck 96 Orchard Ave Greenville PA 16125	
684	Barbara Hegedus 404 Fox Trl Parkesburg PA 19365	

685	Joseph Heidecker 518 Atco Rd Milanville PA 18443	
686	Bryn Heist 4 Chip Ln Reading PA 19607	
687	Michael Joel Held 251 West North St. Carlisle PA 17013	
688	David Hemberger 47 Sycamore Dr Reading PA 19606	
689	Pamela Hemphill 285 Barney Dr Watsonstown PA 17777	
690	Margaret A. Henderson 327 N Church St Robesonia PA 19551	
691	Judith Hendin PO Box 1449 Easton PA 18044	
692	Jon Hendricks 37 Evergreen Ter Uniontown PA 15401	
693	Rachel Herrmann 50 S Penn Hall Dr Chambersburg PA 17201	
694	Thomas Hessley 20 Weld Dr Warren PA 16365	
695	Troy High 1821 Memorial Hwy Rear Oley PA 19547	
696	Virginia Hildebrand 1445 S Main Rd Mountain Top PA 18707	
697	Dennis Hill 24 Aspen Dr Manheim PA 17545	
698	Sharon Hill 513 Georgetown Rd Wallingford PA 19086	

699	Susan Hill 4626 Glasgow St Center Valley PA 18034	
700	Brian Hillard 1510 Dale Ln Bethlehem PA 18018	
701	Mathew Himmelein 539 S 49th St Phila PA 19143	
702	Ron Hirsch 1229 Pine St Philadelphia PA 19107	
703	Harry Hochheiser 5742 Woodmont St Pittsburgh PA 15217	
704	Tom Hocking 1029 English Dr Lebanon PA 17042	
705	Cindy Hoffer 15132 Kutztown Rd Unit 54C1 Kutztown PA 19530	
706	David Hoffman Maytown Rd.917 Elizabethtown PA 17022	
707	Christine Holder 821 W 30th St Erie PA 16508	
708	Jill Hollingshead 10983 Babcock Blvd Gibsonia PA 15044	
709	Deborah Holmes 435 Reeds Rd Downingtown PA 19335	
710	Jennifer Holmes 438 S 44th St Philadelphia PA 19104	
711	Shayla Holmes 1801 Universal Rd Pittsburgh PA 15235	
712	William Hooper 4729 Cedar Ave Philadelphia PA 19143	

713	Paul Hoover 2709 Fairway Dr Apt B Altoona PA 16602	
714	Jackie Hoppe 912 Manor Ave Meadowbrook PA 19046	
715	Ronald Horiszny 2307 Black River Rd Bethlehem PA 18015	
716	Laura Horowitz 6544 Darlington Rd Pittsburgh PA 15217	
717	tina horowitz 4701 pine street m8 philladelphia PA 19143	
718	Irving Horton 5208 Morris St Philadelphia PA 19144	
719	Debra Hoven 122 Peggy Ln Nazareth PA 18064	
720	Carol Huber 1148 Appletree Ln Erie PA 16509	
721	Chris Hudock 638 10th Ave Bethlehem PA 18018-	
722	Kristie Hudzik 68 Howard St West Lawn PA 19609	
723	Gwen Huffman 362 Stratford Ave Pittsburgh PA 15232	
724	Elaine Hughes 721 E Butler Pike Ambler PA 19002	
725	Mary Hughes 2669 Furlong Rd Doylestown PA 18902	
726	Diana Hulboy 308 Ripka St Philadelphia PA 19128	

727	Patrick Hume 7209 Rutland St Philadelphia PA 19149	
728	Marla Humphreys 8 Rex Ave Apt 2 Philadelphia PA 19118	
729	Ashley Hunsberger 6135 Walker St Philadelphia PA 19135-	
730	Joann Hunter 1244 Hancock Ave Vandergrift PA 15690	
731	James Hutchinson 25 Frog Hollow Ln Mohnton PA 19540-	
732	Robin Hutson 106 Ledgeway Dr Dingmans Ferry PA 18328	
733	Barbara Huwar 9801 Old State S Strattanville PA 16258	
734	Francine Hyde 214 Wedgewood Dr Pittsburgh PA 15227	
735	Robert W. Rhodes, III PO Box 355 Mercersburg PA 17236	
736	Stephen F. Kislock III 1800 5th Ave Beaver Falls PA 15010	
737	Dennis Inserra 7113 Reynolds St Pittsburgh PA 15208	
738	Bridget Irons 16 W Southampton Ave Philadelphia PA 19118	
739	Kelly Irwin 1831 Pennland Ct Lansdale PA 19446	
740	Debra Istvanik-Strotman 604 McVicker Ln Monongahela PA 15063	

741	Tim Ivers 643 Margaret St Pittsburgh PA 15210	
742	Linda Jacobs 65 Danna Dr Burgettstown PA 15021	
743	Inderjit Jaipaul 403 Hunting Card Ln Glen Mills PA 19342	
744	Jeff James 715 N Keel Ridge Rd Hermitage PA 16148	
745	Sarah Jameson 737 Trevorton Rd Shamokin PA 17872	
746	Elizabeth Janoski 1801 Buttonwood St Apt 1610 Philadelphia PA 19130	
747	C Jayne 1235 Piney Rd Tionesta PA 16353	
748	Robert Jehn 180 S Atlantic Ave Cochranton PA 16314	
749	Cynthia Jimenez 932 Franklin St Wyomissing PA 19610	
750	Richard Joers 44 Iroquois Ct Wayne PA 19087	
751	Shirley Johannsen 2725 Hunt Club Dr York PA 17402	
752	Barbara Johns 693 Yorktown Rd Lewisberry PA 17339	
753	Alan Johnson 7617 Kings Hwy New Tripoli PA 18066	
754	Heather Johnson 27 College St Boyertown PA 19512	

755	Kristen Johnson 129 Cherrington Dr Pittsburgh PA 15237	
756	Patti Johnson 5 Greer Ct Perkasie PA 18944	
757	Richard Johnson 24 Tyrone St Curwensville PA 16833	
758	Edythe Joines 789 Folly Hill Rd West Chester PA 19382	
759	Carol Jones 205 Meadow Ln Quarryville PA 17566	
760	Eurhi Jones 117 Jefferson St Bala Cynwyd PA 19004	
761	Thomas Jones 4632 Larchwood Ave Philadelphia PA 19143	
762	Joseph Jordan 7104 Tulip St Philadelphia PA 19135	
763	Larry N. Jordan 6026 Larchwood Ave Apt C1 Philadelphia PA 19143	
764	Mark Jordan 7104 Tulip St Philadelphia PA 19135	
765	Cathy Joslyn 1309 Heller Dr Yardley PA 19067	
766	Edward Claghorn, Jr. 457 Upper Weadley Rd Wayne PA 19087	
767	Robert D. Missimer. Jr. 9 Roberts Rd Malvern PA 19355	
768	David Kagan 885 Torbert Ln Jersey Shore PA 17740	

769	Nicole Kahle 604 Ennis St Pittsburgh PA 15211	
770	Paul Kalka 357 W Elm St Conshohocken PA 19428	
771	Gary Kallmann 402 Aldrin Ct Apt 322 Latrobe PA 15650	
772	Paul Kaplan 9951 Academy Rd #C-2 Philadelphia PA 19114	
773	Grace Karschner 1108 Kenyon Dr Fort Washington PA 19034	
774	Candis Kashner 7700 Elm Ave Wyndmoor PA 19038	
775	Melissa Katterson PO Box 253 South Heights PA 15081	
776	Barbara Kauffman 131 Yew Rd Cheltenham PA 19012	
777	Pamela Kavelman 133 McClellan Dr Pleasant Hills PA 15236	
778	Dee Kearney 5833 Henry Ave Philadelphia PA 19128	
779	Richard Keefer 1545 Knoxlyn Rd Gettysburg PA 17325	
780	Sam Keiser 534 College Garden Dr Kutztown PA 19530	
781	Dennis Keller 1429 Old Reliance Rd Middletown PA 17057	
782	Brian Kelly 9 School Rd Horsham PA 19044	

783	Joan Kelly 4113 Princeton Ave Philadelphia PA 19135	
784	Carolyn Kendall 1001 E Oregon Rd Lititz PA 17543	
785	Jackie Kennedy 8 Arrowhead Trl Media PA 19063	
786	Mckenzie Kennedy 80 Pigeon Creek Rd Eighty Four PA 15330	
787	Pat Keough PO Box 325 Brodheads ville PA 18322	
788	Scott Kepner 4327 N 6th St Harrisburg PA 17110	
789	Mark Kern 23 Stable Dr Elverson PA 19520	
790	Zak Kerr 344 Goldsmith Rd Pittsburgh PA 15237	
791	Kathy Kettlety 300 N Guthriesville Rd Downingtown PA 19335	
792	Anne Keys 3836 Lywiski Rd Collegeville PA 19426	
793	F Kiefner 507 Cheltena Ave Jenkintown PA 19046	
794	Dennis Kientz 800 Court St Apt 416 Reading PA 19601	
795	Maria Kiernan 326 Wellington Ter Jenkintown PA 19046	
796	Linda Kilby 1150 N 65th St Phila PA 19151	

797	Kathleen Kimble 3 Kern Dr Perkasie PA 18944	
798	Kelly King 306 S Diamond St Mt Pleasant PA 15666	
799	William King 201 11th St Windber PA 15963	
800	Judy King-Tarzian 3509 Newberry Rd Philadelphia PA 19154	
801	David Kinkaid 1328 Buttonwood St Reading PA 19604	
802	Jane Kirk 720 EAST 32ND STREET ERIE PA 16504	
803	Stephanie Kirk 53 Penn Oaks Dr West Chester PA 19382	
804	Ted Kisiel 1117 Fair Ave Erie PA 16511	
805	Lydia Klasnikov 7031 Greenhill Rd Philadelphia PA 19151	
806	Jacob Klein 134 Greenbriar Dr Wexford PA 15090	
807	Mary Lou Kleinbach 31 Sally Ann Furnace Rd Mertztown PA 19539	
808	Gregory Kline 2010 Fulmer St Philadelphia PA 19115	
809	Keith E. Knecht 755 Brookline Blvd Pittsburgh PA 15226	
810	Barbara Knickerbocker 1108 Brinton Place Rd Apt 31 West Chester PA 19380-	

811	John Kocer 1717 Washington Ave Northampton PA 18067	
812	C Koch 2400 Chestnut St Philadelphia PA 19103	
813	Frank Kohn 6655 McCallum St Philadelphia PA 19119	
814	Susan Kohn 18 N Church St Apt A Spring City PA 19475	
815	Erika Kolecki 305 N 4th St Perkasie PA 18944	
816	Joan Kolessar 361 Main St Slatington PA 18080	
817	Richard Koons 826 Marcon Dr Lebanon PA 17046	
818	Tom Kopczak 1368 Denton St Greensburg PA 15601	
819	Peggy Korostik 105 Wynwood Dr Willow Street PA 17584	
820	John Kotarski 49 S 3rd St Fl 1 Perkasie PA 18944	
821	Teresa Kotlar 1409 4th St Monongahela PA 15063	
822	Georgann Kovacovsky 323 Cheers Rd New Bethlehem PA 16242	
823	Robert Kraft 455 Moritz Rd Orrtanna PA 17353	
824	Laura Kramer 101 N Merion Ave Bryn Mawr PA 19010	

825	Melissa Kraus 667 Fryer Rd Summerville PA 15864	
826	Darla Kravetz 279 Thomas Jefferson Rd Lehighon PA 18235	
827	Brian Kremenowski 3 Brownstone Dr Horsham PA 19044	
828	Jesse Krempasky 104 Ashbury Dr South Abington Township PA 18411	
829	Kathy Kroll 205 Colbert St Stroudsburg PA 18360	
830	susan krotec 5619 kentucky ave. pittsburgh PA 15232	
831	Jessica Krow 3118 W Penn St Philadelphia PA 19129	
832	Cassandra Krul 602 Pike Dr Cranberry Township PA 16066-	
833	Deborah Krupp 1340 Old Ford Rd Huntingdon Valley PA 19006	
834	Claudette Kulkarni 1133 N Saint Clair St # 2 Pittsburgh PA 15206	
835	Angela Kump 155 Tego Lake Rd East Stroudsburg PA 18302	
836	David Kutish 88 Blue Jay Rd Chalfont PA 18914	
837	Ellen Kutter 422 Gateswood Dr West Chester PA 19380	
838	Frank Kyvernitis 1501 Pulaski Dr Blue Bell PA 19422	

839	Alex Labant 1721 W Thompson St Philadelphia PA 19121	
840	April Labuda 316 9th St Sellersville PA 18960	
841	Jean Lamancusa 1435 Northhampton Ln New Cumberland PA 17070	
842	Tiner Lamancusa 1435 Northampton Lane New Cumberland PA 17070	
843	Donald Lancaster 643 Willow Ave Indiana PA 15701	
844	Eric Landis PO Box 102 Mechanicsburg PA 17055	
845	Barbara Langan 13051 Greenwood Rd Huntingdon PA 16652	
846	Marco LaPadula 3607 Margate Road Bethlehem PA 18020	
847	Dan Lara 118 S 21st St Apt 723 Philadelphia PA 19103	
848	Joyce Larry 7335 Chestnut Ave Fl 3 Melrose Park PA 19027	
849	Jonathan Lasalle 247 Devereaux Ave Philadelphia PA 19111-	
850	Margaret Laske 114 Aylesboro Ln Pittsburgh PA 15217	
851	Roger Latham PO Box 57 Rose Valley PA 19086	
852	David Laverne 844 Lincoln St Dickson City PA 18519	

853	Dennis P and Mary V Law 219 Blackwood Dr Greensburg PA 15601	
854	Beth Lawhead 226 Vaughn St Johnstown PA 15906	
855	Kathy Lawless 1498 Old Sumneytown Pike Harleysville PA 19438	
856	Michael Lawrence 10 Saxony Dr Harrison City PA 15636	
857	John Lawson 207 Fairview Rd Penn Valley PA 19072	
858	Catherine Learmonth 17 Eden Roc New Hope PA 18938	
859	Maryann Ledonne 220 N Dithridge St Pittsburgh PA 15213	
860	Ruth Lefchak 1006 Blakely St Jessup PA 18434	
861	Elizabeth Lefever 3552 New Queen St Philadelphia PA 19129	
862	Yvonne Lefever 1218 Prospect Ave Prospect Park PA 19076	
863	Joan Lehman 123 Logan Ave Altoona PA 16602	
864	Otto Lehrbach 282 Treichler Rd Alburtis PA 18011	
865	Dorothea Leicher 2303 Delancey Pl Philadelphia PA 19103	
866	Charles Leiden 306 Coleridge Ave Altoona PA 16602	

867	Erin Leidich 3625 Lower Saucon Rd Hellertown PA 18055	
868	Charles Leidig 415 N 3rd St Steelton PA 17113	
869	Dara Lemmon 314 Shipe Run Rd Washington PA 15301	
870	Angie Lenkevich 1300 W Hannah St Houtzdale PA 16651	
871	Mary Lenox 3856 Henley Dr Pittsburgh PA 15235	
872	Paul Lerman 908 Laburnum Ln Wyncote PA 19095	
873	Lisa Lester 317 Phillips St Johnstown PA 15904	
874	Maryjean Letham 543 Simpson Rd Marion Center PA 15759	
875	Jon Levin 1899 Aster Rd Macungie PA 18062	
876	Laura Joan Levine 420 Morris Rd Wayne PA 19087	
877	Sue Ann Lewine 109 Washington Rd Lehighton PA 18235	
878	Aaron Lewis 723 Penn Ave Altoona PA 16601	
879	Felicia Lewis 2122 Cherry St Philadelphia PA 19103	
880	Thomas Lewis PO Box 541 Huntingdon PA 16652	

881	Patricia Libengood 4038 Ridge Pkwy Erie PA 16510	
882	Fred Liberatore 221 Copper Beech Dr Blue Bell PA 19422	
883	Aaron Libson 4919 N 9th St Philadelphia PA 19141	
884	Carole Licht 140 Lindeman Ln Venus PA 16364	
885	Elsa Russell Lichtenberg 26 Kendal Dr Kennett Square PA 19348	
886	Kristen Lightbody 114 Henry St Saylorsburg PA 18353	
887	Paula Lim 309 Southvue Drive Pittsburgh PA 15236	
888	John Lindberg 186 Meadow St Meadville PA 16335	
889	Maryann Linehan 421 E Lancaster Ave St Davids PA 19087	
890	Carol Lipko 2181 George Ln Bath PA 18014-	
891	Linda Listing 226 Spruce St Canonsburg PA 15317	
892	Deb Livingston 6104 Lincoln Hwy Wrightsville PA 17368	
893	Karen Livingston 46 Pennway Cir Carlisle PA 17015	
894	Gina Lobiondo 105 Greenbriar Ln Havertown PA 19083	

895	Angela Locher 104 Spruce Ln Paoli PA 19301	
896	Michael Lombardi 19 Morning Glory Ln Levittown PA 19054	
897	Amy Long 798 Old River Rd Thornhurst PA 18424	
898	Toni Long 535 E 9th St Northampton PA 18067	
899	Vivian Lovingood PO Box 7 Unionville PA 19375	
900	Lisa Lowder 260 Center Highlands Waynesburg PA 15370	
901	Barbara Lowe 20 Fellowship Dr Coatesville PA 19320	
902	Jean Lubonovich 4367 Georgetown Rd Franklin PA 16323	
903	Jill Luig 2501 Maryland Rd Willow Grove PA 19090	
904	Jacqueline Lukas 220 Hogeland Rd Southampton PA 18966	
905	Jan M Lutz 24215 Mackey Hill Rd Cambridge Springs PA 16403	
906	Winifred Lutz 2316 Terwood Rd Huntingdon Valley PA 19006	
907	Gail Lynch 4726 Cedar Ave Philadelphia PA 19143	
908	Heather Mack 39 Groff Dr Ephrata PA 17522	

909	Joanne Mack 347 Chippewa St Lester PA 19029	
910	Elizabeth Macken 1152 Prince Andrew Ct Pittsburgh PA 15237-	
911	Mike Macleod 15 Pumphouse Rd Jefferson Township PA 18436	
912	E Madarasz 803 E Boot Rd West Chester PA 19380	
913	Mary Madison PO Box 105 Hatboro PA 19040	
914	Shirley Madison 188 Main St New Providence PA 17560	
915	Yolanda Magpantay 514 Spring Grove Ln Apt 3 West Chester PA 19382	
916	Valerie Majercsik 116 Tioga St Johnstown PA 15905	
917	Steve Malarskey 93 Municipal Rd Pipersville PA 18947	
918	Justin Malick 3609 Sequoia Dr East Stroudsburg PA 18302	
919	Catherine Malin 1328 Disston St Philadelphia PA 19111	
920	Judi Mangan 16 Morse Way Pittsburgh PA 15207	
921	Tracey Mangus 1420 4th Ave Ford City PA 16226	
922	Lynn Manheim 55 Mound St Factoryville PA 18419	

923	Robin Mann 266 Beechwood Dr Bryn Mawr PA 19010	
924	Rhonda Manser 31 Trout Ln Stewartstown PA 17363	
925	Deborah Marchand 4807 Stonebridge Dr Gibsonia PA 15044	
926	Alana Marchetti 5 Shadyside Ln Pittsburgh PA 15232	
927	Jake Margerum 3232 W Penn St Philadelphia PA 19129	
928	Adrian Maries 5813 Bartlett St Pittsburgh PA 15217	
929	Kerstin Marion 9 Stafford Pl Yardley PA 19067	
930	Gabriele Markert 109 Frog Pond Holw Abbottstown PA 17301	
931	Jill Marks 549 Owen Rd York PA 17403	
932	Jan Marlan 5400 Hobart St Pittsburgh PA 15217	
933	Luis Marquez 500 Parkview Rd west Reading PA 19611	
934	Sally Martin 1164 E Schuylkill Rd Pottstown PA 19465	
935	Valerie Martin 510 Brown St Selinsgrove PA 17870	
936	Valerie Martz 215 Mine Hill Rd Kintnersville PA 18930	

937	Douglas Mason 120 E Beaver Ave Apt 310 State College PA 16801	
938	Anthony Masters 447 Union Ave Crafton PA 15205-	
939	Matt Mastro 127 Journey Dr Albrightsville PA 18210	
940	Gayle Materna 642 W Brubaker Valley Rd Lititz PA 17543	
941	Karen Matlack 1099 Mississippi Ave Pittsburgh PA 15216	
942	Amy Matthews 1210 Joan Ter Reading PA 19611	
943	Sandy Mattioli 404 South St Avoca PA 18641	
944	Peter Mayes 418 Anthwyn Rd Narberth PA 19072	
945	Dianne Mccauley 2775 Saxony Pl Apt 1221 Allison Park PA 15101	
946	Kim McClure 704 Skyline Dr Lancaster PA 17601	
947	Ed Mcdade 2581 S Mountain Rd Port Matilda PA 16870	
948	John Mcdermott 1001 Evergreen Rd State College PA 16801	
949	Tim McDevitt 330 Woodland Dr Downingtown PA 19335-	
950	Jameson Mcdonnell 809 McClellan St Phila PA 19148	

951	Renee Mcewens 61 Mayfair Dr Pittsburgh PA 15228	
952	Bonnie Mcghee 1301 3rd Ave Berwick PA 18603	
953	Bonnie McGill 10384 Maple Ln Conneaut Lake PA 16316	
954	John Mcginley 400 Barnsgate Dr Cochranville PA 19330	
955	Cj Mcginnis 8200 Henry Ave Philadelphia PA 19128	
956	Evelina Mcguigan 1343 Pinyon Pl Feasterville Treiose PA 19053	
957	Steve Mcguinness 222 Main St Langhorne PA 19047	
958	Ellie Mcguire 4432 Susan Dr Bethlehem PA 18017	
959	Virginia Mcintosh 616 W Cliveden St Philadelphia PA 19119	
960	Pamela Mcintyre 4130 Painted Sky Rd Reading PA 19606	
961	Rose Marie Mckain 239 W Front St Apt 5 Erie PA 16507	
962	Molly Mclaughlin 118 W Mount Airy Ave Philadelphia PA 19119	
963	Tony Mclaughlin 345 Willing St Tamaqua PA 18252	
964	Michael McLeod 75 Willow Dr Jim Thorpe PA 18229	

965	Joseph Mcmillion 139 W King St Apt 1 Littlestown PA 17340	
966	Sherry McNeil 170 Royal Oak Drive Butler PA 16002	
967	Catherine Mcshane 411 Braemar Ct Chadds Ford PA 19317	
968	Patrick Mcvay 7 Ciara Dr Neshannock PA 16105	
969	Sandra Mcveigh 112 Whitney Dr Cranberry Township PA 16066	
970	Emilie Mcvey 138 W Granada Ave Hershey PA 17033	
971	D Meade 1804 Jefferson Ave Lewisburg PA 17837	
972	Laurel Person Mecca 2765 Mount Royal Rd Pittsburgh PA 15217	
973	Lynne Medley 1901 J F K Blvd Apt 1726 Philadelphia PA 19103	
974	Stan Medwin 161 Meadow Ln Richboro PA 18954	
975	James Meenan 344 W Orange St Lancaster PA 17603	
976	David Meiser 5526 Wismer Rd Pipersville PA 18947	
977	Anita Mentzer 1181 Wicklow Court Hummelstown PA 17036	
978	Joseph Mercurio 538 Esther Ave New Kensington PA 15068	

979	Tammy Metz 27 N Lincoln St Palmyra PA 17078	
980	Paul Metzloff 26 Saddle Ridge Dr Dallas PA 18612	
981	Jennifer Meyer 107 Hampden Ave # B Narberth PA 19072	
982	Kathleen Meyer 7846 Route 183 Bernville PA 19506	
983	Wayne Michael 901 E 2nd St Nescopeck PA 18635	
984	Laurie Mielo 14095 Maple Dr Clarks Summit PA 18411	
985	Lorna Milano 10 Country Village Way Media PA 19063	
986	Regina Milione 666 W Germantown Pike Apt 1104 Plymouth Meeting PA 19462	
987	Jack Miller 130 Delong Rd Middleburg PA 17842	
988	Lisa Miller 54 Jaycee Dr Pittsburgh PA 15243	
989	Sam Miller 103 Liberty House Ln Phoenixville PA 19460-	
990	Sandra Miller 843 Sycamore Dr Lansdale PA 19446	
991	Stephen Miller 620 Glen Echo Rd Philadelphia PA 19119	
992	Susan Miller 335 Old Ford Rd White Haven PA 18661	

993	Tim Miller 1801 Buttonwood St Philadelphia PA 19130	
994	Brenda Milligan 505 E New St Lititz PA 17543	
995	Frank Mc Million 14642 Sherwood Dr Greencastle PA 17225	
996	Alexander Milone 6213 Hilltop Dr # 26 Brookhaven PA 19015	
997	John Minger 738 Churchville Rd Southampton PA 18966	
998	Chris Minich 313 Roberts Rd Lewis Run PA 16738	
999	Ariana Miranda 1387 Gwynedale Way Lansdale PA 19446	
1000	Ogden Mitchell 4815 Locust St Philadelphia PA 19139	
1001	Susan Mitchell 706 Maplewood Ave Ambridge PA 15003	
1002	Joan Mitsuka 346 Devon Way West Chester PA 19380	
1003	David Mivasair 513 E McCormick Ave State College PA 16801	
1004	Andrew Mix 106 Pheasant Way Downingtown PA 19335	
1005	Jude Montarsi 574 S Fairview St Lock Haven PA 17745	
1006	Lauri Moon 2210 Division Rd Williamsport PA 17701-	

1007	Len Mooney 422 S 4th St Bangor PA 18013	
1008	Barbara Moore 4652 Cheryl Dr Bethlehem PA 18017	
1009	Jacqueline S. Moore 1528 E Butler Pike # A Ambler PA 19002	
1010	Robert Moore 128 Brownstone Ln Horsham PA 19044	
1011	Michael Moppin 621 Herman Ave Apt 2 Lemoyne PA 17043	
1012	Mary Morell 2016 Hilltop Rd Flourtown PA 19031	
1013	David Morgan 29 School St Ambler PA 19002	
1014	Marcy Morgan 4712 Windsor Ave Philadelphia PA 19143	
1015	Chrys Morris 3259 Burgettstown Rd Imperial PA 15126	
1016	Ella Morris 587 Porters Mill Rd Spring City PA 19475	
1017	Jason Morris 1119 Mellon St Pittsburgh PA 15206	
1018	Linda Morris 155 Huffman Ave Williamsport PA 17701	
1019	Roy Morsch PO BOX ONE Starlight PA 18461	
1020	Tom Moser 4301 Bulltown Rd Murrysville PA 15668	

1021	Helen Moteles 2318 Rosemore Ave Apt L11 Glenside PA 19038	
1022	Amy Moyer 427 W Sedgwick St Philadelphia PA 19119	
1023	Bruce Moyer 602 Halteman Rd Souderton PA 18964	
1024	John Moyer 1223 Laclair St Pittsburgh PA 15218	
1025	Susan Mucha 269 Clearview Ave Crafton PA 15205	
1026	Margi Mulligan 15 Thomas Ave Bryn Mawr PA 19010	
1027	MaryMark Munday 525 Plum Run Rd New Oxford PA 17350	
1028	Kate Munshower 103 Fern Way South Abington Township PA 18411	
1029	Amanda Murphy 303 Glen Ridge Rd Havertown PA 19083	
1030	Debbie Murphy 102 Dansfield Ln Chadds Ford PA 19317	
1031	Karen Murphy 102 N Line Rd Newtown Sq PA 19073	
1032	Joyce Murray 236 D Glen Riddle Road Media PA 19063	
1033	Linda Murray 49 Prospect St Mansfield PA 16933	
1034	M. Murray 615 Washington Rd Ste 302 Pittsburgh PA 15228	

1035	Pamela Murray 2200 Beechwood Blvd Pittsburgh PA 15217	
1036	Rosemary Murray 508 Washington St Royersford PA 19468-	
1037	Kathy Musser 555 Springville Rd New Holland PA 17557	
1038	Jean Mutzek 105 Blueberry Dr Milford PA 18337	
1039	Judy Nagorski 320 Ohio River Blvd Sewickley PA 15143	
1040	David Nakonecznyj 129 Shire Ln Wernersville PA 19565	
1041	Cynthia Nape 22 Sheffield Dr Chambersburg PA 17201	
1042	Sharon Narushoff 11 Willow Ct Hanover PA 17331	
1043	Nora Nash 609 Convent Rd Aston PA 19014	
1044	Anne Neel 401 Neulon Ave Pittsburgh PA 15216	
1045	Ben Negrón 1070 Warfield Ln Huntingdon Valley PA 19006	
1046	Joyce Neifeld 261 Shawmont Ave Philadelphia PA 19128	
1047	Sophia Nekoranic 747 N Lafayette Ave Yardley PA 19067	
1048	Nora Nelle 533 Onward Ave Phoenixville PA 19460	

1049	Michelle Nelson 4523 Rose Dr Emmaus PA 18049	
1050	Thomas Nelson 105 Drexel Ave Lansdowne PA 19050	
1051	Mark Neuherz 1801 Warren St Pittsburgh PA 15212	
1052	Andrew Nicholas 440 S Graham Streer, Apt 2 Pittsburgh PA 15232	
1053	Nicola Nicolai 2400 Copper Creek Rd Chester Springs PA 19425	
1054	Joan Nikelsky 7267 Calvin Rd Upper Darby PA 19082	
1055	Autumn Nitchman 47 Ranck Ave Lancaster PA 17602	
1056	Barbara Nolan 4301 Larchwood Ave Philadelphia PA 19104	
1057	K.A. Nunley 5630 Hobart St Apt 4 Pittsburgh PA 15217	
1058	Warren Nystrom 1143 Olivia St Pittsburgh PA 15218	
1059	Deanne O'Donnell 137 Ron Dr Derry PA 15627	
1060	Nina O'Hella 5067 Apple Ridge Dr Allison Park PA 15101	
1061	William Obenour 201 Grant St Sewickley PA 15143	
1062	Dennis Ober 1833 Upper Rd Shamokin PA 17872	

1063	Evelyn Och 803 S Negley Ave Pittsburgh PA 15232	
1064	John Oglesby 1883 Hoffer Rd Mt Pleasant Mills PA 17853	
1065	Andreas Ohland 642 Woodland Ave Cheltenham PA 19012	
1066	Jenny Oliver 403 Winfield Ave Upper Darby PA 19082	
1067	William Ollis 406 Wartman Rd Collegeville PA 19426	
1068	Daniel Orfe 6 Kratz Rd Harleysville PA 19438	
1069	Kohn Orlick 640 Atkinson Ln Langhorne PA 19047	
1070	Barbara Osada 21 1/2 River Rd Philadelphia PA 19128	
1071	Christine Ostopoff 447 Fitzgerald St Philadelphia PA 19148	
1072	Linda Ostrander 249 Elm Ave Glen Riddle PA 19063	
1073	Vicki Oswald 221 Barker Rd Wyncote PA 19095	
1074	Wayne Ott PO Box 5 Orbisonia PA 17243	
1075	Sharon Owens 455 S 48th St Philadelphia PA 19143	
1076	Jeffrey Padawer 3696 Smith Rd Furlong PA 18925	

1077	Michael Painton 117 Darnley Dr Coraopolis PA 15108	
1078	Tina Paloskey 41 Little Mountain Rd Myerstown PA 17067	
1079	Dennis Paluselli 3474 Hills Church Rd Export PA 15632	
1080	John Parana 323 Mill St Johnsonburg PA 15845	
1081	Michael Parke 464 Maplewood Rd Springfield PA 19064	
1082	Ashley Parker 1440 Kriebel Mill Rd Collegeville PA 19426	
1083	Patricia Parker 211 N 2nd St Lewisburg PA 17837	
1084	Paul Parker 60 Morrow Rd Avella PA 15312	
1085	Janet Parlett 108 Karen Cir Coatesville PA 19320	
1086	Paul Parowski 361 Eaglebrook Ln Richfield PA 17086	
1087	Gene Parsons 640 Maple Ln Sewickley PA 15143	
1088	Theresa Pastore 5909 Farr Hollow Rd Forkston Twp PA 18629	
1089	Michael Pastorkovich 348 N Craig St Pittsburgh PA 15213	
1090	Edward Paulsworth 144 Fairfax Rd Fairless Hills PA 19030	

1091	Eric Pavlak PO Box 542 Oaks PA 19456	
1092	Michael Peale 5 Worth Hill Ln Aston PA 19014	
1093	Karen Pearlstein 510 Pine Needle Dr Exton PA 19341	
1094	Chris Pearsall 1712 Aurelius St Pittsburgh PA 15218	
1095	Lydia Pease 715 N Lime St Lancaster PA 17602	
1096	Joan Pelc 116 Rockwood Rd Newtown Square PA 19073	
1097	Kathryn Pelegrinelli 238 Harbison Rd Sarver PA 16055	
1098	Christine Penrose 301 S Chadwick St Phila PA 19103	
1099	Aggie Perilli 166 Federal Way Lancaster PA 17601	
1100	Jo-Anne Perkinson 2005 Woodside Ln Newtown Square PA 19073	
1101	Barb Pesta 513 Delaware Ave West Pittston PA 18643	
1102	Ann Peters 5209 Wayne Ave Philadelphia PA 19144	
1103	Jeanne Peters 8 Willow Ln Apt A Lansdale PA 19446	
1104	Robert Peters 160 Aspen Dr Dillsburg PA 17019	

1105	Alan Peterson 317 W Chestnut St Quarryville PA 17566	
1106	Nezka Pfeifer 303 Lakewood Mnr Scranton PA 18505	
1107	Robyn Walters Ph.D. 401 State Route 87 Montoursville PA 17754	
1108	Nick Phelps 244 Oak Ln State College PA 16801	
1109	Jean Phillips 160 Meadowview Dr State College PA 16801	
1110	James Phipps 902 Hamilton Rd Collegeville PA 19426	
1111	James Piech 256 Georges Rd Wapwallopen PA 18660	
1112	Betty Pierce 621 Shadyside Dr West Mifflin PA 15122	
1113	Jon Piersol 2519 Lindenwood Dr Wexford PA 15090	
1114	Bonnie Piestrak 1001 Wood St Yardley PA 19067	
1115	Diane Pilotti 13 Gabe Cir Downingtown PA 19335	
1116	Kathy Piltz 662 Behrens Rd Jim Thorpe PA 18229	
1117	David Platt 253A Dimpsey Rd Halifax PA 17032	
1118	Veronice Plewinski 460 Saint Bernardine St Reading PA 19607	

1119	Susan Plubell 9392 Clr Cur Hwy Clearfield PA 16830	
1120	Edward Poder 421 Burkhard St Johnstown PA 15906	
1121	Joann Pohlmann PO Box 26 Nuremberg PA 18241	
1122	Evelyn Ponall 349 S Balderston Dr Exton PA 19341	
1123	Lorraine Poore 52 Mayapple Dr Muncy Valley PA 17758	
1124	Andrea Porter 436 E 3rd St Boyertown PA 19512	
1125	Joan Porter 775 Masden Hollow Rd Beech Creek PA 16822	
1126	Janice Porterfield 5005 Brown St Philadelphia PA 19139	
1127	Lawrence Povlow 2996 6th St Eagleview PA 19403	
1128	Amanda Price 820 Balata St Easton PA 18042	
1129	Charles Price 2644 S 8th St Fl 1 Philadelphia PA 19148	
1130	Annie Prince 6015 Domarray St Coopersburg PA 18036	
1131	Katrina Probst 1445 Sawmill Rd Downingtown PA 19335	
1132	Susan Proietta 1820 Napfle Ave Philadelphia PA 19111	

1133	William D. Prystauk 827 Wilbur St Easton PA 18042	
1134	Adrienne Puza 720 15th St New Cumberland PA 17070	
1135	Shane Pyles 171 Penn Blvd Lansdowne PA 19050-	
1136	Joanne Pyott 702 Lexington Rd Lansdale PA 19446	
1137	Jennifer Quick PO Box 163 Hummelstown PA 17036-	
1138	Jennifer Quinn 37 Piersol St Tamaqua PA 18252	
1139	Brian Raasch 715 Meyers Rd Morrisdale PA 16858	
1140	Ron Rabold 1590 Arndt Rd Pittsburgh PA 15237	
1141	Thomas Radecki 238 Main St Clarion PA 16214	
1142	Rolf Radicke 1717 Bath Rd Apt G17 Bristol PA 19007	
1143	Marie Elaina Rago 1649 Canal St Apt D Northampton PA 18067	
1144	Martha Ralphe 26 Vernon Ln Rose Valley PA 19063	
1145	Natalie Ramos 127 Marshall Ave Johnstown PA 15905	
1146	Kelsey Ransick 127 W 11th Ave Conshohocken PA 19428	

1147	Marjorie Rathbone B302 Summit Dr Bryn Mawr PA 19010	
1148	Jo Ellen Rawlings 618 Nelson Rd Farmington PA 15437	
1149	Marguerite Raypole 10 W Windermere Ter Lansdowne PA 19050	
1150	Ron Raz PO Box 25 Ferndale PA 18921	
1151	Reid Reading 6552 Northumberland St Pittsburgh PA 15217	
1152	B Lynne Reba 19976 State Route 92 Susquehanna PA 18847	
1153	Diane Redner 28 Cornell Ave Churchville PA 18966	
1154	Sarah Reese 68 Old Pioneer Rd Camp Hill PA 17011	
1155	Donna Reicher 1816 Tragone Dr Pittsburgh PA 15241	
1156	Kay Reinfried 797 Scott Ln Lititz PA 17543	
1157	Betsy Restly 143 Jackson St Berlin PA 15530	
1158	Miriah Reynolds 1430 Golf Course Rd Birdsboro PA 19508	
1159	Linda Ricci 100 Norristown Rd Warminster PA 18974	
1160	Valerie Rice 401 Stratford Ct Lansdale PA 19446	

1161	Bryn Richard 552 Holmes Rd Morton PA 19070	
1162	Martha Richards 214 Brian Ln Dalton PA 18414	
1163	Stephanie Rieffanaugh 1914 Wayne Dr Norristown PA 19403	
1164	Margie Rifembark 4505 Aldine St Philadelphia PA 19136	
1165	Kelly Riley 902 Bent Rd Hatfield PA 19440	
1166	David Ringle 7113 Heather Rd Macungie PA 18062	
1167	Glenn Rinker 1051 Peaceful Ln Hatfield PA 19440	
1168	Janet Rissell 1131 Ben Franklin Hwy W # 10 Douglassville PA 19518	
1169	Bob Roach 3143 W 42nd St Erie PA 16506	
1170	Jay Roach 125 Terrace Dr New Castle PA 16102	
1171	Chris Roam 84 Remington Way West Grove PA 19390	
1172	Kathy Robb 1006 Lincoln Heights Ave Ephrata PA 17522	
1173	Eloise Robbins 32 Treaty Dr Chesterbrook PA 19087	
1174	Roberta Roberts 249 Crosslands Dr Kennett Square PA 19348	

1175	Ruth Roberts 104 Clearview Ct Irwin PA 15642	
1176	Brittney Robinson 2420 W Seybert St Philadelphia PA 19121	
1177	Eleanor Rodda 194 Butternut Rd Shavertown PA 18708	
1178	Al Roesch 136 Wentworth Dr Lansdale PA 19446	
1179	Carolyn Rogers 14998 Maples Rd Linesville PA 16424	
1180	Kelly Rogers PO Box 294 Cornwall PA 17016	
1181	Kathlene Rohm 110 Clifton Dr Bloomsburg PA 17815	
1182	John Rohrer 220 Loring Ct New Cumberland PA 17070	
1183	Karol Roman 2170 State Line Rd Brackney PA 18812	
1184	Elke Romer 1216 Evergreen Rd Riegelsville PA 18077	
1185	Albert Root 1202 Norris Brook Rd Middlebury Center PA 16935	
1186	Angelease Rosa 7104 Tulip St Philadelphia PA 19135	
1187	Thomas Rose 211 Dutts MI E West Chester PA 19382	
1188	Helene Rosen 92 Grandview Dr Ivyland PA 18974	

1189	Maria And Fred Rosen 704 Honey Run Rd Ambler PA 19002	
1190	Pauline Rosenberg 1026 Edgemore Rd Philadelphia PA 19151	
1191	Lori Ross 419 Newton Rd Hatboro PA 19040	
1192	Robert Rossachacj 110 E Knowles Ave Glenolden PA 19036	
1193	Lindy Rosse 5122 E Valley Rd Center Valley PA 18034	
1194	Patricia Rossi 1 Maplewood Dr Levittown PA 19056	
1195	Augustine Roth 1801 Winchester Ave Apt F1 Philadelphia PA 19115	
1196	Judi Roth 1731 Arlington Rd Pittsburgh PA 15235	
1197	Rose Rothermel 75 Rockland Dr Orwigsburg PA 17961	
1198	Cary Rothstein 22 S Clinton St Doylestown PA 18901	
1199	Marian Rowland 178 Hoffman Rd Barto PA 19504	
1200	David Roy 1307 Red Rock Cir Royersford PA 19468	
1201	Karen Rudy 206 10th St New Cumberland PA 17070-	
1202	Kathleen Rueppel 515 Macarthur St Mc Kees Rocks PA 15136	

1203	Nathan Ruggles 585 Bigelow St Pittsburgh PA 15207	
1204	Martha Rupert 500 E Mahoning St Punxsutawney PA 15767	
1205	Karen Rusen 250 Augusta St Pittsburgh PA 15211	
1206	Charlene Rush 2670 Thoroughbred Ct Apt 835 Allison Park PA 15101	
1207	Ivan Russell 51 Robinhood Rd Pittsburgh PA 15220	
1208	Lori Rutch 217 2nd St Coaldale PA 18218	
1209	Brenda Rutter 180 Elizabeth St Apt 338 Landisville PA 17538	
1210	Gary Ryan 30 Southwoods Ln Doylestown PA 18901	
1211	Judith Ryan 27 State Route 184 Trout Run PA 17771	
1212	Cassandra Van Ryn 407 N Franklin St Pottstown PA 19464	
1213	Frank Sabatini 119 Aster Ct Exeter PA 18643	
1214	Tim Sabram 257 Hazel Dr Pittsburgh PA 15228	
1215	Rob Sackett 8720 Perry Hwy Erie PA 16509	
1216	Bruce Sadowskas 472 Pennsylvania Ave Reading PA 19606	

1217	Dennis Saile 1430 Werner Rd Hatfield PA 19440	
1218	Charles Sanclementi 165 Timber Ridge Dr Hawley PA 18428	
1219	Saralyn Sarandis 177 Bird Ln Kunkletown PA 18058	
1220	Ann Marie Sardineer 233 Woodlawn Dr Trafford PA 15085	
1221	Kelli Sauder 1237 N Reading Rd Stevens PA 17578	
1222	Joseph Sayre 1412 Carolina Pl Downingtown PA 19335	
1223	Sr. Barbara Ann Smelko, Sc 443 Mt Thor Rd Greensburg PA 15601	
1224	Dennis Schaeff 715 Limber Rd Meadville PA 16335	
1225	john Schaeffers 109 W Wild Cherry Dr Mars PA 16046	
1226	Suzanne Schecter 732 Catharine St Philadelphia PA 19147	
1227	Mariella Schembri 11 Wilton Place Graham St Camp Hill PA 17012	
1228	Joe Schlener 130 Poplar St # 2 Kingston PA 18704	
1229	Chris Schmidt 216 Walnut Rd Wallingford PA 19086	
1230	Jeff Schmidt 55 Greening Life Ln Shermans Dale PA 17090	

1231	Linda Schmidt 109 Whitby Pl Gibsonia PA 15044	
1232	Stephen Schmiedlin 728 Slate Ave Cranberry Twp PA 16066	
1233	Edward Schneider 11764 Colman Rd Philadelphia PA 19154	
1234	Lisa And Steve Schnell 550 Hottenstein Rd Kutztown PA 19530	
1235	David Schogel 402 W Manheim St Philadelphia PA 19144	
1236	Kathy Schreibeis 201 Hoenig Rd Sewickley PA 15143-	
1237	Sheryl Schultz 1032 Martindale Rd Ephrata PA 17522	
1238	Rae Finan Schumacher 3 Greenway Cir Fairless Hills PA 19030	
1239	Karen Schwager 4404 Sherwood Rd Philadelphia PA 19131	
1240	Jerome Schwartz 2031 Locust St Philadelphia PA 19103	
1241	Betty Schwarz 918 Chestnut St Pittsburgh PA 15212	
1242	Hans Schweikert 109 Schwenk Rd Perkiomenville PA 18074	
1243	Michael Scilipoti 293 McCrossen Dr Fayetteville PA 17222	
1244	Charles Scott 1733 Addison St Philadelphia PA 19146	

1245	Nico Scott 510 Dylan Dr Cogan Station PA 17728	
1246	Judy Scriptunas 3434 Camp Robin Hood Rd Chambersburg PA 17202	
1247	Malcolm. Seaholm 284 Stonegate Blvd Hermitage PA 16148	
1248	Steve Sears 8 Saint Dunstans Rd Hatboro PA 19040	
1249	Cynthia Sebastianelli 130 Palmer Dr Jessup PA 18434	
1250	Helene Segal 3214 Fonthill Ct Langhorne PA 19047	
1251	Suzanne De Seife 222 Ridgewood Rd Media PA 19063	
1252	Kayla Seifert 1776 Ivanhoe Dr North Huntingdon PA 15642	
1253	Marcus Sellers 5259 Trout Run Ln Spruce Creek PA 16683-	
1254	Antoinette Sellitto 4239 Carteret Dr Philadelphia PA 19114	
1255	Joseph Selph 757 Iris Ln Media PA 19063	
1256	Diane Selvaggio 5096 Hardt Rd Gibsonia PA 15044	
1257	Venika Senaratne 7 Montaque Dr Dillsburg PA 17019	
1258	Kathleen Serrano 400 Glendale Rd Unit 43F Havertown PA 19083	

1259	Sam Serratore 24 Yarrow Ct Perkasie PA 18944	
1260	Christopher Seymour 251 Linhart Ln Pittsburgh PA 15236	
1261	Susan Shaak 3440 Stoner Ave Reading PA 19606	
1262	Rachael Shade 9020 Saltsburg Rd Pittsburgh PA 15239	
1263	Robert Shaffer 84 Presidents Dr Mechanicsburg PA 17050	
1264	Suzanne Shaffer 2024 Yingling Dr Spring Grove PA 17362	
1265	Adrian Shanker 2628 Seip Ave Easton PA 18045	
1266	Charlotte Freeman Shapiro 186 Cafferty Rd Pipersville PA 18947	
1267	Leslie Sharlock 128 W Liberty Rd Slippery Rock PA 16057	
1268	Andrew Sharp 424 Spruce Ave Altoona PA 16601	
1269	Joanne Sharpless 6017 Greene St Philadelphia PA 19144	
1270	Wanda Sheaffer 281 Schlegel Ln Thompsontown PA 17094	
1271	Peter Sheridan 9 W Keller St Mechanicsburg PA 17055	
1272	Dan Sherman 426 Mill St Boyertown PA 19512	

1273	Lisa Sherman 28 School Ln Ardmore PA 19003	
1274	Thom Sherman 147 Greenhill Dr Butler PA 16001	
1275	Tawnya Shields 83 Ginger Hill Rd Finleyville PA 15332	
1276	Sharon and George Shinas 3049 Spring Rd Carlisle PA 17013-	
1277	Fred Shoemaker 191 Hufnagel Rd Harmony PA 16037	
1278	Kurt Short PO Box 946 State College PA 16804	
1279	Ginger Shreck 84 Laney St Mifflinburg PA 17844	
1280	Timothy Shultz 764 S Cedar St Lititz PA 17543	
1281	Dennis Shumaker 402 W Market St Marietta PA 17547	
1282	Charlotte Sibley 115 Hunt Valley Cir Berwyn PA 19312	
1283	Michelle Sigman 1508 Corsley Ct Ambler PA 19002	
1284	Thomas Simonet 59 E College Ave Yardley PA 19067	
1285	Thomas Simpson 453 State Street Lancaster PA 17603	
1286	William Sitman 9 Line Rd Malvern PA 19355	

1287	David Skellie 4211 Colonial Ave Erie PA 16506	
1288	Edmund Skowronski 1111 Heritage Blvd Stroudsburg PA 18360	
1289	Kathryn Slagle 815 Napier Ave Erie PA 16511	
1290	Terri Slizofski 528 W Green St West Hazleton PA 18202	
1291	Jen Slothower 413 N 2nd St Wormleysburg PA 17043	
1292	Beverly Smalley 1943 Summit Ave Oakford PA 19053	
1293	Jennifer Smell 137 1st St Coaldale PA 18218	
1294	Abigail Smith 596 Rock Raymond Rd Downingtown PA 19335	
1295	Catherine Smith 383 Olde House Ln Media PA 19063	
1296	Christopher Smith 740 Schuylkill Rd Birdsboro PA 19508	
1297	Donna Smith 1367 Harrington Rd Havertown PA 19083	
1298	E Smith 61 Fayette Oakdale PA 15071	
1299	Gerard and Mary Ann Smith 1071 Kenyon Dr Fort Washington PA 19034	
1300	James Smith 385 Pencroft Dr S Holtwood PA 17532	

1301	Jasmine Smith 2635 Island Ave Philadelphia PA 19153	
1302	Mara Smith 48 N Pine St Port Allegany PA 16743	
1303	Stephen Smith 708 14th Ave Bethlehem PA 18018	
1304	Walton Smith 1776 Upper Nis Hollow Dr Lehighton PA 18235	
1305	Colleen Smithyman 2520 Lindenwood Dr Wexford PA 15090	
1306	Chester Smolenski 3818 Windover Rd Murrysville PA 15668	
1307	Howard Snyder 2134 Hemlock Farms Lords Valley PA 18428	
1308	Lori Snyder 962 Centennial Rd New Oxford PA 17350	
1309	Priscilla Snyder 405 Gordon Rd Ambler PA 19002	
1310	Marianna Sokol 1317 Elk Grove Rd Benton PA 17814	
1311	Joan Soleta 303 Dartmouth Dr Norristown PA 19401	
1312	Stephen Soley 230 Meridian Rd Butler PA 16001	
1313	Jeffrey Solow 7914 Park Ave Elkins Park PA 19027	
1314	Ruth Souder 101 Main St # 2 Red Hill PA 18076	

1315	Eric Spaar 209 Penn St Verona PA 15147	
1316	Linda Spangler 423 Spruce Ave Upper Darby PA 19082	
1317	Kathleen Spechtold 1254 Fairstead Ln Pittsburgh PA 15217	
1318	Scott Spencer 558 Hermitage St Philadelphia PA 19128	
1319	Barbara Spiegelberg 240 Steinman Farm Rd Pequea PA 17565	
1320	Donald Meyerson Sr 2477 Front St Easton PA 18042	
1321	Gretchen Staff 426 Martin Ter State College PA 16803	
1322	Suzanne Staggenborg 5621 Beacon St Pittsburgh PA 15217	
1323	Mike Stagis 2621 Thorntree Dr Pittsburgh PA 15241	
1324	Steve Stales 12119 Thornton Rd Philadelphia PA 19154	
1325	Gail Stamm 146 Valley Rd Kutztown PA 19530	
1326	Glenn Stamm 146 Valley Rd Kutztown PA 19530	
1327	Linda Stanley 139 Winterset Rd Baden PA 15005	
1328	Carol Stanton 64 Holland Rd Pittsburgh PA 15235	

1329	Duane Stanton 11 W 10th Ave Conshohocken PA 19428	
1330	Kelsey Stanton 117 E High St Pottstown PA 19464	
1331	Tina Stanton 215 Lexington Ave East Lansdowne PA 19050	
1332	Josh Staquet 4 Elliot Ct Royersford PA 19468	
1333	Alice Stehle 218 Cecelia St Butler PA 16001	
1334	Tammie Steldinger 3750 Long Run Rd Lehighton PA 18235	
1335	Benson Stephens 4320 I St Philadelphia PA 19124	
1336	David Stermer 165 Valley Rd Windsor PA 17366	
1337	Don Stewart 215 Silk Dr West Reading PA 19611	
1338	James Stewart 1104 Edward Dr Pittsburgh PA 15227	
1339	Bryan Stinchfield 507 State St Lancaster PA 17603	
1340	Diane Stone 53 Maple Grove Rd Starrucca PA 18462	
1341	M. David Stone 5 Fox Run Rd Chester Springs PA 19425-	
1342	Peter Stone 924 Laurel Dr Bethlehem PA 18017	

1343	Martin Stoops 590 Twin Oaks Rd Polk PA 16342	
1344	George Stradtman 700 Elkins Avenue, Apt B3 Elkins Park PA 19027	
1345	Frederic Strawbridge 1632 Stonington Cir North Wales PA 19454	
1346	Aleta Streett-Leavy 300 Election House Rd Butler PA 16001	
1347	Dorothy Sucato 210 Conover Rd Pittsburgh PA 15208	
1348	Nathan Sullenberger 185 Winfield Cir Greensburg PA 15601	
1349	Siobhan Sullivan 280 Hillcrest Drive Trafford PA 15085	
1350	Evelyn Summers 608 W Phil Ellena St Phila PA 19119	
1351	Adrea Sustarsic 604 Windover Drive Pittsburgh PA 15205	
1352	Mark Sustarsic 604 Windover Dr Pittsburgh PA 15205	
1353	Carrie Swank 69 Michigan Dr Sinking Spring PA 19608	
1354	Michael Swanson 1121 W Clay St Lancaster PA 17603	
1355	Heather Swartz PO Box 196 Bernville PA 19506	
1356	Joan Swartz 5 Euclid Ave Bradford PA 16701	

1357	Itsy Sweeney 108 Russell Ln Saylorsburg PA 18353	
1358	Isaac Sweeton 1904 W Strasburg Rd Coatesville PA 19320	
1359	Margaret Switzer 359 Bridge St Collegeville PA 19426	
1360	Kenji Tabery 2100 Brandywine St Philadelphia PA 19130	
1361	Helen Tai 2827 River Rd New Hope PA 18938	
1362	Kathie Takush 785 Grange Rd Leesport PA 19533	
1363	Anna Tangi 2642 S Alder St Philadelphia PA 19148	
1364	Phillip Tanner 308 Lauschtown Rd Denver PA 17517	
1365	Juanita Taylor 431 W Price St Phila PA 19144	
1366	Steve Taylor 585 Water St Northumberland PA 17857	
1367	Brian Teare 1137 Pierce St Philadelphia PA 19148	
1368	Tracy Tellep 1505 Barlow Rd Union Dale PA 18470	
1369	Margaret Terleski 712 Butternut Ln Easton PA 18045	
1370	Allen Terrill 823 Lions Back Dr Huntingdon PA 16652	

1371	Kim Tesoriero 3 Stephen Ter Apt 6A Camp Hill PA 17011	
1372	Royal Tettermer 618 Kimball St Philadelphia PA 19147	
1373	Doris Theodorou 20 Northgate Blvd Easton PA 18045	
1374	Laura Thomae 5024 Newhall St Philadelphia PA 19144	
1375	Dar Thomas 4817 Mooreridge Dr Pittsburgh PA 15227	
1376	Diane Thomas 1608 Elmira St Williamsport PA 17701	
1377	Rob Thomas 151 Woodsedge Dr Winfield PA 17889	
1378	Barty Thompson 70 Ford Ln Mohnton PA 19540	
1379	Carol Thompson 2874 Amy Dr South Park PA 15129	
1380	Edward Thompson 518 Spencer Ln Warminster PA 18974	
1381	Susan Thompson 23516 Shannondell Dr Audubon PA 19403	
1382	Gary Thornbloom 702 Hall Road Julian PA 16844	
1383	Edward Thornton 7 Swarthmore Pl Swarthmore PA 19081	
1384	Leonard Thornton 210 Water St Warren PA 16365	

1385	Meredith Thorpe 403 Waverly Woods Dr Harrisburg PA 17110	
1386	Susan Thorson 249 Humboldt St Hazle Township PA 18202	
1387	Dalton Tice 4901 Green Tree Rd Reading PA 19606	
1388	Anne Tiracchia 725 Scott St Stroudsburg PA 18360	
1389	Christopher Tobias 2711 Locust Dr Pittsburgh PA 15241	
1390	Amy Tonti 249 Merion Dr Pittsburgh PA 15228	
1391	Dat Tran 124 Academy Ln Upper Darby PA 19082	
1392	Jay C. Treat 217 Ryans Run Boothwyn PA 19060	
1393	Scott Trees 139 Harper Rd Aliquippa PA 15001	
1394	Richard Tregidgo 1146 Sunnyside Dr Holtwood PA 17532	
1395	Charlie Troy 7705 Hasbrook Ave # 1ST-FL Philadelphia PA 19111	
1396	Riley Truchel 635 Susquehanna Rd. Huntingdon Valley PA 19006-	
1397	Marilyn Trybus 15 Hillcrest Dr Apt 6 Pittsburgh PA 15202	
1398	Jan Tyniec 100 Gelderman Rd Hawley PA 18428	

1399	C Uhlir 8 Oak Ridge Ln Mountain Top PA 18707	
1400	Fred Ulitsky 205 Harmony Ct Bensalem PA 19020	
1401	Thomas Ulrich 2035 Fernway Ave. Bethlehem PA 18018	
1402	Ece Ulus 1614 S Braddock Ave Pittsburgh PA 15218	
1403	Leo Uzych 103 Canterbury Dr Wallingford PA 19086	
1404	Tara Valarik 2105 Marker St New Kensington PA 15068	
1405	Meghan Valentich 219 Great Smokey Dr Pittsburgh PA 15239	
1406	Chris Valentino 1902 Nicholas Dr Huntingdon Valley PA 19006	
1407	Beth Vanburen 345 Oxford Rd Plymouth Meeting PA 19462	
1408	barbara vanhorn 41 petersburg lane duncannon PA 17020	
1409	Donna D Varcoe 882 W Aaron Dr State College PA 16803	
1410	Stamatios Varias 321 Attig Rd Selinsgrove PA 17870	
1411	Karen Vasily 306 Rogers Rd Norristown PA 19403	
1412	Terri Vasko 128 West Liberty Rd Slippery Rock PA 16057	

1413	Daniel Vass 603 Burton Rd Oreland PA 19075	
1414	Melissa Vassell 3156 Bluebird Dr Bushkill PA 18324	
1415	Stephen Vayda 50 N Orange St Apt 2 Carlisle PA 17013	
1416	Alex Vazquez 1230 Arch St Philadelphia PA 19107	
1417	Nathan Van Velson 410 Alden Dr Lancaster PA 17601	
1418	Kent Vendrick 146 Rocky Glen Rd Oxford PA 19363	
1419	Neil Ver'Schneider 1700 W Thompson St Philadelphia PA 19121	
1420	Edward Vernon 2529 N 23rd St Philadelphia PA 19132	
1421	Patrick Vetter 324 E Main St Titusville PA 16354	
1422	Richard Vieth 821 Willow Valley Lakes Dr Willow Street PA 17584	
1423	Reuben Wade 715 S 7th St Philadelphia PA 19147	
1424	Andrew Wadsworth 125 W 33rd St Reading PA 19606	
1425	J Waering 336 N Washington St Wilkes Barre PA 18705-	
1426	Carol Waldner 5360 Wilshire Rd Harrisburg PA 17112	

1427	Cheryl Walker 736 Hamilton Corners Rd Titusville PA 16354	
1428	Julianne Walsh 3832 Brunswick Ave Drexel Hill PA 19026	
1429	Susan Walsh 124 Fuller Ave Falls Creek PA 15840	
1430	Linda Walter 1088 Scenic View Dr Schwenksville PA 19473	
1431	C. Walters 1450 Mill Creek Rd Mansfield PA 16933	
1432	Leslie Walters 206 E Church St Ligonier PA 15658	
1433	Robyn Walters 104 Sandy Pine Trl Milford PA 18337	
1434	Jeanne Walton PO Box 28 Upper Black Eddy PA 18972	
1435	Christine Walturz 204 N 10th St Easton PA 18042	
1436	Alice Wampole 1507 N Line St Lansdale PA 19446	
1437	Tom Wardell 236 Federal St Philadelphia PA 19147	
1438	Zachary Wardle 617 James Dr Belle Vernon PA 15012	
1439	Evelyn Warfield 436 Bethany Dr Mechanicsburg PA 17055	
1440	Marlene Warkoczewski 126 Union Rd Coatesville PA 19320	

1441	Elizabeth Warner 5044 Hancock Hwy Equinunk PA 18417	
1442	Lana Washburn 1831 Willow Rd Camp Hill PA 17011	
1443	Mike Washil 598 Mifflin St North Huntingdon PA 15642	
1444	Justin Wasser 112 Stratford avenue Pittsburgh PA 15206	
1445	Ann Waters PO Box 114 Pomeroy PA 19367	
1446	Brent Watts 1377 Eden Rd Lancaster PA 17601	
1447	Mike Weaver 107 Haire Ave Lewisburg PA 17837	
1448	Elaine Weibel 303 Mount Allen Dr Mechanicsburg PA 17055	
1449	Frederick Weihl 11550 Hearthwood Dr Waynesboro PA 17268	
1450	Laurie Weimar 1116 Pepper Ridge Dr Reading PA 19606	
1451	Gudrun Weinberg 801 Yale Ave Apt 1217 Swarthmore PA 19081	
1452	S Weinberg 111 W Mount Airy Ave Phila PA 19119	
1453	dave weinkauf 11601 thatcher road conneautville PA 16406	
1454	Jerry Weinstock 107 Shawnee Dr Milford PA 18337	

1455	Edmund Weisberg 1720 Spruce St Apt 8 Philadelphia PA 19103	
1456	David and Donnalyn Weiser 1806 Jazz Dr Phoenixville PA 19460	
1457	Eleanor Weisman 990 1st St Meadville PA 16335	
1458	Ronni Weiss 567 E End Ave Pittsburgh PA 15221	
1459	Ted Weissgerber 1127 Springdale Dr Pittsburgh PA 15236	
1460	Nancy Weissman 519 Wadsworth Ave Philadelphia PA 19119	
1461	Ryan Welkom 276 McIntyre Rd Catawissa PA 17820	
1462	Anthony Welsbacher 124 Baldwin Blvd Shamokin Dam PA 17876	
1463	Monica Welsh 625 N Centre St Philipsburg PA 16866	
1464	Kenneth Wenger 1026 Stonecroft Dr Hanover PA 17331	
1465	Patricia Wenner 432 Pine Ridge Rd Lewisburg PA 17837	
1466	Tanya Wenrich 802 University Ave Selinsgrove PA 17870	
1467	Quentin Wenzel 1218 Circle Dr N Stroudsburg PA 18360	
1468	Randall Wert 159 Church Hill Rd Lenhartsville PA 19534	

1469	Jennifer Wertz 211 Harrison St Glassport PA 15045	
1470	Dolores Wetzel 322 Franklin St Alburtis PA 18011	
1471	Maureen Wetzel 461 Waterfall Dr Johnstown PA 15906	
1472	Barbara White 221 Ulysses St Pittsburgh PA 15211	
1473	Cheryl White 1007 Stonebridge Rd Lower Gwynedd PA 19002	
1474	Dixie Dugan White 1081 Lehigh Pkwy E Allentown PA 18103	
1475	J White 151 W Sunhill Rd Manheim PA 17545	
1476	Jean White 545 General Knox Rd King of Prussia PA 19406	
1477	Mark White 845 Lovington Dr Pittsburgh PA 15216	
1478	Pamela White PO Box 200 Murrysville PA 15668	
1479	Robert Whitefield 19 Catherine Ave Doylestown PA 18901	
1480	Bert Whitehair 516 Godfrey Road Lake City PA 16423	
1481	Megan Whitmer 440 S Graham St Pittsburgh PA 15232	
1482	Denise Whitney 4657 Duncan Rd Erie PA 16505	

1483	Cheryl Whittaker 2007 Lenape Unionville Rd Kennett Square PA 19348	
1484	Jean Wiant 117 E Oak Ln Glenolden PA 19036	
1485	Lorraine Wierzbicki 8401 Roosevelt Blvd Apt P302 Philadelphia PA 19152	
1486	Kevin Wiker 102 Genise Dr Phoenixville PA 19460	
1487	William Wild 705 Holmes St State College PA 16803	
1488	Debra Wile 402 W Brookhaven Rd Wallingford PA 19086	
1489	David Wiley 511 S 49th St # 1 Philadelphia PA 19143	
1490	Emily Will 719 Main St Apt 1 Akron PA 17501	
1491	Monica Willett 4004 8th Avenue Temple PA 19560	
1492	Holly Williams 153 E King St Ste 311 Lancaster PA 17602	
1493	Beverly Williamson-Pecori 1295 Silver Ln Mc Kees Rocks PA 15136	
1494	William Willis 300 E Seminary St Mercersburg PA 17236	
1495	Jada Wills 116 Country Club Rd Cresson PA 16630	
1496	Jay Wilson 317 Leax Ln Turtle Creek PA 15145	

1497	Dennis Wingle 311 4th St Shoemakersville PA 19555	
1498	Deborah Wire 727 N 4th St Reading PA 19601	
1499	Robt Wisneski 500 S 8th St Perkasie PA 18944	
1500	Karen Witkus 7 Belvidere St Apt 2 Pittsburgh PA 15205	
1501	Julia Wittich 1749 Cochection Tpke Damascus PA 18415	
1502	James Wohlford 240 Leonard St Bloomsburg PA 17815	
1503	Mara Wolfgang 541 W Ellet St Philadelphia PA 19119	
1504	Judy Wolfson 1653 Chislett St Pittsburgh PA 15206	
1505	Mick Wolk 1234 Market St Philadelphia PA 19107	
1506	Tom Wolper 3959 Beechwood Blvd Pittsburgh PA 15217	
1507	Karen Wolstenholme 2008 Turnberry Cir Glenmoore PA 19343	
1508	Barbara Wood 7104 Tulip St Philadelphia PA 19135	
1509	Elizabeth Wood PO Box 3633 1049 Ridge Rd Gettysburg PA 17325	
1510	Glenn Wood 1005 Sanlin Dr Coraopolis PA 15108	

1511	Hannah Wood 615 Bethlehem Pike Fl 1R Erdenheim PA 19038	
1512	Robert Woolfolk 43 Goeringer Ave Hanover Township PA 18706	
1513	Sharon Wright 5342 Edward St Erie PA 16505	
1514	Sharon Wushensky 410 Hessian Dr Kennett Square PA 19348	
1515	Elisabeth Yesko 48 Shin Hill St Joffre PA 15053	
1516	David York 1207 Hillcrest Rd Akron PA 17501	
1517	Andrea Young 552 Tescier Rd Muncy PA 17756	
1518	Anne Young PO Box 517 Revere PA 18953	
1519	Andrew Yuen PO Box 42 Mount Pocono PA 18344	
1520	Andrew Yurick 11 Verbeck St Warren PA 16365	
1521	Juliana Zadworniak 1412 Guinea Ln Warrington PA 18976	
1522	Behzad Zandieh 210 Lewis St Harrisburg PA 17110	
1523	Kathy Zavala 1252 E 5th St Bethlehem PA 18015	
1524	Lisa Zelinski 1902 Fairview Ave Easton PA 18042	

1525	Hollis Zelinsky 120 E Beaver Ave Apt 809 State College PA 16801	
1526	Rosemary Zerr 10 N Wood St Greenville PA 16125	
1527	Matt Zillhardt 1322 W Broad St Bethlehem PA 18018	
1528	JOYCE ZIMMER 275 FOX RUN EXTON PA 19341	
1529	Arlene Zivitz 1647 Pennypack Rd Huntingdon Valley PA 19006	
1530	Beatrice Zovich 5001 Pennell Rd Apt G11 Aston PA 19014	

COMMENTS

1. COMMENT:

Recent news from Virginia clearly shows the need for soil scientists to be licensed in the Commonwealth, yet the PA Association's Licensing bill has been stuck in Committee for years. (Reference: http://www.dailyprogress.com/news/local/usfs-accuses-pipeline-of-misrepresentation-in-surveys/article_65cd71e6-84ef-11e5-8acc-ffd1e4107abd.html)

The lack of standards in PA for professional soil scientists will have a direct impact on the quality of the environmental analysis. Until this is resolved, there are clear dangers to the public health and welfare. (1)

2. COMMENT:

"Keep PA Beautiful" When did this tag line become obsolete? As a long time Pennsylvania I have watched the area be irreparably damaged and pillaged by gas companies. What benefit does it bring to PA to allow gas companies to plow through our towns, parks and cities with Gas Pipeline Construction? What benefit do we have from allowing Toxic Chemical Gas Drilling known as Fracking? None. We do not benefit at all. In Fact, Pennsylvanians are put through hardship as big Gas corporations take take take and profit from ruining our state. MANY other states have completely banned Fracking...why Do Pennsylvania Lawmakers allow this to go on? I will never know the answer to that question. I sat for 15 minutes in a parking lot by a small local highway a few weeks ago. I counted 15 large scale construction trucks, sand trucks, water trucks and other vehicles utilized for Fracking that destroy our infrastructure. Pennsylvanians CAN NOT Continue to foot the bill for big corporations. We are paying Financially, With our Health, and With our State resources and beauty. Please Stand UP for the residents you represent and protect the people and our resources...not big companies taking advantage of PA and it's people. (2)

3. COMMENT:

Oversight and Maintenance

I understand that although PHMSA is tasked with oversight of pipelines, they are sorely understaffed given the enormous amount of pipelines that currently exist. Pipelines are not maintained and there are no methods for detecting leaks.

Adding more pipelines at unprecedented sizes (42" and 1500 psi) will only lead to disaster, putting people and environmental resources at risk. Adding corridors with multiple pipelines will only multiply that risk. (3)

4. COMMENT:

Cumulative Impacts

Adding corridors of pipelines and the rush to export our natural gas means more fracking and its related activities. New pipeline projects are currently considered and approved in isolation. FERC refuses to take into consideration the totality of projects including all upstream impacts. With approximately 8,000 fracking wells in Pennsylvania currently, there have been a couple thousand complaints about water contaminations, many of these left off the books by DEP. Initial studies are showing negative health trends for the unborn and small children in counties where there is fracking vs. other counties. Given

these initial studies and harsh impacts on our communities, there should be a moratorium on fracking, if not an outright ban. Expanding pipelines and fracking is irresponsible. (3)

5. COMMENT:

National Security

The rush to export a finite resource such as natural gas is a threat to our national security. Studies vary greatly in estimating the amount of natural gas in the largest shales, including Marcellus. A recent study by University of Texas estimates that NG will peak in the next decade and quickly decline after that. Even some business coalitions believe that the export of this gas is detrimental to the health of manufacturing in this country and to American consumers. These coalitions believe that more jobs would be created by keeping this resource in our country. (3)

6. COMMENT:

Redistribution of Wealth

Some energy analysts believe that exporting NG will result in a redistribution of wealth from the middle class to the fossil fuel industry and their investors. When the finite supplies start to run out, we will be forced to buy NG at much higher rates. The gas industry makes money sending it out of the country and will make huge profits selling it back to us at exorbitant prices. (3)

7. COMMENT:

Summary

I clearly don't see the need for pipeline infrastructure and the export of a finite resource that will benefit a few at the expense of many. I also believe that given what we know about fracking, it cannot be done safely and should be banned. (3)

8. COMMENT:

Public Participation

The fact that you have chosen Cindy Ivey to chair the committee of Public Participation really says all that needs to be said. Landowners along the Atlantic Sunrise proposed pipeline have been harassed, lied to, have put up with trespassing, and threatened with eminent domain for a pipeline that has not yet been approved. If you took the time to read some of the comments submitted to FERC you would see that there is NO public participation. Comment after comment, the people complain that they can't get answers and that Williams refuses to respond. Landowners apologize for asking to have the route moved to another location because this is the system they're required to work within-- there are no other options. I have read many comments of businesses (farmers, developers, horse hospitals) who don't want to compromise their own business in favor of a pipeline that has no benefit to them. Why is eminent domain even allowed to be used when the gas is being exported? Why? People who have plans for their land (retirement home, losing all of the shade on their property, destruction of nature preserves, old growth trees, historically significant sites, etc) have no say in the process. Numerous complaints talk about how Williams uses out of date maps that don't show their residences or other important structures/water sources. (3)

9. COMMENT:

How many gas pipelines do we need? That's a question we should be asking across all of Pennsylvania and elsewhere

The head of the University of Texas petroleum-engineering department believes the industry has set itself up for a fiasco. UT and the Post Carbon Institute analyzed all the actual shale well production data from around the country. Both analyses found the same pattern of production: fracked "shale gas wells peak in just five years, plateau, and then fall off quickly".

Their analyses mean that U.S. Energy Information Administration's optimistic projections of gas supply in 2030 are 50 percent higher than the well analysis predicts. What about demand? Those projections will be wrong, too, if we choose clean energy. Warren Buffet's utility is making a substantial investment in retrofitting the buildings in its district. It expects the resultant decrease in demand to allow it to not build any new generation until 2028 and to close several old coal generation facilities to boot.

The EIA's current figures for electricity generated by solar would be 50 percent higher if it included small-scale installations. The exclusion from current numbers creates completely inaccurate future estimates, and when on-site solar becomes cost effective, and then in a few years combined with storage, demand for grid electricity will decrease dramatically.

Attachment: [Inside PacifiCorp's IRP How efficiency will power the Buffett utility's next decade Utility Dive.pdf](#)

Attachment: [Natural gas The fracking fallacy Nature News & Comment.pdf](#)

Attachment: [US Solar Electricity Production 50% Higher Than Previously Thought Greentech Media.pdf](#)

Attachment: [Competitiveness of Renewable Energy and Energy Efficiency in U.S.pdf](#)

Attachment: [PennEastOverviewCommentsOnPublicNeed.pdf](#) (4)

10. COMMENT:

Compressor Stations and Above Ground Midstream Facilities

The movement of natural gas will also require compressor stations, estimated to number in the hundreds, to be built along the anticipated pipeline miles. All told, this pipeline infrastructure build-out will impact communities and the environment in every county in Pennsylvania.

DEP also has authority to protect air resources in Pennsylvania under the Pennsylvania Air Pollution Control Act. DEP regulates air emissions through the issuance of plan approvals and operating permits under Chapter 127. Such approvals and permits are typically associated with air emissions from compressor stations constructed to pressurize natural gas pipelines. The emission of air pollutants from other equipment such as dehydrators, tanks and pipeline valves may also be regulated.

The permitting process for compressor stations and other equipment fail to include air emissions from existing compressors and other equipment which may already be present at a particular facility. To attain permits, pipeline companies use analysts who manipulate projected emissions levels to make them acceptable by Environmental Protection Agency standards.

EPA estimates that 50.7 billion cubic feet of methane emissions result from leaking compressors and other equipment components, such as valves, flanges, connections, and

open-ended lines.

Compressor station emissions fall into two categories: construction emissions and operational emissions. Within operational emissions there are three types that warrant individual attention – blowdowns, fugitives and accidents.

Compressor construction and operational phases are generally projected to produce emissions below the NAAQS standards. They are presented in tons per year. This measure of emissions is used for NAAQS purposes which determines the air quality designation over a region and over long periods of time. The problem posed by estimating tons of contaminants emitted per year is that over the course of a year emissions will vary, often greatly.

For a resident living near a compressor station, the concern is not simply PM_{2.5} emissions over the course of a year, but is PM_{2.5} emissions during the peak construction time when it's at its most intense.

Much relevant emissions information is lost when relying on averages, even of just three days. When extending this logic across a year, there is little doubt that there will be times of high levels of contaminants released and these high levels can increase health risks to residents. It is also notable that the EPA inhalation reference concentration (RfC) for ethylbenzene is 1 mg/m³ (equivalent to 1,000 ug/m³). Some of the reported emissions exceed this standard of health safety.

It is important to know, with more specificity, what chemicals will be emitted by a compressor facility so that a targeted assessment can be made about its potential health impacts.

Compressors operate around the clock, and they emit air pollution 24 hours a day, seven days a week. The pollution comes from large engines needed to drive the compressors. Nitrogen oxide emissions cause red and purple ozone alerts, aggravating asthma and COPD. Many of the air toxics emitted are carcinogenic or neurotoxic, such as benzene and hydrogen sulfide. Other negative impacts on public health include respiratory problems, early mortality and childhood learning defects.

A recent 21-county study in the Barnett Shale region in Texas revealed that the air pollution emissions from natural gas production were greater than that emitted from all on-road cars and trucks in the Dallas-Fort Worth metropolitan region, an area with a population of 6.5 million.

Risks to health and safety and environmental contamination come with natural gas compressor stations. Compressors operate under high risk conditions, created by the high pressures and reduced temperatures of operation. These conditions cause vibrations, cracks and corrosion leading to failure of mechanical components, explosions and fires. In rural Minisink, NY, air contaminants from the Millennium Pipeline gas compressor now exceed what would be found even in a big city, says environmental health consultant David Brown. After dozens of Minisink residents found they were beset by similar ailments immediately after the compressor station was built in 2013, a two-month study of air contaminants and residents' symptoms was conducted by Brown and his cohorts at Southwest Pennsylvania Environmental Health Project. The nonprofit group of public health experts, based in McMurray, PA, have been investigating a comparable pattern of symptoms near gas drilling sites in Pennsylvania and other states.

In the Minisink study, recently released, they found that spikes in air toxins around the compressor coincided with residents' adverse health symptoms. The study involved 35

residents, who were surveyed using a well-tested survey method, including interviews by a physician. SWP-EHP also provided five Speck monitors to measure fine particulate matter in air near residences for the two months, from October 19 to December 17 of 2014. Participants additionally used special canisters to capture air samples during “odor events,” periods when the compressor emitted strong odors.

Asthma, nosebleeds, headaches, and rashes were common among the 35 participants in eight families living within one mile of the compressor. Those symptoms are also frequently reported around gas fracking sites, said Brown.

Communities living near hydrocarbon gas drilling operations have become de facto laboratories for the study of environmental toxicology. The close proximity of these operations to small communities has created a variety of potential hazards to humans, companion animals, livestock and wildlife. These hazards have become amplified over the last 20 years, due in part to the large-scale development of shale gas drilling (horizontal drilling with high-volume hydraulic fracturing), encouraged by the support of increased drilling and exploration by U.S. government agencies. Yet this large-scale industrialization of populated areas is moving forward without benefit of carefully controlled studies of its impact on public health.

The large-scale use of chemicals with significant toxicity has given rise to a great deal of public concern, and an important aspect of the debate concerns the level of proof required to associate an environmental change with activities associated with gas drilling.

Environmental groups typically invoke the pre-cautionary principle. That is, if an action is suspected of causing harm to the environment, then in the absence of a scientific consensus, the burden of proof falls on the individual or organization taking the action. The oil and gas industry has typically rejected this analysis and has approached the issue in a manner similar to the tobacco industry that for many years rejected the link between smoking and cancer. That is, if one cannot prove beyond a shadow of doubt that an environmental impact is due to drilling, then a link is rejected. This approach by the tobacco companies had a devastating and long-lasting effect on public health from which we have still not recovered, and it is believed that a similar approach to the impacts of gas drilling may have equally negative consequences.

Drilling and fracking activities are temporary operations, but compressor stations are semi-permanent facilities that pollute the air 24 hours a day as long as gas is flowing through the pipeline. As documented by a Pennsylvania study published in February 2015, day-to-day emissions from compressor stations are highly episodic and can create periods of potentially extreme exposures.

December 18, 2013 – An interdisciplinary group of researchers in Texas collected air samples in residential areas near shale gas extraction and production, going beyond previous Barnett Shale studies by including emissions from the whole range of production equipment. They found that most areas had “atmospheric methane concentrations considerably higher than reported urban background concentrations,” and many toxic chemicals were “strongly associated” with compressor stations.

December 10, 2013 – Health department testing at fracking sites in West Virginia revealed dangerous levels of benzene in the air. Wheeling-Ohio County Health Department Administrator Howard Gamble stated, “The levels of benzene really pop out. The amounts they were seeing were at levels of concern. The concerns of the public are validated.”

October 11, 2013 – Air sampling before, during, and after drilling and fracking of a new natural gas well pad in rural western Colorado documented the presence of the toxic solvent methylene chloride, along with several polycyclic aromatic hydrocarbons (PAHs) at “concentrations greater than those at which prenatally exposed children in urban studies had lower developmental and IQ scores.

September 19, 2013 – In Texas, air monitoring data in the Eagle Ford Shale area revealed potentially dangerous exposures of nearby residents to hazardous air pollutants, including cancer-causing benzene and the neurological toxicant, hydrogen sulfide.

September 13, 2013 – A study by researchers at the University of California at Irvine found dangerous levels of volatile organic compounds in Canada’s “Industrial Heartland” where there are more than 40 oil, gas, and chemical facilities. The researchers noted high levels of hematopoietic cancers (leukemia and non-Hodgkin’s lymphoma) in men who live closer to the facilities.

These links provide access to the attachments provided as part of this comment.

Attachment: [Bamberger Oswald NS22 in press.pdf](#)

Attachment: [Compressor-station-emissions-and-health-impacts-02.24.2015.pdf](#)

Attachment: [Factsheet compressor stations.pdf](#)

Attachment: [Gas Compressors and Nose Bleeds - Environment - Utne Reader.pdf](#)

Attachment: [PSR-CHPNY-Compendium-3.0.pdf](#) (4)

11. COMMENT:

Dallas Township, Luzerne County is being targeted as “THE PLACE” to construct natural gas pipelines.

Of particular concern is the convergence of multiple pipelines less than 1,400 feet from the K-12 school campus where over 3,000 students, plus faculty and staff attend. (See attachment Dallas-PA School Campus-Pipelines.pdf)

There is only one drivable road leading to and from the campus which would cause serious problems evacuating students, faculty, staff and residents in this area when an emergency occurs.

At present there are two 24” diameter gathering lines connecting into a 60+year old 24” Transmission line (Transco). Each of these has a blast radius of 650’. Should one of these fail in this area, the blast radius could be extended much further.

Currently before the Federal Energy Regulatory Commission (FERC) is the proposed PennEast Pipeline, a 36’ diameter pipeline with a blast radius of approx 950’.

Additionally, and although no application has been filed, are two more gathering lines, diameter unknown at this time. These are the UGI Auburn II Extension, and the Crestwood Marc II. UGI is one of the partners in the PennEast Pipeline project.

The gathering lines currently present were originally constructed by Chief Gathering (now owned by Energy Transfer Partners) and the Williams Company (soon to be owned by Energy Transfer Partners).

Safety of those at the school campus and of those living near the pipelines was a major concern. Repeated requests for a response plan, evacuation plan were ignored, resulting in a plan which amounted to “run like hell”.

Between 2011-2012, amid fierce opposition, the Dallas Supervisors negotiated an agreement with Chief Gathering and Williams Company. Chief and Williams agreed to notify residents, town officials, first responders and the schools of any maintenance work,

blow downs, venting or flaring of the pipelines. On numerous occasions they failed to issue notifications causing panic and extreme concerns.

In particular on September of 2013, an incident occurred where students were sent to auditoriums and nearby businesses were evacuated because of a release of natural gas from a pipeline. Williams Company claimed that it warned the school district and Dallas Township a week prior to the scheduled work.

The township and the district say they never got that message.

Training to first responders is no more than how to direct and control traffic.

There was also confusion of who was in charge. The School board claimed PA Emergency Response was in charge, PA Emergency Response said it was the responsibility of the Dallas Emergency services, who in turn pointed to the School Board as being responsible for an emergency/evacuation plan.

We are constantly being assured these pipelines and related facilities are “remotely monitored”. Remotely monitored means NO ONE actually works at a pipeline facility or are available nearby to respond within a reasonable timeframe.

Response time by Williams for the aforementioned incident was about 2 hours.

In nearby Monroe Township, just over the border between Luzerne County and Wyoming County is the Chapin Glycol Dehydration Plant. The Chapin plant was built as part of the infrastructure for the Williams and Chief gathering lines. It went into service in the spring of 2012 and has had a number of incidents.

Please note: Chief Gathering was sold to PVR Partners in 2012. PVR Partners was acquired by Regency Partners in 2013, and Regency Partners became part of Energy Transfer Partners in 2015.

One incident of note occurred in 2013. What was described as a "minor valve malfunction" where every five minutes there would be a big blowoff, about 30 feet in the air. Calls to a PVR provided emergency contact number went to voice mail. It took PVR approximately 4 hours to respond.

PVR and DEP claimed the emissions were “just steam”. However, residents in the area reported a strong urine/ammonia smell during the incident. Furthermore, soil and ‘sound barrier’ trees were removed following the incident.

Monroe Township supervisors and residents held a meeting to discuss the numerous incidents which had occurred at the Chapin plant. PVR was specifically requested to attend. PVR did not show up.

Complaints by residents and town officials regarding the lack of communication from the pipeline companies are ongoing for existing and proposed pipelines. Requests for information are ignored. Requests for public meetings are ignored.

Requests for safety and emergency response plans are brushed off with assurances that they are following regulations and Best Management Practices. If they are indeed following regulations and Best Management Practices, then these regulations and Best Management Practices are woefully inadequate.

Attachment: [Dallas PA School Campus-Pipelines.pdf](#)

Attachment: [Many hazards from natural gas gathering lines remain, despite new pipeline safety law Amy Mall's Blog Switchboard, from NRDC.pdf](#)

Attachment: [SNL As US rushes to build gas lines, failure rate of new pipes has spiked SNL.pdf](#)

Attachment: [Boom in Unregulated Natural Gas Pipelines Posing New Risks](#)

12. COMMENT:

Considering that this pipeline infrastructure build-out will impact communities and the environment in every county in Pennsylvania, it is difficult to understand why there will be no public hearings.

I have been told there were “plenty of opportunities” for public comment at your 4 meetings to date. Having attended one such meeting, I can only conclude the generous 2-minute speaking time allocated to each person constitutes “plenty of opportunities”.

A PITF meeting in Harrisburg, in the middle of a typical workweek from 1pm-4pm does discourage public participation for reasons of travel and time. Very few, if any, member of the public from western PA communities would be willing to drive 4-5 hours to Harrisburg and be allowed to speak for only 2-minutes.

If PITF is sincere in Public Participation, there must be public hearings located on a date, time and place which would encourage public participation. Furthermore, many people who are facing pipelines on their property do not have access to the internet for submitting comments and only through a Public Hearing could they participate as a critical component for pipelines.

In not having public hearings, PITF and by extension the DEP, are missing an important and vital opportunity to build trust and repair its reputation. (4)

13. COMMENT:

As a resident of Luzerne County and in the bull’s eye for multiple pipelines I am extremely concerned about the industrialization of communities throughout Pennsylvania.

Mentioned in the Draft Report: “All told, this pipeline infrastructure build-out will impact communities and the environment in every county in Pennsylvania.”

Upon reading the draft report, I found over 50 references of the need to encourage public participation, communicate with the public, and engage the public effectively, et al.

In fact, PITF has dedicated an entire workgroup to Public Participation, where this work group stated numerous times that Public participation is a critical component for pipelines. (4)

14. COMMENT:

The Pennsylvania Legislature and Natural Gas Industry’s rejection of the Severance tax, and placing the financial burden, once again, on the back of Pennsylvania tax payers via an increase of sales taxes makes for a perfect time to implement a moratorium on all natural gas activities.

The natural gas industry’s job creation “benefit” to Pennsylvania is less than 0.1% of the labor force. Moreover, approximately \$723 per person per year pays for the \$3.2 billion dollars in fossil fuel subsidies.

The natural gas industry often touts how much is being paid in Impact Fees based on production numbers the industry themselves provide. However, even DEP is suspect of the numbers as there is a disclaimer stating the information may be inaccurate, incomplete and/or not correct.

The natural gas industry claims pipelines will relieve the gas glut. How? US Department of Energy reports indicate demand for natural gas will remain low for the foreseeable future. If not to meet demand, then what purpose are more pipelines? Obviously, pipelines will be used to store gas and/or export it.

Nationally, the U.S. has plenty of existing pipeline infrastructure to accommodate significantly expanded gas use, including to replace coal power plants with gas in order to meet the requirements of the proposed Clean Power Plan. In fact, we aren't even using 46 percent of the pipeline capacity we already have, according to a recent study by the U.S. Department of Energy. In its Quadrennial Energy Review, DOE concludes that in many areas of the country, enhancing the flexibility and capability of the existing network is a better investment than building new pipelines.

In any given year, natural gas production is greater than natural gas demand plus net exports because of fuel used or lost in all stages of natural gas production, transmission, distribution, and storage.

The DOE report concludes:

Two primary factors mitigate the need for additional interstate natural gas pipeline infrastructure and related capital expenditures in these scenarios. First, the growth in both natural gas demand from electricity generation and natural gas production is broadly distributed rather than geographically concentrated, reducing potential interstate pipeline capacity constraints as well as the need for new interstate pipelines. Second, increasing utilization of capacity that is not fully utilized in existing interstate natural gas pipelines, re-routing natural gas flows, and expanding existing pipeline capacity are potentially lower-cost alternatives to building new infrastructure and can accommodate a significant increase in natural gas flows.

Current estimate forecast approximately 10% of natural gas is headed for exporting to other countries, this includes exports via pipelines to Mexico and Canada as well as via export facilities being built and proposed along the Atlantic coast and the Gulf of Mexico.

While the natural gas industry places much hope on exportation of natural gas, Bentek Energy, a division of researcher and publisher Platt's, reports that natural gas producers who had hoped exporting liquefied natural gas might bring up prices will likely be disappointed. Companies that are spending billions on liquefaction facilities may also have a hard time finding customers to earn back their shareholders' investment.

Attachment: [Appendix B- Natural Gas 1-2.pdf](#)

Attachment: [Report_Natural gas exports will not solve glut - Houston Chronicle.pdf](#)

Attachment: [reos-study-final.pdf](#)

Attachment: [U.S.pdf](#)

Attachment: [USDOE Australia.pdf](#) (4)

15.COMMENT:

I am a concerned citizen wondering why these meetings are being held in 1 place in afternoons, and during the week, Why can't you bring your task force to all areas that request your presence on this delicate matter ? I am opposed to all pipelines being planned, I do not approve of how things were done in Lancaster Co. 60% of this pipeline was buried along existing Right of Ways, High Transmission lines, the rest 57 preserved farms, and 4 precious creeks and streams were crossed with numerous violations, this has

just started sediment runoff to the Susquehanna River, and Chesapeake Bay. We need to be heard as a individual & as a whole, & the matter of 2 minutes to say, all that has effected this area, & how things really are, cannot be done, and should not expected of these individuals speaking their concerns, WE Don't Need to Export PA Gas for any reasons especially Greed from Big Gas, Oil. please take time to read my thoughts on this matter. (5)

16. COMMENT:

Attached is the Citizens Marcellus Shale Commission report prepared by many organizations in 2011. Please fix the problems identified in the report before creating new problems associated with pipeline siting.

Attachment: [cmsc report.pdf](#). (6)

17. COMMENT:

This pipeline should NOT be built. It is for immediate private gain at the long term expense of the public because it will encourage fracking and the continued pollution of water and air with the resultant sicknesses and deaths of our residents. The pristine farmlands, forests and streams of eastern PA will be ruined. There will be no place to hide from its effects.

I say private interest because the line leads to a port where the gas will be sent and sold abroad. This means eventual loss of energy to our own country.

Those of us in the hazard zone will experience anxiety for our safety and dramatic loss of property value.

I vehemently oppose this line for the above reasons. (7)

18. COMMENT:

Williams Cos. came into our community telling blatant lies, bullying people, trespassing, and being disrespectful in many other ways. Their actions and attitudes led directly to our mistrust and our coming together to educate ourselves about the Atlantic Sunrise Pipeline and Williams Cos. One look at their Safety and Compliance record will show you that they are the corporate equivalent of a drunk driver. Individuals who repeatedly endanger the public have their drivers licenses revoked, why is this company allowed to continue operating when they have a long history of reckless disregard for the health and safety of anyone in their path? Why reward this unprincipled behavior by allowing them to do business in PA ? I beg you to tell Williams Cos. that they lack the integrity to be trusted to act in a responsible way, and a history that shows this all too clearly. Send them packing! (8)

19. COMMENT:

I believe that the construction of the PennEast pipeline starting in Dallas, Luzerne County, Pennsylvania and ending in Mercer County, New Jersey should be stopped. The threat to our air and water is too great and the environmental effects such as earthquakes are too great. I also think that fracking should be banned in Pennsylvania. (9)

20. COMMENT:

As a citizen of Pennsylvania impacted by shale gas extraction, I believe that the Governor's Pipeline Infrastructure Task Force should take on the challenge of banning new pipeline infrastructure buildout. Through the pipelines proposed for our state right now, numerous homes, businesses, schools, places of worship, and health care centers will remain in serious harm's way for as long as the pipelines are in service. In addition, the cumulative impact of forest fragmentation, erosion and wetland habitat loss created by these pipelines will forever negatively impact the environmental health and justice in this state.

I am a seventh generation Pennsylvanian. William Penn's son personally gave my family land to settle here, and since then we have created more than three thriving businesses including agriculture that have helped to create a booming local economy. I am ashamed of what is happening to our state and that our government allows this to happen while thousands of citizens are begging, pleading and crying for an end to extractive industries. I lend yet another voice to beg of you - do what you can to save our state before it is too late, if it is not already. Allowing this pipeline buildout will create absolute destruction and despair in an already fractured state, and will sign our fate as a resource colony. (10)

21. COMMENT:

Attachment: [Gov Tom Wolfe...Pipeline Infrastructure Letter.Map 11.17.15.pdf](#) (11)

22. COMMENT:

Engage, opportunity, collaborate, mitigate, minimize, avoid, maximize, best practices ... These are some of the vague phrases used in the Task Force draft report and across the entire pipeline approval process.

The words that should be used: transparency, participation, examine, research, alternatives...I could go on.

The entire process and existence of the Task Force is to facilitate implementation and installation of the thousands of miles of natural gas pipelines that are planned in Pennsylvania. According to the draft report, "natural gas gathering lines alone will at least quadruple by 2030." And this is the starting point for the Task Force.

According to this report, by 2030 there will be 12K to 27K miles of new gathering lines (not to mention transmission lines which are longer and more powerful), 60K to 150K acres of forest cleared, 360K–900K acres of new forest edges (which have a huge affect on wildlife, including the deer that dart across our streets. Will this lead to more "deer shoots" to thin the population?). The number of new compressor stations is estimated to be in the hundreds, causing air and noise pollution for nearby residents.

The report almost reads like an article from the Onion. It's hard to believe this is real. While Governor Wolf thinks Pennsylvania "should take full economic advantage of this immense energy resource," the economic position of some citizens of Pennsylvania will be adversely affected by pipelines. Working farms with pipelines going through end up with decreased production from crops due to the heat of the pipe. Did the Task Force investigate this? Homes with pipelines through the properties will lose resale value. Did the Task Force investigate this? Did they speak to any of the people?

The Pennsylvania Department of Environmental Protection continued to say this is an opportunity to engage stakeholders to collaborate in the process. Where are the true

stakeholders? Where is the collaboration? Instead of sitting in offices talking amongst themselves, this Task Force should have traveled the state and spoken to people who have already been involved with pipelines that even now cover 12,000 miles of Pennsylvania.

In addition, the Task Force should have included scientists, economists, and other experts to cover all bases, instead of such a large percentage of industry representatives. If the Governor will base his decisions on this report, it needs to be complete.

One of the objectives of PITF was to “Amplify and engage in meaningful public participation.” Yet, today, 4 days into the 30-day public comment period, PITF will be finalizing the report that will go to the Governor. So, how is the public comment period meaningful?

Another main long-term objective of the PITF was to “Review and develop an implementation strategy for best practices identified by the taskforce to achieve a world-class pipeline infrastructure system and improve our environment.” Governor Wolf and PITF seem to consider a “world-class pipeline infrastructure system” more important than the considerations and opinions of the residents of Pennsylvania.

I can’t tell you how tired and disgusted I am with political futures being put before the “best practices” of the people of this state and country. Governor Wolf seems to want this fabulous pipeline system in his legacy. Those of us who oppose this pipeline infrastructure don’t have the money to become powerful, contribute to campaigns, run ads, or send mailers. So, those who do receive all of the benefits of their financial expenditures: more pipelines. (12)

23. COMMENT:

New pipeline infrastructure is unwelcome in our communities. The pipelines in the ground are degrading and dangerous and must be addressed. We will, like New York, continue to resist fracking and new pipelines until the Governor invokes a moratorium on fracking in Pennsylvania. (13)

24. COMMENT:

This task force is a waste of taxpayer dollars and the DEP and Governor Wolf WILL be held accountable for endangering the health and welfare of the citizens of Pennsylvania by allowing this fossil foolishness to continue to poison our water, land, and air. My name is Arianne Elinich and I am a lifelong resident of Bucks County, Pennsylvania. I am greatly troubled by the potential harm that threatens our communities as a result of incoming pipeline infrastructure intended to financially benefit private parties... It is clear to me that these pipelines are NOT a public necessity. These pipeline projects will continue to cause irreparable harm to the land, waterbodies, and air, in Pennsylvania. The negative cumulative impact of natural gas fracking and pipeline infrastructure on the health and welfare of the citizens of Pennsylvania, and beyond, has gone too far. I want to share a personal tale of my experiences with pipelines~ and why I feel WHAT YOU REALLY SHOULD BE CONCERNED ABOUT is the Safety of the Pipelines that Are Already in the Ground.

The head of safety at the gas company that oversees the pipeline on the property where I reside was out recently to mark the pipeline at my request. After some conversation, I quickly learned that not only does my family live in the impact zone, but the two key

employees present had no idea 1) where the nearest shut off valves were 2) where the closest emergency response team was that would have the capacity to deal with a pipeline catastrophe & 3) I was told to “tell any first responders NOT to Use Water” to put out any fires, as that is the worst thing to do? After some further discussion, I also discovered that the gentleman at the gas company, that was asked some time ago to address my concerns and facilitate making an effort to update the county map – and have the pipeline Finally correctly labeled as gas- clearly had no intention in doing so. I asked why this had not been remedied. He explained that this was complicated. By the way, only a few years ago, gas company representatives told me this pipeline was oil during major tree removal construction (right over the pipeline). Since then I have learned it has been filled with natural gas since the “early 90’s”. That’s a twenty five year span.

Sorry folks, but the reality is that this pipeline infrastructure is unwelcome in a world where fossil fuels are facing fast extinction. I find it disturbing that the oil and gas industries are the only industries in America that are allowed by the Environmental Protection Agency to inject known hazardous materials into our underground aquifers, and cause irreparable harm to the sanctity of our drinking water supplies. Furthermore, the reality is that any domestic energy needs can be met by renewable and sustainable resources. We must consider the Reasonable Alternatives~ Renewable and sustainable energy alternatives ~ which would create more jobs and greater energy independence than natural gas ever will.

The lack of public necessity for these pipeline projects should constitute an immediate termination of this unnecessary task force. (13)

25. COMMENT:

My name is Kaia Elinich and I am a resident of Bucks County, Pennsylvania. I am here today to tell you why I am opposed to gas fracking and the crossing of our beautiful state with unneeded pipelines. There is an 18 inch pipeline on the property where I live. If a pipeline goes through your land, it will never be the same again. Now I live in the Impact Zone, and I think about it all the time.

I cannot understand why *anyone* thinks that making money from natural gas is more important than our lives. I am sure gas companies must think pipelines are good because they make them money... BUT We Can’t Drink Fracked Gas.

In fact, the Pennsylvania state constitution states that “the people have a right to clean air, pure water, and to the preservation of the natural, scenic, historic and esthetic values of the environment. Pennsylvania’s public and natural resources are of the common property of all the people, including generations yet to come. As a trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all the people”. As an earth guardian, I have come today to tell you – That it is *OUR* responsibility to protect *OUR* Earth for the “*benefit of all the people*”. I am very, very concerned, that we are destroying our great state of Pennsylvania simply for a short lived profit.

After all, this fracked gas is eventually bound to run out, **very likely even DURING MY GENERATION**. The Department of Environmental Protection has been given the important responsibility of Protecting our Environment...and...

As an Earth Guardian I have pledged to protect our land, water, and air, from unnecessary harm. That is why I am here today. To tell you that **YOU CAN BE THE CHANGE**. This planet sustains us. Please think about the impact that your actions and decisions will have

on the generations to come. After all, we could be using sustainable and renewable energy alternatives -like many other states have moved forward with- instead of burying dangerous gas pipelines in the ground.

AND I know I don't want to have to clean up that mess.

Thank you for hearing my comments today. (14)

26. COMMENT:

I am submitting an opinion that I penned a few weeks ago and recently submitted for publication that sums up my feelings the prospect of Pipelines decimating our state: PA's Stockholm Syndrome Must End

Stockholm syndrome is a psychological phenomenon where hostages have positive feelings towards their captors, often defending and identifying with them. Pennsylvania has long exhibited classic signs of this syndrome, consistently identifying with the most harmful industries that have exploited it's resources. Grandparents reminisce of PA's past, the comraderie, hard but satisfying work, good pay (intermittently) laboring in the state's most dangerous occupations. Only after prodding, do they recall friends that passed too soon because of black-lung, mesothelioma and harrowing accidents that occurred with the lax oversight and scant regulation that persists today.

The Gas industry is the latest to appear with promises, only to leave us diminished. Recently, Marcellus Shale Coalition's David Spigelmyer stated this year, every gas driller in Pennsylvania will be spending less. An \$8-9billion reduction is calculated in lower production and possibly layoffs. Companies like Consol Energy in Cecil PA, started laying off 165 employees from its gas and corporate departments last April; 4 percent of its workforce. They also announced they would end retiree benefits for about 4,400 former employees by the end of this year. It had previously planned to phase those out by 2019. The boom is waning.

Sensing desperation, industry muscle put pressure on recent budget talks with Gov. Wolf. When Wolf offered a compromised 3.5% tax, the response was a letter by 17 executives advising lawmakers in the general assembly to act against the tax. Now the gas tax is scrapped altogether, with Wolf instead set to implement a sales tax on consumers. Yet even back in 2012, an article in the National Journal stated that jobs in industries tied to natural gas production made up less than 1% of PA's job totals. But PA "identifies" with the Gas Industry.

"Shale plays" are often made by corporations based in other states, or countries, are extremely predatory. Like other extractive industries with roots in Pennsylvania such as coal, asbestos and mining, Shale-plays were seen by politicians as a panacea. Firms promised jobs. Overwhelmingly, the jobs are dangerous, difficult, and temporary, leaving a legacy of multiple "sacrifice zones". Now, the depressed price of gas, glut of product, stable domestic demand, and dwindling production means jobs are leaving.

The Industry's answer? Build massive, dangerous transmission pipelines to decimate the state. Elected officials quickly fell in line, creating a "Pipeline Task Force". Comprised of mostly industry insiders, the focus is to make sure that the PA remains tethered to their captors. BY proposing to build this infrastructure through our rivers, watersheds, forests and land, the industry is demonstrating an unparalleled panic to get its product to places unknown. Despite claims that the gas will remain in the U.S., there are currently 6 bills in congress crafted to expedite export of oil and gas.

Export IS the only logical step for this industry whether they admit it or not. And even though the EIA stated on December 2, 2014, that existing long haul pipeline capacities to the Northeast are under-utilized, each Pipeline corporation wants the entire profit from wellhead to wherever it goes. Why put so much money into pipelines if they really didn't need it? Thanks to FERC, through a new policy called Cost Recovery Mechanisms for Modernization, these companies can recoup ALL INVESTMENT through their rate payers. Should export be initiated, gas prices will go up, ensuring Pennsylvania will be indentured forever.

Dependence upon an industry that consistently manipulates citizens of areas they destroy is self-defeating. Today's market is spurring mergers and acquisitions, creating more powerful captors to loom over our future. When Energy Transfer Partners recently acquired Williams in a major buyout for \$32.9 billion, it was evident that even significant infrastructure corporations weren't immune to the trend. Reigning in large consortiums' lobbying efforts will be an insurmountable task. SO, crumbs offered to communities as "Grants" or "incentives" will be mistakenly seen as a "sign" that our captors really care about our circumstances, when nothing could be further from the truth. It's time to buck our historical precedents, commit to equal intellectual investment into renewables, concentrate on more lasting forms of revenue, and retreat from boom and bust cycles. It's also time for us to leave our children with a legacy that doesn't include a toxic environment, a desperation economy, and perhaps most importantly, a victim mentality. (15)

27. COMMENT:

The pipeline task force of DEP should be composed of more PA residents and landowners than gas and oil company representatives. You can't consider your work even started, let alone completed, until you hear the concerns of those most directly affected. This pipeline effort is in support of a dying industry which should be ended now before it does irreparable damage to our state and its people. Get real, people, end this dinosaur before it ends us and move into this century, the century of renewable energy! (16)

28. COMMENT:

I read through the 335 page document twice..two hours last night and two hours this morning (so, only 4 hrs...I'm sure I missed quite a bit).

I noticed that the first of the five main objectives of the task force is:

"Plan, site and route pipelines in ways that avoid or reduce environmental and community impacts; "

As a homeowner on the ME pipeline route, I looked specifically at the recommendations for siting. Unless I missed it, I saw very little in this 335 page recommendation regarding siting. In fact, it appears that this recommendation is for:

- future pipelines to be laid within existing ROWs...having multiple firms use the same existing ROWs, possibly making existing ROWs wider, etc (page 50-51, 65-66, 76, 104 - recommended shared ROWs, 144 -shared ROWs)

I also paid special attention to page 288 which references the siting & routing workgroup with included pipeline companies, environmentalists, and government bodies, but did not include landowners. ??????

Did I miss any set back proposals? Did I miss any reference to the type of materials

carried in the pipelines? The size of these pipelines? The number of pipelines or other transmissions lines allowable in a residential neighborhood?

I feel this draft recommendation falls far short of protecting the interests of landowners and instead solidifies the rights of utility companies.

Did I miss it??? (17)

29. COMMENT:

Sunoco Logistics would like to install 2 24" pipelines in Exton, Chester County alongside an older line that was built in the late 1930's. The proposed lines will run alongside the parking lot of our middle school and borders our high school, as well as several other schools in our district. It also runs past 80 homes in my neighborhood with .5 acre lots. We do not live on farms with hundreds of acres, we live in a neighborhood. The new lines will run beneath my children's swing set, where teens walk home from school, and families host parties.

Gas and oil companies will be making billions of dollars from this supposed energy boom, and Pennsylvanians across the state will end up with multiple pipelines running across our properties, putting our children and our families at risk, lowering our property values, and destroying our state.

Why should we have to fight for the right to keep the properties that we own, that we pay for, that we pay taxes on? No company should be allowed the right to come in and take our land for their benefit. It's un-American.

Pipeline explosions happen every month in the U.S., please look at this short animation showing pipeline spills for the last 28 years. These are only the significant ones, meaning those in which someone was hospitalized or killed, damages amounted to more than \$50,000, more than 5 barrels of highly volatile substances or 50 barrels of other liquid were released, or where the liquid exploded or burned.

<http://www.addictinginfo.org/2015/06/05/map-pipeline-spill/> (video)

Imagine a pipeline explosion happening in your back yard. Please help us stop fracking, the installation of additional pipelines, and keep our people and the state of PA a great place to live.

This is bigger than gas and oil companies wanting to make a profit. This is adding to climate change, this is putting Americans lives at risk, and this is taking away the American dream. Too much? Perhaps. But please put yourselves in our shoes while making recommendations that will affect thousands of families and the entire state of Pennsylvania, so Sunoco can ship ethane and butane overseas to make plastics. (18)

30. COMMENT:

We need to pause and think about the long term effects the expansion of the pipe line infrastructure will have on Pennsylvania and its citizens. the Mariner East project alone will cut a swath at least 70 feet wide across the state with thousands of acres of woodland and natural resources lost forever valuable cropland will be destroyed from the heat generated from the pipes. each flare stack along the 350 mile path of this project will give off emissions equal to five school buses idling 24 hours a day seven days a week this is not what PA. needs. this devastation all comes from an industry driven by greed with no real concern for the future of our state. most of the NGL destined for the Mariner East project will be shipped over seas with no benefit to Pa or its residents just Sunoco.

Sunoco has already paid \$59,000.00 in fines from the DEP for working without permits this raises a lot of concerns for the safety of this project and our natural resources I strongly urge that this project and the expansion of this industry be shut down before its to late Gov Wolf do the right thing. (19)

31. COMMENT:

The Pipeline Task Force is yet another fossil in the bureaucracy of Pennsylvania's government. On Wednesday, November 18th, approximately 10,000 pages of public comments were delivered to the meeting of the Pipeline Infrastructure Task Force Meeting, which included the sign-on of 50 groups representing the demands of tax payers who are frustrated that their tax dollars pay to sustain the damaging infrastructure of Natural Gas and its subsequent extraction.

With only 4 days to review the recommendations of the PITF and no public comment period at the meeting until after the recommendations were finalized, the public was totally removed from the process. Yes there was a 30-day comment period that started on Saturday, but, what good is that if the comments will be not be heard and the vote to finalize takes place within the comment period?

I saw, on a video, Sam Koplinka-Loehr and Maya Van Rossum being escorted from the meeting with multiple boxes of comments that went unheard. This tells me that the PITF does not care about public, the stakeholders whose lives are uprooted and overturned when pipelines run through their yards and communities.

When the majority of members of the PITF are from the industry, it also tells me that the government is complicit with the industry and not working in the best interest of the people who it supposedly represents. This is not democracy and this should not be the future of PA.

The PITF is not working for Pennsylvanian's. The shallow words of transparency, participation, collaboration and research are just clever verbiage to obscure the real task of the PITF—to convince the public of the need and benefit of pipelines by using the perceived authority of the government to back industry recommendations, allowing the industry to profit at the expense of stakeholders.

What is at risk here is 27,000 miles of new pipelines and 150,000 acres of cleared forest, leaving in its wake fragmented eco-systems and displaced species. The public is threatened by the catastrophic risk of leaks and explosions, the risk of water contamination and the thread of eminent domain being used on the property they own. This is a violation of landowner rights and an abuse of government.

Governor Wolf thinks that natural gas can be exploited as an economic advantage for Pennsylvania and the solution to PA's budget problems but, natural gas is nothing less than a convenient and quick solution that will have severe repercussions in the future of PA. Have we not learned anything from the billion dollar clean-ups of Acid Mine Drainage that have taken decades to remediate in the wake of abandonment? When the industry leaves after they have exploited and extracted every cubic foot of natural gas, do you really think they will be here to clean up the mess?

No, but, neither Governor Wolf nor the Task Force seem too interested in evaluating the risks of the 1000's of wells that will need to be drilled to meet the needs of the billions of cubic feet of natural gas that will be extracted from the Marcellus Play and the cumulative

impacts of a Pennsylvania pockmarked with drill rigs, compressor stations and gathering/transmission lines criss-crossing the landscape.

The industry profits while stakeholders get one-time payments or a small percentage of royalties and all the risk, all the clean-up and all the impact. This is not a fair deal and, if the Governor bases his decision on this report, he will be ignoring the larger picture of public impact.

While many states are banning fracking or considering bans and moving towards clean energy, our state is stuck in turn of the century, industrialization which has proven to be a human contribution to climate change. The Governor cannot be so myopic to take the bait of a quick economic fix at the expense of the future of Pennsylvania and therefore, should disregard the recommendations of the PITF to allow the industry to run roughshod in Pennsylvania.

In February, when Governor Wolf wanted to push his severance tax, ABC Harrisburg affiliate, WHTM-TV reported: "Wolf also not-so-gently reminded complaining drillers that the business climate could always be worse. 'The alternative is not really no tax,' Wolf said in a very direct tone. 'The alternative is no drilling, a ban as in the case of New York.'"

With no tax and no public benefit and the looming threat of global climate change, Governor Wolf should do only one thing, BAN FRACKING NOW! (20)

32. COMMENT:

I have been reading the LNP article about efforts underway to keep PA residents safe from potential terrorists threats from potential Syrian refugees. I am hoping that you will keep us safe from real threats from real unprincipled corporations. We are asked to comment about the impact of the pipeline, the proposed route has changed so many times I am no longer sure where they want to put it. I have never known where the compression station(s) would be. How can I make an informed comment? I am hoping that this task force is not another smoke screen, like FERC, to make the public feel like they are being heard. I hope the intention really is to keep PA a safe place to live and raise a family without fear of explosions, fires, methane leaking into our air, benzene leaking into our ground water, soil and wells. This is what the Williams Co has done and will continue to do and yes, a 42" 1500psi pipeline under their supervision is a huge threat and should be treated as such. (21)

33. COMMENT:

It's concerning to our community, that Sunoco Logistics would like to install (2) 24" pipelines in Exton, Chester County alongside an older line that was built in the 1930's. According to the proposal, lines will run alongside the local middle school and borders of the local high school, in addition to other schools in our district. These additional lines will be constructed and ran through the middle of our quiet and well respected neighborhood, where, space is not a commodity for any of the residents. Our neighborhood consists of a variety of people, senior citizens, families and most importantly hundreds of children, whose future and safety are being put into jeopardy with this proposed project. The noise, disruption, trash, traffic and pollution along with the potential risk of rupture associated with this project should not be placed as a burden on the residents of Marchwood (Exton) or quite frankly, anywhere.

Pipeline explosions happen every month in the U.S., please look at this short animation showing pipeline spills for the last 28 years. These are only the significant ones, meaning those in which someone was hospitalized or killed, damages amounted to more than \$50,000, more than 5 barrels of highly volatile substances or 50 barrels of other liquid were released, or where the liquid exploded or burned.

<http://www.addictinginfo.org/2015/06/05/map-pipeline-spill/> (video)

Stop fracking and installing additional pipelines, and keep our people and the state of PA safe. (22)

34. COMMENT:

PIPELINE INFRASTRUCTURE DEVELOPMENT IN PENNSYLVANIA AND THE ROLE OF THE PIPELINE INFRASTRUCTURE TASK FORCE, Page 17 states: “The movement of natural gas will also require compressor stations, estimated to number in the hundreds, to be built along the anticipated pipeline miles. All told, this pipeline infrastructure build-out will impact communities and the environment in every county in Pennsylvania.”

Nowhere in this draft report is any mention of conducting or utilizing health studies to determine if living in close proximity to a compressor station, dehydration station, or any other natural gas infrastructure will cause any adverse health effects. Our state government has a moral obligation to determine how far setbacks should be based on solid scientific health studies to protect any and every citizen from harm and reduction of quality of life. Studies recently conducted (University of Pennsylvania, University of Pittsburg) show links to cardiovascular issues, babies born small for their gestational age, and children born with a congenital heart defects related to proximity to gas well pads. Continuing to build pipelines will cause more gas wells to be built, possibly causing more health issues for citizens of Pennsylvania. I don't believe this draft addresses the issues of cumulative effects. (23)

35. COMMENT:

I question the integrity of the Pipeline Task Force for the amount of natural gas industry representatives there are, and for the fact that all stake holders are not represented. These industry representatives are the same people who lobbied the Republican Party to vote no and block the proposed severance tax that the majority on Pennsylvanians are in favor of, the tax that Governor Wolf promised in his campaign, yet the industry is given the majority of seats on the panel. That severance tax could have helped pay for the incidental damage that this gas infrastructure will cause. The burden of the severance tax would be paid by the end user, but instead, it will now be transmitted to every PA taxpayer through an increase in sales tax or other tax hikes.

Despite recommendations from a Congressman and two State Representatives, I was removed from the Pipeline Workforce by the Governor's office for my outspoken criticism of current and future gas infrastructure development. I was vetted, and chosen to be on the Task Force's Environmental Workforce Panel by the DEP, and in my letter of intent, I stated, “I feel that I have a solid understanding of the impacts of natural gas development that many do not, and that comes from working directly with the people affected by gas development who struggle to keep their communities and lands safe from overzealous gas development. I would like to represent the voice of those citizens on the

Governor's Task Force." Two days after receiving a confirmation notice, a letter from Yesenia Rosado Bane, Special Assistant to the Governor, asked the DEP to remove me from the panel. A subsequent Right-to-Know request yielded no reason or explanation. It is clear that differing opinions and evidence don't want to be addressed by our Governor. In addition, I feel that the lack of public comment hearings at various locations takes much of the public out of the process.

I feel that because of these reasons, the integrity of this panel is compromised, and its recommendations may not in the best interest of the people from the Commonwealth of Pennsylvania. (23)

36. COMMENT:

As a landowner in a densely populated residential neighborhood, I am very concerned with the siting of the Mariner East 2 Pipelines. Many homes in our development will have one to two 24" pipelines installed within a few feet from our homes. These pipelines will transport hazardous materials at high pressures. A small leak could be catastrophic. Even with developing best practices for emergency responders, an explosion will cause immediate consequences that could result in death or serious injury to many families. We will no longer feel safe and comfortable in our homes. In addition, I am very concerned that there are no regulations controlling the number of pipelines that can exist in an easement. Currently, there are 3 pipelines in my easement and with the Mariner East 2 project, the total will be 5. Now landowners also have to worry whether other Pipeline companies will want to install pipelines in the same easement. Have any studies been conducted on what would happen if one pipeline explodes and causes the other pipelines to explode? I cannot imagine the widespread destruction if 5 pipelines in our 50 ft easement exploded. Also, how safe can an 80-year-old pipeline be for changing the liquid to ethane and reversing direction? Many landowners have expressed their concerns over the safety and integrity of these pipelines being installed so closely to homes, schools, and businesses. But the Pipeline companies have all the power and money and landowners feel abandoned by our Government officials. Lastly, I was wondering why PA decided to increase our sales taxes to 7.25% but decided not to increase the taxes for the Marcellus Shale Industry? Thank you for giving me the opportunity to express my concerns. (24)

37. COMMENT:

Governor Wolfe and Task Force, I am asking for your help as a PA resident, tax payer and voter to help me in keeping my family safe and protecting the investment in our home that my husband and I have worked so hard for. It has always been our intention to make our home in Marchwood our forever home. Marchwood is one of those rare neighborhoods that exist today, where neighbors actually talk to each other, kids get outside and play together and a strong sense of community still exists. Imagine our dismay and surprise when we found out this Spring that Sunoco Logistics would like to install 2 24" pipelines in our neighborhood alongside an older line that was built in the late 1930's. The proposed lines will run alongside the parking lot of our middle school and borders our high school, as well as several other schools in our district. It also runs through 80 properties in our neighborhood with .5 acre lots. We do not live on farms with hundreds of acres, we live in a neighborhood. The new lines will run

beneath children's swing sets, next to people's in ground pools, where teens walk home from school, families host parties and in some cases easements are proposed to technically be inside people's homes!

In our unique case, the pipeline work will happen on our neighbor's property beside our house and then come behind our house on the property of our neighbors directly behind us. Forums like this are the only way that my husband and I can exercise our concern as these easements are not on our property, but are close enough to our property to affect us in a big way. We have an almost 2 year old boy and a 2 month old daughter who play in the backyard where this project will be trenched with big open holes in the ground creating immediate risk, not to mention the future risk of possible explosion. In addition, we have worked very hard for our home and invested a lot to now fear losing a large percentage of our investment due to the Sunoco project and it's impact to our community. Needless to say, we have been considering a move to secure our investment and keep our children safe. The sad and unfortunate fact is that in order to get away from these pipeline projects running rickshaw throughout PA, we are faced with the decision to potentially leave our home and leave PA. There is virtually no oversight over these projects until they are completed and no regard for the property owners who are affected. For what? For companies like Sunoco to send our natural resources overseas to make plastics? How do Pennsylvanians benefit from this?

Gas and oil companies will be making billions of dollars from this supposed energy boom, and Pennsylvanians across the state will end up with multiple pipelines running across our properties, putting children, families and communities at risk, lowering our property values, and destroying our state's other natural resources, land and waterways. Why should we have to fight for the right to keep the properties that we own, that we pay for, that we pay taxes on? No company should be allowed the right to come in and take our land for their benefit.

Pipeline explosions happen every month in the U.S., please look at this short animation showing pipeline spills for the last 28 years. These are only the significant ones, meaning those in which someone was hospitalized or killed, damages amounted to more than \$50,000, more than 5 barrels of highly volatile substances or 50 barrels of other liquid were released, or where the liquid exploded or burned.

<http://www.addictinginfo.org/2015/06/05/map-pipeline-spill/> (video)

From the bottom of my heart, I ask that you consider this as humans, as parents, as home owners and how you might feel putting your children on top of a potential bomb and letting a greedy corporation take 26% of your biggest investment and product of your life's work from you and having no way of stopping them for absolutely nothing in return but daily worry. Please help us! Find another way to get these pipelines routed. Keep them out of neighborhoods and densely populated residential areas. (25)

38. COMMENT:

While my property is not directly affected by the proposed Mariner East 2 project, it is extremely indirectly affected. I am disappointed that PA is allowing these projects to pass without much government support of the homeowners, residents and taxpayers of PA. Our property values will be affected. Our quality of life during any construction, installation or fixing of pipelines will be affected. Our neighbors are already starting to move affecting our entire neighbor. People are being forced out of their homes to avoid

highly explosive gases from running beneath their bedrooms. Please reconsider these projects for our safety and futures. (26)

39. COMMENT:

Ethane Test

See the following for greater substantiation of the dangers you hold in your hands. Please read over this and consider rerouting the pipeline based on the information below about the dangers of Ethane in pipelines through residential developments such as Marchwood in Uwchlan Township, Chester County. This gas in the backyard of our development of over 800 families can be deadly. See test calculations

Attachment: <http://www.jmcampbell.com/tip-of-the-month/2014/03/transportation-of-ethane-by-pipeline-in-the-dense-phase/> (27)

40. COMMENT:

Re: Ethane Test

Here is one reference from Google/Wikipedia

Attachment:

https://www.google.com/?gws_rd=ssl#q=Wikipedia+Marcellus+Ethane+blend+composition

The NGL from Marcellus is composed mainly of ethane 85-90% with the remainder propane and butane plus other trace hydrocarbons. There are many more referenced than the one above. The expansion ratio of ethane from liquid to gas is 1 to 460 that John McGrath spoke about at the DEHS meeting. It must be at a temperature less than its critical temperature of 32.2 C (90 F) to remain a liquid and at least at its critical pressure of 48.2 Atm. or 708 psi minimum. Exceeding these conditions as in its release from a pipeline it will become a dangerous plume of gas which a spark can readily ignite.

In my backyard I have 203 ft adjacent to the 8" dia. pipeline along which they propose two (2 or 3 24" dia. pipes).

Use $\pi r^2 L = \text{Volume}$ or 607 cubic feet of internal pipe volume in my backyard. Upon pressure release it will develop a cloud 293,213 cubic feet in size from only one of the 24 inch lines and then what?

I wanted to know if liquid Ethane has ever been transported before over long distances by pipeline and so I Googled this and unbelievable it looks like the answer is no! Our Marchwood neighborhood will be part of a test to see if it can be done. See link Also, more specific it shows calculations for this test which is scheduled to go through our neighborhood, <http://www.jmcampbell.com/tip-of-the-month/2014/03/transportation-of-ethane-by-pipeline-in-the-dense-phase/> ... I am a PhD Physical Chemist and I find this unbelievable that our entire neighborhood will be used as part of a test for this purpose.

(27)

41. COMMENT:

See the dangers as shown in the link to Praxair's Material Safety Data Sheet (MSDS)

Attachment:

<http://www.praxair.com/~media/North%20America/US/Documents/SDS/Ethane%20C2H6%20Safety%20Data%20Sheet%20SDS%20P4592.pdf> (27)

42. COMMENT:

Attachment: Sunoco Hennigen Letter.docx (27)

43. COMMENT:

I am writing to you because of the worry in our hearts about a high pressure Natural Gas Liquid pipeline being scheduled for installation behind our home in a densely populated residential Marchwood neighborhood in Chester County. My wife Carol and I are therefore sending this letter to you at your corporate office to assure receipt via certified mail. It is important to us since it can impact the home we now live in and where our children and grandchildren have grown up. We now also have two Great Grandchildren who we hope will have the opportunity to enjoy the abode we so warmly call our home. We worry immensely about high pressure liquid petroleum products of Ethane, Butane and Propane in our back yard adjacent to the swimming pool our Grandchildren enjoy. I know that Sunoco is a responsible company and as a scientist I hope great discretion will be used in construction of pipelines with thickness safety factors and proper X-ray analysis of welded joints.

At necessary pressures for liquefaction and transport of Ethane B.P. -88o C and at below ground temperatures of 14o C and critical temperature of 32.2oC with a critical pressure of 708 psi requires a high pressure of about 1500 psi. Also pumps are used to increase and repressurize the gas to liquid at about 1900 psi in our area. All said and done, a significant amount of caution and installed safety measures are necessary. Please make our Marchwood neighborhood in Chester County a safe haven by bypassing our neighborhood. There are less populated areas for installation along the Pennsylvania turnpike.

I don't believe liquid Ethane has been transported by long range pipelines before because of the inherent dangers of a leak. And, especially it has not been done in a high density residential area at these high pressures. I searched through many technical reports and have not found large scale transport of Ethane via pressurized pipelines. The following paper reemphasizes these facts. You and your company have our welfare in your hands. There are alternatives, please take them. The cost is not as important as the lives involved. Please forward this letter to the Officers and Directors listed for copies below. (27)

44. COMMENT:

We need to stop using eminent domain & ruining peoples lives. We need to stop this pipeline all together! Alternatives energy solutions are possible! Solar & wind NEED to be implemented NOW. We are destroying our childrens futures. (28)

45. COMMENT:

With climate change disaster looming and climate experts warning that we must end our insane dependence upon fossil fuels, including natural gas, within the next 15-30 years or life as we know it on the planet will be no more, building natural gas infrastructure all over PA makes no sense. In addition, it puts precious lives at risk. The blast zones for pipelines render large swaths of PA unusable. At a time when we need MORE TREES as carbon sinks, they are being cut down for gas line build out. The insanity needs to stop. Real leaders plan for tomorrow and the world their grandchildren and great grandchildren

will inhabit. They don't ruin any chance for future generations to prosper. There is no "best practice" except immediately retooling for renewable energy. (29)

46. COMMENT:

The public has made it clear that we do NOT want fracking or any other activity in our state that endangers people and our environment. We elect officials to represent us as individual people and expect to be listened to when we speak out against something. We have spoken. We urge you to do the right thing! (30)

47. COMMENT:

this pipeline would destroy my farm, going through middle of it, Sunoco has been causing me lots of problems, did repair last summer, and caused equipment breakage, threatened with there stakes , have not paid for anything, nobody has even talked to me about ROW , just letter , no details, then eminent domain proceedings had enough of Sunoco. (31)

48. COMMENT:

The Pennsylvania Legislature and Natural Gas Industry's rejection of the Severance tax, and placing the financial burden, once again, on the back of Pennsylvania tax payers via an increase of sales taxes makes for a perfect time to implement a moratorium on all natural gas activities.

The natural gas industry's job creation "benefit" to Pennsylvania is less than 0.1% of the labor force. Moreover, approximately \$723 per person per year pays for the \$3.2 billion dollars in fossil fuel subsidies.

The natural gas industry often touts how much is being paid in Impact Fees based on production numbers the industry themselves provide. However, even DEP is suspect of the numbers as there is a disclaimer stating the information may be inaccurate, incomplete and/or not correct.

The natural gas industry claims pipelines will relieve the gas glut. How? US Department of Energy reports indicate demand for natural gas will remain low for the foreseeable future. If not to meet demand, then what purpose are more pipelines? Obviously, pipelines will be used to store gas and/or export it.

Nationally, the U.S. has plenty of existing pipeline infrastructure to accommodate significantly expanded gas use, including to replace coal power plants with gas in order to meet the requirements of the proposed Clean Power Plan. In fact, we aren't even using 46 percent of the pipeline capacity we already have, according to a recent study by the U.S. Department of Energy. In its Quadrennial Energy Review, DOE concludes that in many areas of the country, enhancing the flexibility and capability of the existing network is a better investment than building new pipelines.

In any given year, natural gas production is greater than natural gas demand plus net exports because of fuel used or lost in all stages of natural gas production, transmission, distribution, and storage.

Additionally opposed to the pipeline going through state lands which I pay my taxes to use. This is public land, not the land for the gas company to incur revenue from. (32)

49. COMMENT:

Attachment: letter to governor Wolf.docx (33)

50. COMMENT:

Siting and Routing Workgroup Recommendations #1-9

These recommendations fail to adequately address the siting of compressor stations. Recommendation #1 of the siting and routing workgroup states: "When developing infrastructure, pipeline companies and public agencies should consider the range of tradeoffs in costs and impacts by incorporating social, economic, and environmental data at relevant scales". Unfortunately, the "range of tradeoffs" in natural gas infrastructure development is heavily weighted in favor of the industry at the expense of the environment and the health and well-being of human communities.

As an example, the developers of the proposed PennEast pipeline are proposing to build a 32,000 horsepower compressor station on 40 acres of forested land in the middle of a resort area in the Pocono Mountains. The chosen site is near the headwaters of a high quality cold water fishery and in close proximity to several designated natural areas that are listed in the Carbon County Natural Areas Inventory as sites of local and statewide significance for the protection of biodiversity. These sites harbor a number of PA-endangered plant and invertebrate species of concern.

Compressor stations are a significant source of noise pollution, which is considered to be among the top reasons for a loss of biodiversity worldwide. Many species in the wild experience noise pollution not as sound, but as vibrations that travel along the ground and through the air. This is especially true of bats, which rely on sound waves to navigate, hunt, and locate the entrances to caves where they hibernate. Bats have been all but wiped out in Pennsylvania. Songbirds rely on sound to identify the calls of their own species, and to find mates. Amphibians and reptiles rely on sound to avoid predators and to communicate with others of their own species. Frog, toad, and salamander populations are plummeting worldwide.

Ultrasonic vibrations and infrasound, both by-products of compressor stations, are also known to cause acute discomfort in humans, including such symptoms as nausea, disorientation, and behavioral disturbances. So-called "noise attenuation" measures will do nothing to mitigate the vibration impacts to humans and wildlife resulting from the round-the-clock operations of a 32,000 horsepower compressor station.

The average distance between compressor stations on any single pipeline is between thirty and sixty miles. However, due to the proximity of the proposed PennEast pipeline route to the Williams Transcontinental pipeline, PennEast's 32,000 hp compressor station will be situated within five miles of a 30,000 horsepower compressor station in a neighboring township, belonging to the Transco pipeline. The close proximity of two high-powered compressor stations within a five-mile radius in the same air quality control district will result in serious air quality and environmental impacts in an area of the Pocono Plateau known throughout the region for its exceptional beauty and biodiversity.

Compressor stations should not be allowed anywhere near natural areas of ecological importance, and should only be built in developed areas zoned for heavy industry. The granting of zoning variances to build compressor stations outside of these areas should be

prohibited. Furthermore, restrictions should be placed on the number of compressor stations allowed within a pre-determined radius in any one geographic area. (34)

51. COMMENT:

RE: Conservation & Natural Resources Recommendation #13.

Promote Biodiversity in Pipeline Development.

These recommendations show a minimal understanding of ecological processes.

Biodiversity is not just about encouraging furry mammals, birds, and game species to inhabit the pipeline ROW. Biodiversity begins at the microbial level with the bacteria that turn leaf litter into soil and the zooplankton and microscopic insects at the bottom of the food chain that provide the foundation of a functioning ecosystem. Pipeline development alters the biogeochemical composition of soils and the hydrology of wetlands and waterways, which in turn alters the conditions under which microbial life can survive and function. Once the foundation is destroyed, the entire ecosystem starts to collapse.

Volunteer stream monitors throughout the Poconos are reporting sharply lower numbers of aquatic insects such as mayflies and caddis flies at pipeline stream crossings. Farmers are reporting lower crop yields and changes in soil conditions above buried pipelines. These changes include faster snow melt due to the thermal impact of heat emitted by buried pipelines, changes in soil acidity/alkalinity, and extreme soil compaction, all of which affect the functioning of microbial life.

Planting monocultures of conifers along the edges of pipeline ROWs is the antithesis of biodiversity. The only way to protect biodiversity in Pennsylvania is to leave the gas in the ground and work toward an energy policy that does not involve the massacre of thousands of acres of forest and the degradation of virtually every water resource across the state. (34)

52. COMMENT:

RE: Conservation and Natural Resources Recommendation #4

This recommendation ignores the fact that pipeline developers are actively targeting preserved land, including state parks, state forests, game lands, nature preserves, recreation areas, and preserved farmland for the siting of pipelines. The proposed PennEast pipeline cuts through two state parks, one state forest, three state game lands, one USACE recreation area, one national park (the Appalachian National Scenic Trail), and several natural heritage sites in Carbon County alone.

Pennsylvania's state parks and forests belong to the citizens of the Commonwealth who contribute to their support and maintenance with taxpayer dollars. The fact that every township along the route of the proposed PennEast pipeline in Pennsylvania has passed a resolution opposing the pipeline is proof that the citizens do not consent to the use of our public lands for the private gain of corporations seeking the fastest and cheapest route to get their products to market. (34)

53. COMMENT:

While trying to maintain responsibilities of everyday life, manage chronic health issues, Obamacare open enrollment, and defend our property against Transco/Williams as they continue to haunt us with their proposed Atlantic Sunrise Pipeline, it has been difficult at best to read through the 335 page Draft PITF Report. However, as adversely affected landowners who have been treated very badly in this (unwanted) activity, we offer the following comments:

How will the PITF Report Serve and Protect Landowners Currently Ill-Affected by the Proposed Atlantic Sunrise and Penn East Pipelines?

Some of the PITF recommendations sound great, like using existing ROWs, but how is that going to help us landowners who are *currently* being threatened?

The undue stress of this chaotic process amidst bullying from NG companies has been unbelievable, and largely due to many of the facts cited in the Draft Report such as landowner education and not having one central clearinghouse where we can get clear, accurate, and non-biased information. FERC, our town officials, state and federal legislators, government agencies, Transco/Williams, community organizations, neighbors, and any one else involved in this project do not have uniform information. It is often contradictory or out-dated.

It is a travesty that we have had to waste our time and money for nearly two years (and counting) to defend the property we outrightly own. How will we --- landowners who are being bulldozed right now --- be protected before this Draft Report takes effect? The Report states “Where possible, pipelines should be routed to avoid steep slopes, especially on erodible soils” which has been our major plea for the last two years to prevent our property from being destroyed yet Transco/Williams ignores this while the PITF Report confirms it. Likewise, our concerns about the proposed pipeline disrupting the natural springs and streams on our property have been unaddressed by Transco/Williams while the Report states, “...no earth disturbance activities associated with natural gas infrastructure development should occur on the surface within 50’ of any stream, wetland, vernal pool, spring seep, other waters of the Commonwealth. However, the setback distance would be increased to 150’, or perhaps 330’ as per The Nature Conservancy recommendation for specially designated waters, unless the sponsor can demonstrate that a line placed within that setback would have no adverse impact to the stream or watercourse in question.” We have continually asked Transco/Williams for such demonstration and have received none. So, how are the findings in this PITF Draft Report going to help us right now?

“Introducing a shrub border may not be cost effective and logistically difficult for operators.” This statement in the Report is an insult to Pennsylvanians and to our environment. If NG pipeline operators make it logistically possible to destroy our land so *they* can profit, they can make it logistically possible to plant and pay for a shrub border.

For the Draft Report to state, “The pipelines are generally placed where the landowner wants it on his/her property,” is erroneous. If this statement was true, there would not be thousands of complaints on the FERC website of how pipeline companies are unwilling to listen and address landowner concerns while they unnecessarily divide the landowner’s acreage.

It took us over one year to get a map from Transco/Williams of the proposed pipeline route through our property. We received it only after having to pay a lawyer who demanded we receive a copy. That is not transparency or working with landowners and the public. That is not attempting to find the best routes. *That* is what we Pennsylvania landowners are “currently” experiencing from NG pipeline companies threatening to rob us of our hard-earned properties.

Emergency management training and landowner education IS needed, but BEFORE any pipeline company is allowed to approach landowners. We also agree that “People want to know about the pipeline near their home. They want to know how near they may be to the potential impact radius. They want to know who to call, what to look for, how the pipeline is monitored for safety and the location of the Pipeline Operator's control room. They want to feel safe around pipelines, so by sharing emergency response information and even inviting the fire department to attend and talk with residents about their training and preparedness will go a long way in assisting people to understand pipelines and their associated risks.” This needs to be in place NOW, to address the pipelines that are already in place in the community and BEFORE any additional pipelines can be allowed. It is insane that our local fire company has made 30-40 repeated emergency calls related to NG, yet have been paid nothing. It is just as insane that there is no emergency notification system in place for residents near these pipelines. This is total irresponsibility to the people of Pennsylvania.

We have been good stewards of the land, not using any herbicides, insecticides, pesticides or fertilizers, yet we are faced with that exact run-off into our ponds if the pipeline is allowed to be placed as proposed. Pennsylvania with its beautiful and lush environment use to be an enjoyable place to live at least until NG companies and State officials began replacing it with NG dollars. If the Draft Report will not be finalized until February 2016, where will help come for us landowners currently besieged by the NG pipeline companies who are waiting to cut our trees, bulldoze our land, disrupt our streams, and dynamite through our properties while essentially giving us nothing but pennies for a diminished quality of life? Are the PITF rules going to help us? Too many Pennsylvania landowners are CURRENTLY UNDER ATTACK from companies building the Atlantic Sunrise and Penn East pipelines. All of this activity MUST BE STOPPED IMMEDIATELY until the recommendations of the Task Force are implemented. That is the only way Governor Wolf, Secretary Quigley, or the PITF will have any credibility. Otherwise, it is just a sham of another governmental agency being dictated by the demands of NG companies.

Undemocratic Composition and Process of PITF

We would like to believe the commentary in the Report but with 74 NG representatives in the PITF process, and only four representatives for landowners (none of which are from Luzerne County, and are not single homeowners but agricultural farmers) we are not equitably represented; and therefore, our voice is neglected when in fact we have the MOST TO LOSE. Considering this was deliberate by Governor Wolf and Secretary Quigley, we find the process undemocratic and unconscionable as they are allowing NG companies to seize our communities and destroy our properties while squelching the landowner's voice.

For “the PITF” to state they need to “Improve Communication with Landowners...to increase trust/transparency and prevent miscommunication,” is ludicrous. They could

have set an example when selecting persons to serve on the PITF but deliberately eliminated landowner participation --- even after numerous requests and inquiries were made.

Likewise, the PITF has not offered “public” hearings --- even with six DEP offices throughout the state. And for the PITF to report it is responsible to “amplify and engage in meaningful public participation,” yet conduct only daytime meetings when it is difficult for the public to take time off from work, then travel to Harrisburg to be allowed to speak for only two minutes, is contradictory (and not meeting their own requirement). The fluff sounds great on paper but the actual actions speak for themselves. The PITF was not founded on transparency so why would landowners suddenly believe it is genuinely for the good of Pennsylvanians?

Compensation for Landowners

Instead of quickly selling out individual landowners whose properties contain the NG that only the State and pipeline companies will profit from, Governor Wolf needs to ensure landowners have some benefit as well. As it stands, all we are getting is our properties destroyed while still having to pay taxes on unusable and unsightly land that the NG company profits from; reside 24/7 in fear of being in the kill zone; and a myriad of other legal, health, financial and environmental problems. This is unacceptable. Of course this significant aspect was omitted from the Draft Report because no adversely impacted landowners were allowed to participate in the PITF.

If Governor Wolf is a public rather than corporate servant, he will charge NG operators a severance for profiting from Pennsylvania’s resources; and require the NG pipeline operators to pay affected landowners a transmission fee for running the gas through the property owner’s land. Period. It is time the affected Pennsylvania landowner be recognized, respected, and fairly compensated for being forced against their will to give up what is rightfully theirs. Somehow this compensation was grossly missing from the Report. Again, presumably, that’s why landowners were deliberately excluded from participating in the PITF.

Additional Costs Created by NG Pipeline Companies

NG companies will make billions of dollars from our precious resources. They can afford to pick-up the tab of paying for all the extra services their industry creates --- salaries and training for additional inspectors, DEP and emergency management personnel, public education, transmission fees for landowners, road repairs from their equipment, environmental restorations, emergency notification systems, etc. It is their responsibility --- not the taxpayer. Quite frankly, NG companies can take this proposal or leave it. Our guess is they are not going to leave it. They must pay their share. They cannot be allowed to rob us of our properties and communities while they make huge profits.

Governor Wolf must take a stand to protect Pennsylvania landowners and communities foremost. If NG operators insist on disrupting our environment and our lives, they must solely bear the burden for what they are creating, or more accurately destroying. If we must have pipelines, they must be placed along existing utility ROWs in respect for individual landowners and their most significant life investment. This is not a time to give away our State, and particularly when adversely affecting so many Pennsylvania taxpaying landowners and communities.

Precedent

Governor Wolf has the opportunity to be a leader in changing Pennsylvania's course of repeating coal baron history and saving our communities and environment from destruction for generations to come. If he is truly a "public" rather than corporate servant, he will take a stand against NG operators resisting cooperation in ROW planning and siting, and instead insist that is the ONLY WAY they can be allowed to extract Pennsylvania's NG resources. If they want the NG bad enough, and we know they do, they will have to find a way to work together (which means their paid-advertising will actually have to be true, rather than the lies they continually purport in the media about working with landowners and improving communities).

Moratorium

If this Report or the PITF have any credibility, then there is no alternative than for Governor Wolf to call a moratorium on ALL pipeline activity. If the Governor and PITF are sincere about their findings, then they must address our immediate concerns and halt the pipeline process until the findings of the PITF can be implemented and enforced. We could go on and on, point by point of how undemocratic this process has been but, quite frankly, we've already lost too much of our lives trying to get accurate information to defend our own properties. This is not right. Governor Wolf and the PITF have one chance to turn this bad situation around. They must declare a moratorium on all fracking and NG pipeline planning and siting until safeguards are in place and landowners' concerns are addressed --- especially the landowners who are currently embroiled in the process. No more carte blanche to NG companies! No more ignoring landowners! As UNDERstated in the Draft Report, "This lack of smart planning can lead to individual decisions accumulating into a much broader and longer impact on the citizens and the lands of a community, county or watershed." In summary, a moratorium on pipelines and fracking is needed NOW. (35)

54. COMMENT:

Dear Sec Quigley,

The presentation below is commonwealth citizens speaking to a French/Quebec delegation. They believed us without retrospective public health data. The citizens below are not represented by your pipeline taskforce: that is a big elephant in the room. That elephant will keep get bigger the more your ignore their voices. It is very clear whose side you and the Wolf administration is on, not the elephant's.

Documented Water/Air/Health Impacts

From 3 years ago.....no one can say we did not try :(Maybe in some part we helped others save themselves even though some of us lost our personal fights
9.9.12 Pierre Lemay, French Delegation, Quebec Delegation: Health Impacts/Social Dislocation

Natural Gas Development

15 mins Dr Rodriguez, nephrologist, filed suit challenging gag order in Act 13

5 mins Tammy Manning and her granddaughter, vomiting from well fumes

5 mins Louise Welch, living next to a flare, headache, sinus infection

5 mins Joanne Fiorito living down wind from well pads compressors

5 mins Rebecca Roter, flare/sinusitis/headache, stress

5 mins Larissa Fallon, water impacts, intestinal illness impacts on dairy herd

5 mins Audrey Gozizkowski air impacts
5 mins Ruth Tonechi, Bradford CO dislocation
5 mins Dale Chidester dairy farmer....health impacts of stress and worry
5 mins Stephanie Purdy sinusitis living close to shale activities, ER nurse/friend
said ER shut down to decontaminate workers.....never in paper
5 mins Ray Kemble skin peeling off/impacted water
5 mins Geri Caine, skin rashes from impacted water, neighbors stories
5 mins Brett Jennings black water Great Bend
5 mins Barbara Clifford generational land owner dairy farmer holding onto legacy
15 mins Dr Poune Saberi MD, mPH
Statements from Amy Payne Beth Boyd
We have Scott Cannon and Kiersten/film student PSU, local resident Frank Finan
documenting via video, and Iris Bloom of Protecting Our Waters visiting.
French and Quebec Delegation, Health Impacts/Natural Gas.9.9.12 Montrose PA

Attachment:

<http://www.youtube.com/watch?v=W7vRLEImOFo&feature=share&list=PLWVbiecb7jLF7VuNijKoFXy1XPvFGetRG> Dr Rodriguez (video)

Attachment:

http://www.youtube.com/watch?v=i2NaIN_P6Co&feature=share&list=PLWVbiecb7jLF7VuNijKoFXy1XPvFGetRG Dr Saberi (video)

Attachment:

<http://www.youtube.com/watch?v=yUviC9qA3ak&feature=share&list=PLWVbiecb7jLF7VuNijKoFXy1XPvFGetRG> Tammy Manning and her granddaughter Madison (video)

Attachment: <http://www.youtube.com/watch?v=fUu-DHPgDLY&feature=share&list=PLWVbiecb7jLF7VuNijKoFXy1XPvFGetRG> Stephanie Purty (video)

Attachment:

<http://www.youtube.com/watch?v=PIOjuzgzjCc&feature=share&list=PLWVbiecb7jLF7VuNijKoFXy1XPvFGetRG> Ray Kemble (video)

Attachment:

<http://www.youtube.com/watch?v=Adm7oWkhzYA&feature=share&list=PLWVbiecb7jLF7VuNijKoFXy1XPvFGetRG> Joanne Fiorito (video)

Attachment: <http://www.youtube.com/watch?v=u36RY-7-E8k&feature=share&list=PLWVbiecb7jLF7VuNijKoFXy1XPvFGetRG> Gerri Caine (video)

Attachment: <http://www.youtube.com/watch?v=oSKbKS-X78U&feature=share&list=PLWVbiecb7jLF7VuNijKoFXy1XPvFGetRG> Brett Jennings (video)

Attachment:

<http://www.youtube.com/watch?v=9OHVInXMC9M&feature=share&list=PLWVbiecb7jLF7VuNijKoFXy1XPvFGetRG> Audrey Gozizdowski (video)

Attachment:

<http://www.youtube.com/watch?v=hlIkQCMaZZ4&feature=share&list=PLWVbiecb7jLF7VuNijKoFXy1XPvFGetRG> Rebecca Roter (video) (36)

55. COMMENT:

RE: Conservation & Natural Resources Recommendation #18.
“Minimize Aesthetic Impacts in Pipeline Development.”

Attempting to minimize the aesthetic impacts of pipeline infrastructure by including “dog-legs” or bends in the pipeline route are the equivalent of “putting lipstick on a pipeline”. Concealing pipeline infrastructure from view behind buffers of trees or shrubs is a cynical attempt to deceive the public into believing that pipeline infrastructure does no harm to the environment. Pipeline infrastructure should be fully visible to the public so they will know the true cost and consequences of natural gas development in Pennsylvania. (37)

56. COMMENT:

Pipeline Infrastructure is such an important issue with significant impact on communities throughout the state. I am requesting a longer comment period on this large draft report and public hearings to allow for adequate review and discussion of the issues. (38)

57. COMMENT:

The majority of the citizens of PA are demanding that Governor Wolf save our families and communities from the permanent devastation of the Fracked Gas industry. There has been unprecedented opposition against the many proposed pipelines in our state. The people have been calling out for help from our elected officials.

It is horrifying that the answer to this call is "The Pipeline Infrastructure Task Force" which includes a large percentage of industry representatives. It is pathetic to say this biased panel will do anything but assist the profit-building collaboratives in executing their agenda to rip through and steal the remaining resources the taxpayers have left. The Task Force is basically saying they need to help the people feel better about the devastation proposed by new unnecessary fracking infrastructure. The Mission on PITF website states: "A stakeholder-driven effort, the Pipeline Infrastructure Task Force (PITF) will develop policies, guidelines and tools to assist in pipeline development (including planning, permitting and construction) as well as long-term operation and maintenance."

The draft report confirms this is completely opposite of what the people are asking for. PA needs help to STOP the bleeding not milk it! It's all about the potential profit for the corporation and bribing the stakeholders. Sorry but our water, land and air is priceless and not for sale, nor is it any companies' right to negotiate over. Sadly we already have a devastated state that proves how rapidly extraction-to-distribution fracking has permanently destroyed everything in it's path.

Many communities fighting this treachery are becoming quickly educated and aware of the agenda to push unnecessary infrastructure into place and claim public need when there is none. It's all for corporate profits and greed. Sadly, Governor Wolf will only hear the fabrications of the industry which feed him false reports for their own interest. This is criminal on many levels and a direct infringement on our rights as citizens. There is no need for ANY new fracked gas infrastructure what so ever!

Where is the Task Force on renewable and truly sustainable energy?? For 40 years we've been told we must switch to renewables now!! The people are rising up to stop the mounting pressure of new fracked gas infrastructure pushing into residential areas with

already fragile aquifers and preserved lands. The only way to correct this corrupt Task Force is to call an immediate moratorium on all fracking infrastructure and create an actual unbiased Task Force with scientists and economists to construct a sustainable future. (39)

58. COMMENT:

The general question asked of PITF is how to enable the fossil fuel industry to build a pipeline infrastructure. What is not being asked is Do Pennsylvanians Need More Pipelines and is there really a Need For More Pipelines?

Do we need more pipelines? According to US Department of Energy (DOE) Secretary Ernest Moniz the answer is no – “High-volume transmission pipelines, which carry gas from wells to refineries and storage facilities, remain “underutilized” and still have room to spare”

New pipelines will essentially STORE the gas coming from gas well pads and only relieve the glut at the well heads but not in terms of supply. The bigger the pipeline means there is more room to store more gas.

A November article regarding the PennEast pipeline highlights the “big is better” mentality:

Q: Why is the pipeline 36 inches in diameter? Isn't that pretty big?

A: Because there will be a lot of gas: The pipeline's full capacity is 1.1 billion cubic feet per day, and that's what the people who are paying for it intend to use, Cox said.

There are two ways of making that happen, either with a smaller pipeline that uses more compressor stations or a with larger pipeline, he said. Cox pointed out that it is more efficient to move the gas through a larger pipeline, since it uses less energy than to keep compressing the gas.

Kornick said the initial plan was for a 24-inch pipeline with multiple compressor stations. Now there's only one, in Kidder Township, Carbon County, she said.

“The bottom line is, smaller pipe is wasteful,” Cox said. He gave the analogy of drinking soda with a coffee stirrer, which means you have to work harder than if you use a fast-food restaurant straw.

New pipelines will essentially STORE the gas coming from gas well pads and only relieve the glut at the well heads but not in terms of supply. The bigger the pipeline means there is more room to store more gas.

The only “need” for more pipelines is in the industry hype. With a supply glut and low demand there is no “shortage” which would justify more pipelines.

Per US Energy Information Agency (EIA) November report: Working natural gas inventories for the week ending October 30 reached 3,929 Bcf, which matched the previous record high set on November 2, 2012, according to EIA's Weekly Natural Gas Storage Report.

Looking ahead to March 2016, EIA projects inventories will end the winter at 1,862 Bcf, reflecting a slightly lower-than-average overall winter drawdown based on projections for warmer-than-normal temperatures.

Strong inventory builds, continuing production growth, and expectations for warm winter temperatures contributed to natural gas prices reaching three-year lows.

U.S. natural gas production could decline in 2016 for the first time in a decade, driven by low oil prices after 10 years of gangbusters growth from shale plays.

The U.S. Energy Information Administration says production in that fast-growing field will decline primarily because of depressed gas prices.

Drunk on the “natural gas” hype and the handing out of drilling permits like candy has created a market condition of over production – a glut. This glut has led to many in the industry to believe that more pipelines are the solution – yet the demand is not there.

Thus more pipelines will only be used for more storage.

Combined with the warmer winters of the past few years, demand is down and prices plummeted. Henry Hub spot prices fell below \$2/MMBtu on October 30 for the first time since April 2012. Conventional wisdom has stated to break-even on drilling a natural gas well the prices need to be in the \$6/MMBtu range.

The industry claims many “economic benefits” from building more pipelines, from jobs to revenues flowing into state and local coffers.

These so called jobs are temporary, short term and more often than not filled by out of state workers.

Using PennEast as an example: Their own economic analysis Section 3.4, Design and Construction Economic impact**- Page 11 stated.

“In some cases, large and/or specialized construction projects require the use of construction workers who live outside of the region. The workforce for the Project is likely to be comprised of personnel from across the country due to the specialized nature of pipeline construction. Although the geographic distribution of the construction workforce is not finalized at this time, it is necessary to account for the non-resident construction workers who spend a portion of their income outside of the region. For example, a construction worker from Texas who moves to Pennsylvania for six months of construction work will not spend his entire income in the area. It is likely the construction worker will spend a portion of that income in Texas. Therefore, the following economic impacts do not include a portion of the induced spending of the non-resident construction workers. It is estimated that 25 percent of the disposable income of the construction workforce will be spent outside of Pennsylvania and New Jersey.”

**PennEast website does not allow download of their report. To read the entire report use the link: <http://penneastpipeline.com/economic-impact-analysis/>

This contradicts The Report on the PennEast Pipeline Project Economic Impact Analysis for New Jersey and Pennsylvania, presented to the New Jersey Conservation Foundation by Ian Goodman & Brigid Rowan, November 4, 2015 shows a different picture.

This report concludes the PennEast version of job creation is overstated.

The Goodman Group, Ltd. (TGG) also finds that even if the PennEast Analysis’ employment impact estimates were realistic:

- the employment impacts from the design and construction of the Project are (a) tiny in the context of the New Jersey and Pennsylvania state economies (less than 0.1% of total New Jersey jobs); and (b) very short-term (mainly from actual construction and related spin-offs which occur over a one year period (mostly in 2017), but are concentrated into only six months); (Section 3.3.1 and Appendix A);
- the employment impacts from ongoing activities to operate and maintain the pipeline are infinitesimally small, especially in the context of the New Jersey economy (10 jobs or about 0.0002% of total state jobs). (Section 5.2)

Additionally, FERC has asked PennEast to clarify the disparities of their job creation claims:

FERC-PENNEAST 11-24-2015 20151124-3028(31042072):

“Solutions Inc. and Drexel University economic impact analysis referenced in PennEast’s application, which estimates that construction of the project would support a total of 12,160 jobs. The fact sheet on PennEast’s web site states that “slightly less than half (of these jobs) would be in industries other than construction” which implies that more than 6,000 jobs would be direct construction jobs. However, peak employment for the entire project is identified in table 5.3-3 as 2,660 jobs and would last for about 8 weeks with a smaller workforce identified for the rest of the construction schedule. Please explain this discrepancy.”

In applications and the talking points, the industry touts benefits to the Commonwealth of Pennsylvania and local municipalities.

However, the industry succeeding dodging taxes by defeating the severance tax and places a further financial burden on real people who pay real taxes. Furthermore as pipelines and their related infrastructure are considered “equipment”, they are exempt from taxes. Furthermore tax assessments and responsibility for paying those taxes on property easements remains with the property owner – NOT the pipeline corporation. Although there are various bills floating in the PA legislature to tax or place a fee on pipelines, like the severance tax, this too will be killed by the industry. Yes, if a severance tax or pipeline fee is seriously considered, the industry will threaten to “leave Pennsylvania”.

Where will they go? To another state that does have a severance tax, higher impact fees, and does tax pipelines? The majority of the Marcellus and Utica shales are in Pennsylvania, and to my knowledge, no technology exists which would allow the industry to pick up the shale and take it with them.

As far as the PITF report goes, by the time it lands on Governor Wolf’s desk, the teeth will have been pulled for any recommendations that would actually protect real people and hold the industry accountable

Attachment: [Pipeline Needs.pdf](#)

Attachment: [FERC-PENNEAST 11-24-2015 20151124-3028\(31042072\).pdf](#)

Attachment: [Goodman-PennEastEconomicReport.pdf](#)

Attachment: [Challenging times continue for oil and gas companies _ marcellus.pdf](#)

Attachment: [Short-Term Energy Outlook - U.S.pdf](#) (4)

59. COMMENT:

The issuance of Certificates of Public Convenience and Necessity for pipeline infrastructure is a travesty. The "need" for corporations to make enormous profits and pay their shareholders does not qualify as a national emergency. (40)

60. COMMENT:

The motto of every other state considering the handling of fracking right now is "Let's NOT become Pennsylvania." Let us consider why that is. Let's consider why New York has already BANNED it. The example of Pennsylvania has been a major igniting factor. We, the citizens of Pennsylvania, are now awake to the way that our officials have allowed OUR lands and OUR resources to be raped and pillaged by outsiders by funding their campaigns.

I'm ashamed of this state's handling of the fracking industry. The fact that this pipeline is

being considered for the profits of a few at the expense of our children and our grandchildren's future is a testament to the corruption of those that we entrusted with "representing" our best interests as a people.

I believe that if those in office would step back and consider whose interest this pipeline is in, they would quickly realize that it is overwhelmingly not for those whose votes got them into office, but for those with more money than the rest of us. And that being the case, then this is no longer a republic, no longer a democracy, but an oligarchy.

We say NO to this pipeline, loud and clear! Not a single tree should be cut for this project that will gain NO value to our state, except for the further padding of a few people's pockets that are already stuffed. Not a single penny of our tax dollars should go to pay someone to dig up more of our precious soil to funnel poison through our state.

Where SHOULD our representative's time and our tax dollars be going? Education; the reparations of the mess that we have made of our environment; figuring out how to alleviate the suffering that poverty in areas that have been raped and abandoned by coal mining, the steel industry, and now the gas boom--these are the causes that we need championed by our representatives--NOT an easier way for the gas industry (most of them not even from our state) to continue milking OUR state's resources and environment at OUR expense. (41)

61. COMMENT:

I am writing in regards to the alternate route proposed for our property. A few years ago when my family was first approached about installation of the gas pipeline we said there was no problem with using our property but we were not comfortable with the route the pipeline would be taking, right in front of our house. We were told at that time that the company just wanted to get an idea of how many homeowners would agree to let the company use their property and that someone would contact us and we could negotiate an alternate route (behind our house and along the right side of our property). A few years have passed and I was surprised when I was recently notified the project would begin within the next month or so and that the pipeline would be going in front of our property, end of story. I am still fine with having the pipeline on our property but don't think it's fair that we don't have the opportunity to propose an alternate route.

Our family has several concerns with the current proposal for the pipeline to run in front of our house. It would have to be run through our septic system and according to Pennsylvania law for our particular area we would have to install a sand mound septic system. Changing from our current gravity system to the new septic system would cost in excess of \$25,000 along with maintenance and upkeep fees. It and the associated electric pumps would need to be placed right on top of the gas pipeline which would likely result in the pipeline being damaged. Secondly, we would have to move our 13 head of cattle along with our 7 horses to an outside boarding facility at up to \$250/head. This is the only pasture on our land large enough to have access to food, water, and shelter that can be subdivided to house all of our animals. We have performance quarter horses, foals being weaned, and stallions, none of which can be pastured together. Having the pipeline installed behind our house would not affect the animals' access to these necessities.

Thirdly, our daughter is a professional horse trainer. She has been saving up her money to install a barn and indoor arena on our property where the right of way access would be. She has many clients but in the Pennsylvania weather requires an indoor arena to expand

her business during the icy months. Finally, the second person that came out to talk to us about the pipeline walked with me and found no problem to run the pipeline above the house and along the far right side of our property instead of in front of our house. Also the current pipeline route would be going right through wet lands that has a natural spring that runs year round and never freezes(which waters our livestock) and feeds our neighbors pond. If this route is taken the water will then follow your pipeline and change the natural environment.

I would like to reiterate that there is no problem with using our land for the pipeline. We would just like the opportunity to have it installed in this alternate route to prevent it from being damaged from the sand mound septic system we will have to install and so as not to extensively (financially and emotionally) cause upheaval in our lives.

Thank you for your consideration (42)

62. COMMENT:

Please see our comments in the attached PDF file.

The additional attached files document the opposition of the Pennsylvania State Association of Township Supervisors (PSATS) and the Board of Supervisors of Thornbury Township, Delaware county, to Sunoco Pipeline's petitions before the Pennsylvania Public Utility Commission for statewide exemption from municipal zoning requirements.

Attachment: [Public comment PITF draft report 2015-12-03.pdf](#)

Attachment: [PSATS letter 1.pdf](#)

Attachment: [PSATS letter 2.pdf](#)

Attachment: [Thornbury BOS PUC Letter 7-07-2014.pdf](#) (43)

63. COMMENT:

Dear Governor Wolf & Task Force,

Unfortunately I am in the pathway of the Atlantic Sunrise pipeline project. My farm is going to be dissected as a result of the pipeline, leaving me no options for future developments. My dream was to give each of my children a section of land to build on, but the pipeline's placement destroys any envisioned plans. In addition, my horses will have to be moved to another area, fence will be torn down, pastures will be destroyed and hay fields will be lost. Williams has offered me pennies for my farm and future losses. They say that they work with landowners and that is a lie. They intimidate, bully, and feel that their project is more valuable than my farm and property. I expressed all of my concerns to the land agents and project supervisor, Matt Holloway, only to be told that this pipeline is going through and can't be moved. When I gave Williams numbers for my loss, I was told no chance. They will ruin everything I have worked for and have planned for my children in the future.

Not only will my entire 32 acre farm be dissected, but my residential property of 4 acres will be disrupted as well. Dividing my two properties is a fresh, exceptionally clean trout stream. Williams plans to open ditch this stream and run generators to control the water flow. How can this be allowed? Their equipment will leak fluids contaminating the water and soil. This stream flows very quickly and when we have rainfall of three inches or more, it easily exceeds its banks. When I voiced my concerns to Williams about the possibility of my house being flooded during their construction period, I as told that

wouldn't happen. If it did, they would buy my house or build me another one. This is my home! The pipeline is literally in my backyard. The tall timbers that I have behind my house will be gone. I lose my privacy from neighbors, my shade, the habitat for wildlife, and protection from the wind. With the removal of those trees, I will have to have other trees taken away near my house to avoid blow downs. I also have enormous native rhododendrons that will be destroyed. Again, and even more insulting, Williams offer was pennies. I want to be very clear that no amount of money is worth giving up my land and my property rights. It's not about the money, no amount would be enough. It's about losing my rights as a landowner to make an already filthy rich company even richer. The proximity of the pipeline is within 200 feet from my house. That is well within the hazard area and not a risk my children and I should have to take. Again, this being the biggest obstacle I have, I voiced my concerns to Williams about moving it away from my house. Their response was "it's too late in the game to move it". How is that working with a land owner?

Recently, Williams negotiated with my neighbor the buy out for her property. Her residence is in terrible shape and sits on 0.7 of an acre. According to Schuylkill County Parcel Locator and the local newspaper, she was paid \$125,000 for her delapidated house with less than an acre. I have 36 acres and a beautiful house that is being impacted by this project.

I do not want this pipeline on my properties and I am hoping someone can help to stop it. I have lost countless hours of sleep and time during the day trying to fight for my property, my safety, and for my children's futures. Who would want to live next to a 42-inch high pressurized gas pipeline??? Please help. (44)

64. COMMENT:

At this hour more than two hundred leaders from around the world are gathered in Europe to discuss the global impacts of climate change. The United States, and especially Pennsylvania, have fallen behind other nations in addressing this issue. By aiding and abetting the frenzy of pipeline sprawl that is spreading across Pennsylvania, PITF is contributing to climate change in a big way. Scientists are in agreement that deforestation is among the top drivers of climate change worldwide. Pipeline infrastructure contributes to climate change by removing thousands of acres of healthy mature trees that help to absorb pollutants and regulate local weather systems. Planting new trees along pipeline ROWs, as some of your recommendations suggest, will do nothing to mitigate the climate impacts of deforestation. Assuming those new plantings can survive the inhospitable conditions of pipeline ROWs---heavily compacted soil, intense solar radiation due to the loss of forest canopy, thermal pollution caused by warming of the soil and accelerated snow melt around pipeline ROWs, changes to the aridity and pH levels of the soil, to name a few---the new plantings will take decades or centuries to reach the level of maturity where they can begin to counteract the effects of global warming. Unless the task force gives serious consideration to the climate change impacts of pipeline infrastructure, PITF will be nothing more than an ineffectual dinosaur. (37)

65. COMMENT:

After intensive research of available information about pipelines, compressor stations, regulatory shortcomings, explosions, pollution and property damage, it is obvious that the

risks to residents within a wide area adjacent to this industrial endeavor are undeniable. Additional study of "forward looking statements" from the Pipeline Companies and prospective shippers reserving capacity with them, it is clear that the unprecedented amounts of gas that would be transported is grossly above the need for domestic use. These Stockholder statements promise increased profits from the Export of LNG. This scheme is a patently for profit commercial enterprise and has little or no American benefit. Actually, if even a few of these mega export lines are permitted and put in service, the prices will rise proportionately both here and abroad. This Task Force must recognize the aggregated impacts and damage that residents of the Marcellus will face for years to come thru increased pollution, waste disposal issues, explosion and fire events, property damage and devaluation, and exacerbated respiratory illness and cancers. This will be the legacy of the Task Force's acquiescence to the powerful Petro-lobby instead of fulfilling the duty to protect citizens rights, health, property and peace of mind. (45)

66. COMMENT:

I am opposed to more pipelines being built anywhere in PA, but since I live in Lancaster County, I have a right to speak out about, and am deeply opposed to, having a new pipeline built through our county for many reasons:

* **NO FINANCIAL GAIN FOR COUNTY RESIDENTS:** First and foremost, THE PIPELINE WOULD NOT BE OF ANY ECONOMIC VALUE TO LANCASTER COUNTY BECAUSE THE GAS PIPED THROUGH HERE IS INTENDED FOR INTERNATIONAL MARKETS - SO, OF NO BENEFIT TO BUSINESSES OR RESIDENTS HERE. On the contrary, it would be economically and personally costly to us in the many ways listed below.

* **NO (OR FEW) LOCAL JOB CREATION:** Despite claims that the pipeline would bring in jobs to Lancaster Countians, it is already clear from current Williams Partners practice that workers are brought in from out-of-state to fill those jobs.

* **DESTRUCTION OF OUR AGRICULTURAL HERITAGE:** We are an agricultural breadbasket. Produce is both a critical and essential for our and others' livelihoods, and of huge economic value to the county and farmers. It would be short-sighted and, in my opinion, immoral to endanger this heritage.

* **DESTRUCTION OF TOURIST APPEAL:** Lancaster County is a tourist attraction, another huge source of income and economic value. By no means should we detract from the beauty of the county by running a pipeline through it, disturbing the bucolic, pastoral attraction for tourists.

* **SAFETY RISKS/HAZARDOUS CONDITIONS TO RESIDENTS:** Pipelines are being proposed to run through residential areas. Pressure in the pipes, faulty pipe construction WOULD INEVITABLY lead to accidents - explosions resulting in injury and death. It is impossible to avoid accidents - as we have already seen in other PA counties with pipelines. The size of the pipes being proposed by Williams Partners in Lancaster County (hence more pressure) is even larger than elsewhere.

* **DESTRUCTION OF PUBLIC RECREATIONAL AREAS:** The pipeline would cross park, wild and recreational areas that should be protected and preserved for the residents of the county.

* **DESTRUCTION OF PLANT & ANIMAL HABITATS:** Having a pipeline run through Lancaster County would destroy wildlife and plant habitats by clear-cutting &

deforesting wide swaths of land, and cutting pathways used by animals for grazing/hunting/migration.

* **DESTRUCTION OF SOIL:** A pipeline would cause soil compaction and erosion.

* **POISONING OF WATER:** Sediment from the pipeline would clog waterways, and carry downstream to the Chesapeake Bay, polluting drinking water, streams and important water ecosystems.

* **POLLUTION OF AIR:** Gas leaks **WOULD** happen. Gas leakage would add to air pollution, and to retention of heat by the earth's atmosphere, worsening the climate change that is already at dangerous if not fatal levels.

* **DETRIMENT TO PRIVATE HOME-OWNERS:** Having a pipeline run across residential areas would obviously be totally detrimental to the property value of hundreds of home-owners, if not businesses. This is not fair to them. Their rights as property owners should be protected. Especially when the product running through their land **WOULD IN NO WAY BENEFIT THEM, AS THE GAS WOULD BE CARRIED TO PORTS AND SHIPPED TO OVERSEAS MARKETS.**

* **DESTRUCTION OF HISTORIC SITES:** The proposed pipeline in Lancaster County has already led to the destruction of historic sites, also sacred to Native Americans, and could endanger other sites of historic importance.

* **INNOVATION FOR RENEWABLE ENERGY SOURCES:** Instead of enabling the zero-sum scenario of pipeline-building, Pennsylvania should be investing in green energy options, looking toward the inevitable future when diminishing fossil fuels will run out; not to mention addressing the critical issue of climate change which is endangering the entire planet.

When a serious cost-benefit analysis is done, it is obvious that the proposed pipeline would not benefit Lancaster County, nor the vast majority of stakeholders. To the contrary, it would be to the great detriment to the County and majority of residents. The only possible benefit to Pennsylvanians or Lancaster residents, as I see it, would come in the form of kick-backs or pay-offs by the gas companies to decision-makers and those in positions of power. Please reject this madness. (46)

67. COMMENT:

The Natural Gas Industry successfully defeated the severance tax, and as a result the PA Legislature is debating increasing the sales tax, which would include jettisoning a few tax exemptions, which do not include the exemptions currently enjoyed by the fossil fuel industry.

Pipelines and the related infrastructure are exempt from taxation, nor are they subjected to an impact fee. This places the financial burden on real people, who do pay property taxes, sales taxes, school taxes and other taxes.

Since coming to Pennsylvania, the Natural Gas Industry has widely touted itself as a "Good Neighbor". Well, good neighbors pay their taxes and not dump the financial burdens on their neighbors.

Two bills were introduced in the Pennsylvania Senate in June 2015.

Senate Bill 905 (SB905) calls for amending Title 53 of the Pennsylvania Consolidated Statutes to allow local governments and school districts to impose a real estate tax on natural gas and hazardous liquid pipelines.

Senate Bill 557 (SB557), legislation that establishes a pipeline impact fee in Pennsylvania calling for the creation an impact fee that is calculated based on the acreage of linear feet plus right-of way width of a pipeline using the county average land value in an affected area.

Both of these bills are now sitting in respective committees.

Given the Natural Gas Industry's opposition to a severance tax, the likelihood of SB905 and/or SB557 ever seeing the light of day is zero.

Thus the economic benefit to local communities, counties and the Commonwealth of Pennsylvania is zero, and the financial burden remains on the shoulders of Pennsylvanian taxpayers.

One of the reasons given to crush the severance tax is the Natural Gas Industry is if taxed the Natural Gas Industry would pack up and leave Pennsylvania. Not asked is where will the Natural Gas Industry go? To another state where impact fees, severance taxes, extraction taxes are higher? To another state where those shale fields are less productive and in severe decline?

The Natural Gas Industry throws around big job numbers. The bigger the better. As it has been shown time and time again, these big job numbers are grossly exaggerated and include such occupations as a food truck driver selling a taco to a pipeline worker.

As stated in numerous reports, pipeline construction jobs are temporary and stretch for many miles. Construction may be anywhere from a couple of months to several months depending on the length of pipelines. Reports also points out many of these jobs are "specialty" jobs which would mean bringing in Out-of-State workers. Out of State workers send their money home, spending 25% or less on the average in the state where the pipeline is being built for the few construction months.

The Natural Gas Industry does not break out how many workers will be actual Pennsylvanian residents working on the pipeline VS how many are Out-of State.

The Natural Gas Industry wild job creation numbers also include the creation of "ancillary jobs" during construction of a pipeline. Is there any proof that a local restaurant or store has created a new job position due to pipeline construction? Has anyone even asked a local restaurant or store owner if they will create a new position because a pipeline is coming through their community?

What about permanent jobs? Using the 875 mile Keystone Pipeline as an example, the actual numbers are 35 permanent jobs. Contrast this with the 108 mile PennEast Pipeline claims of 90 permanent jobs. Something is drastically wrong with this picture.

Above ground facilities such as compressor stations, metering stations, and regulator stations, among others, are "remotely monitored". With the exception of periodic maintenance or responding to an emergency no one physically works at these facilities. Given the "specialty" needs of jobs connected to such facilities, it is likely these jobs will be filled by Out-of-State workers.

No tax revenue from pipelines, no impact fee on pipelines and no significant permanent pipeline job creation means less than 0.001% economic benefit to Pennsylvania.

Whatever economic benefits are being touted during PITF meetings and in the draft report are truly pipedreams.

Attachment: [2015-Pipelines not taxed.pdf](#)

Attachment: [2015-revenue-jobs.pdf](#)

Attachment: [2015-KEYSTONE comparison.pdf](#)

Attachment: [2015-SB 557.pdf](#)

Attachment: [2015-SB 905.pdf](#) (4)

68. COMMENT:

why were the recommendations of this task force submitted before the public comment period ? its bad enough that the panel is one sided with oil and gas officials and others with ties or former ties to oil and gas . where are the land owners and citizens that these pipelines affect these are the people that are being harassed bullied and threatened to give up there land and possibly there lives for these giants like Sunoco. they do not want to here our concerns nor do they care about the miles of permanent destruction and pollution these pipelines will create all they care about is profits. there is no real benefit to Pa from the NGL it is being exported to over seas markets at huge profits at the expence of the citizens of Pa there have been 18 incidents in Pa with Sunoco pipelines resulting in over 6 million dollars in damages not counting all the enviornmental damage that's occurred we do not need that kind of risk Pa needs to focus on renewable energy add keep the fossil fuels in the ground we have ample supplys of natural gas so stop the fracking and pipeline expansion and dismantle the task force and put our tax dollars in renewable energy do the right thing Gov Wolf (19)

69. COMMENT:

Dear PITF, We were saddened that there were no home/land owners, impacted by these pipelines, on the committee. How is this possible?? We are losing our peace of mind ,privacy, property with certainly next- to- no compensation . No environmental study has been done on our large "backyard". We are part of the Chesapeake Bay watershed. Our wetland nearby was compromised by the last pipeline . The community was never notified. After months of attempted clean up it still isn't. Why have all these pipeline projects been shrouded in secrecy? Why have we been ignored? No one has responded - we contacted all our politicians, the pipeline company etc no one has returned a response. Pamatters.gov has never responded. We have sent a lengthy letter thru the US mail to the PITF. ALL the members of the PITF should call the gas companies today and ask to get a pipeline in their backyard. I'll bet you all want one. This whole process has been totally un-American. We have not been involved in any decisions. We are the ones losing everything. A quote from the one and only pipeline meeting "WE WILL TAKE YOUR LAND WE DONT HAVE TO PAY YOU ANYTHING AND WE WILL FIGHT ABOUT IT LATER!" Held May 10, 2014 at Lake Lehman high school. We haven't had a good day since. (47)

70. COMMENT:

PLEASE HELP & PROTECT THE LANDOWNERS BY REQUIRING A PIPELINE RE-ROUTE SO THAT ALL LANDOWNERS RESIDENCES/HOMES ARE OUT OF THE 1100 FT BLAST/HAZARD AREA, IRREGARDLESS OF WHETHER THE GAS PIPELINE ROW WAS SIGNED OR NOT.

PLEASE REQUIRE A SET BACK REQUIREMENT THAT ANY RESIDENCE/HOME IS NOT WITHIN THE 1100' BLAST/HAZARD AREA OF THIS 42" HIGH PRESSURE GAS PIPELINE OR ANY SIZE GAS PIPELINE.

THE LANDOWNERS WORKED HARD TO ATTAIN THE "AMERICAN DREAM".

NOT ONLY WILL THE Williams Atlantic Sunrise Gas Pipeline, Docket No. CP15-138, TAKE OUR LAND THEY WILL ALSO TAKE AWAY OUR RIGHT TO BE SAFE IN OUR OWN HOME. YOUR HOME IS SUPPOSE TO BE YOUR SAFE HAVEN. THERE ARE 2 THINGS I LOOK FORWARD TO, GOING HOME & HAVING MY GRANDCHILDREN VISIT ME. IF THE GAS PIPELINE ISN'T RE-ROUTED SO OUR HOME IS OUT OF THE 1100' BLAST/HAZARD AREA, Williams Atlantic Sunrise Gas Pipeline, Docket No. CP15-138, HAS TAKEN EVERYTHING AWAY FROM US THAT WE HOLD DEAR. IN ADDITION THEY HAVE CAUSED US & MANY OTHER LANDOWNERS SEVERE ANXIETY, DEPRESSION, FEAR, HELPLESSNESS TO PROTECT OUR FAMILY, ETC. THE LANDOWNERS COURTEOUSLY REQUEST YOUR ASSISTANCE. NO ONE WILL HELP OR PROTECT US. NUMEROUS LETTERS WERE SENT TO WILLIAMS CO, SENATORS OFFICE, FERC, ETC, TO NO AVAIL. I BEG YOU, GOVERNOR WOLF, GOVERNOR'S PIPELINE INFRASTRUCTURE TASK FORCE, FERC, & WILLIAMS CO TO DO THE RIGHT THING. PLEASE PROTECT THE LANDOWNERS BY ADOPTING A 1100' SETBACK REQUIREMENT & REQUIRING A PIPELINE RE-ROUTE SO ALL HOMES/RESIDENCES ARE OUT OF THE 1100' BLAST/HAZARD AREA. THANKS FOR YOUR ASSISTANCE. WE SINCERELY APPRECIATE IT. (11)

71. COMMENT:

Attachment: [Clearly Ahead Development Testimony.docx](#) (48)

72. COMMENT:

Attachment: [15 Final - Mon Valley Progress Council Testimony to DEP Pipeline Taskforce.docx](#) (49)

73. COMMENT:

Attachment: [Pipeline Task Force 120415.pdf](#) (50)

74. COMMENT:

Attachment: [From Pennsylvania Homeowners Association.PDF](#) (51)

75. COMMENT:

Pipeline operators pay no property tax in Pennsylvania, even though they occupy thousands of acres of public and private land. Meanwhile, landowners forced to accomodate pipelines running through their properties continue to pay the same property tax even while their land has been devalued by the presence of a pipeline. Why should private citizens have to subsidize a billion-dollar industry? (52)

76. COMMENT:

Attachment: [Pipeline Task Force - Public Comments - Senator John Rafferty.pdf](#) (53)

77. COMMENT:

Attachment: [York County PITF Report Comments.pdf](#) (54)

78. COMMENT:

Attachment: [Chester County PITF Input 12-14-15 \(final\).pdf](#) (55)

79. COMMENT:

Former Governor Tom Corbett's Marcellus Shale Advisory Commission report was released in July 2011. Among the recommendations was one for a health study. Act 13, signed into law in February 2012, originally contained language for a health study, this was removed from the final bill.

The reason given for removal of the health study was such a study would be "dangerous". Drew Crompton, one of the main authors of the bill (Act13) says funding such a study would be "dangerous."

Crompton serves as Senate President Pro Tem Joe Scarnati's chief of staff, and helped draft the law. He says funding a baseline study in heavily drilled areas could cause unnecessary panic among the residents.

"Imagine living near a well, and everything's fine, and you get a letter in the mail asking to take part in medical tests," says Crompton. "And then those people are like: 'Why do I have to get tests? What could be wrong with me?'"

Act 13 contains what has become known as a "medical gag" when it comes to chemicals used in drilling. The gag required medical professionals to sign a confidentially agreement before a fossil fuel corporation will release a list of chemicals.

Arguments could be made over whether or not the chemicals are "trade secrets" and require special protections via a confidentiality agreement. While such language appears in Act 13, reality has shown no such confidentially agreement exists, thus making it impossible for a medical professional to sign the confidentially agreement in order to obtain information necessary to treat patients.

To make things more difficult, it was revealed the Pennsylvania Department of Health routinely has ignored natural gas related health concerns.

The PITF draft report contains no recommendations for a health study and barely mentions anything about health impacts. This is a glaring omission.

Studies have proved the drilling and extraction of natural gas from wells and its transportation in pipelines, results in the leakage of methane, a far more potent global warming gas than CO2. Preliminary studies and field measurements show that these so-called "fugitive" methane emissions range from 1 to 9 percent of total life cycle emissions.

Pennsylvania has become a poster child for the negative impact of the natural gas industrialization of communities. Professionals, scientists, and government officials from all over the country and world have come to Pennsylvania to see how NOT to extract and transport fossil fuels.

There is also evidence as to whether or not MORE pipelines are really needed to meet current and projected domestic energy needs.

Two recent developments in particular – a report from the Massachusetts Attorney General's Office and a rate case at the Federal Energy Regulatory Commission (FERC) – show that the economics for new natural gas pipeline capacity to supply power plants are not as compelling or sustainable as the conventional wisdom would have you believe.

Together, the AG report and the FERC case provide a strong counterpoint to those now rushing to create excessive new pipeline capacity. They suggest that many pipelines will lose customers and money as lower cost alternatives outcompete them, and long before investor expectations are met and their financing is paid off. The question is whether policymakers and pipeline developers will slow down and consider the dangers, or continue to plow ahead.

US DOE Secretary Moniz stated in April 2015: High-volume transmission pipelines, which carry gas from wells to refineries and storage facilities, remain “underutilized” and still have room to spare, but smaller distribution lines – which carry gas to customers – are aging and at capacity, harming the environment and putting consumers at risk of explosions.

This can be shown using the UGI pipeline explosion in Allentown, PA – February 2011: PUC Bureau of Investigation & Enforcement filed a formal complaint against UGI Utilities alleging violations of the Pennsylvania Code, Public Utility Code, and the Code of Federal Regulations (Docket No. C-2012-2225031, 2012).

PUC found UGI in violation of 179 counts related to the explosion (Docket No. C-2012-2225031, 2012). In counts 1-156, the PUC alleged that UGI failed to "maintain an odorant sampling program that adequately demonstrates concentrations of odorant throughout its distribution system" (Docket No. C-2012-2225031, 2012).

UGI conducts weekly gas sniff tests where the gas enters the distribution, but fails to test throughout its entire distribution system (Docket No. C-2012-2225031, 2012).

In counts 157-175, the PUC alleged that UGI failed to maintain the integrity of the cast iron mains in the area of the explosion (Docket No. C-2012-2225031, 2012).

1992: the NTSB recommended replacement of the cracked gas main following a fatal explosion half a block away (Docket No. C-2012-2225031, 2012).

In count 176, the PUC alleged that UGI did not follow their emergency procedures which states that "odorant tests shall be made in the immediate affected area and at the closest delivery point" (Docket No. C-2012-2225031, 2012).

Attachment: [01 Compendium Health Studies.pdf](#)

Attachment: [02 Need for More Pipelines.pdf](#)

Attachment: [03 MSAC Final Report.pdf](#)

Attachment: [04 Health.pdf](#)

Attachment: [05 Environmental Impacts of Natural Gas.pdf \(4\)](#)

80. COMMENT:

To All Interested Parties

The following are my reasons for not wanting additional Sunoco pipelines:

About 20 years ago, I was approached by Right-of-Way agent Brian Quinlan. We discussed the clearing of 13 trees in my yard. Two weeks later, I got a call from Brenna Hunter telling me the company was going to cut 54 trees from my yard which would have cleared out my yard. I told her we had already agreed on 13 trees and she accused me of lying! After about 12 years, we got a new amended agreement stating the Sunoco Right-of-Way would be 40 feet. In late 2013, I received a notice that the company wanted to survey for a new line. I refused permission and they dropped the issue until May 2014 when I was given a 3 day notice of a hearing.

I had to get a new lawyer and he got me a 2 week extension but once we were in court, the judge limited my attorney to a only saying a couple of things and said not to say anymore because his "mind was made up". The judge gave permission for Sunoco to survey and do a repair anywhere on my property they wanted to. They walked through my fields and destroyed my hay and wheat and ran over the hay that I had cut and laying ready to be baled which packed my hay into the mud. (They laughed about the ruined condition of my hay.)

Sunoco set up a drilling rig over 50 feet which is beyond their entitled 40' of Right-of-Way. When I complained about it, they said if I didn't let them, I would go to jail! They pumped drilling mud into a stream, so I called DEP Fish Commission but they allowed it. Sunoco workers were behind my building one evening after 7 p.m. walking around and I told them to get off my property because they are required to give me a 24 hour notice before being on my property unless it is an emergency. The next morning, I was again threatened with jail. Mr. Jeff Shields says they don't do this. B/S! I went through it! There were a bunch of stakes in the field that I farm that were in the way of my equipment. I told Bart Mitchells about it and he said to take them out. I told him I didn't put them in there so he said someone would be out to remove them but they did not! I broke the hay bine on a stake and they have not yet paid for the repair which happened in June 2014. I provided a repair bill for damages (Bart Mitchells) from surveying and ruining my wheat crop, hay, and future crops, but they have not repaired the damages or paid the agreed on price. Sunoco has also threatened my neighbor with jail for not letting them have permission to cross his yard for repairs. They left a diesel truck running all day across the road from my property with nobody in the truck.

I have never refused Sunoco permission to use their stated 40' Right-of-Way!

I've have now been served with Eminent Domain papers. Sunoco has never sent anyone out to talk to me to explain their intentions with the new lines or to make any kind of offer to me.

A new pipeline would go through a building and cross a building lot that I was planning to build my retirement home on. I have to put my plans on hold. I am 75 years old and don't need this harassment. A damage zone for this pipeline should there be a leak or fire would destroy everything I own. I could not live that close to this pipeline.

The judge had Sunoco supply a \$5,000 bond for surveying damages and \$25,000 bond for field repair. I have gotten none. I have been lied to many times. When repairs were being done, workers told me they were pumping production. I was at the hole and a 50' piece of pipe was missing! If they can pump across that, they can go all the way across my property. (31)

81. COMMENT:

The PITF Draft Report contains good suggestions for improving pipelines, but a sentence found on p. 139 of the draft report sums up my conclusion: "Concern that no time of year may be suitable for pipeline construction."

Almost all of the recommendations would require government action. Inspectors would be needed, standards would have to be enforced, and regulations adopted. I have personal experience with the PennEast/UGI pipeline slated to cross our farm, and I know that pipeline companies will not act responsibly unless required to do so.

Given the current state of the Pennsylvania legislature and the flow of campaign contributions from the oil and gas industry, I hold out little hope that the recommendations will be adopted.

I am attaching a more detailed critique of the PITF report along with suggestions for improvement.

Attachment: Pipeline Taskforce Comment by Roy.docx (56)

82. COMMENT:

I am a 9th generation Pennsylvanian and have worked in the construction industry for my entire career.

1. ACRONYMS: Please add SWPPP: Stormwater Pollution Protection Plan to the list. The SWPPP is a covenant between the Commonwealth and the Environment. Properly authored and executed it is easily managed with today's technology and will reduce staff and time.

2. In the spirit of true collaboration, please try and refrain from the use of shall, will, require and other non-forwarding language.

3. Please run a Technical Guidance session on the reading and understanding of the Pennsylvania Bulletin. It is a valuable resource and may need some streamlining.

Environmental Protection Work Group Recommendation #32 Page 160

Shared Right of Way with Transmission Lines: The Commonwealth needs to explore every option regarding the use of existing right of ways to collocate utilities. I thought Ms. Brown's remarks on collocation sounded scripted and not at all forwarding. The Task Force would be well served to look forward 20 years and envision a Commonwealth that uses the right of ways for solar and wind power. All utilities underground; smaller, gas powered, state of the art power generation plants situated incrementally along the right of ways creating a spine of distribution. Aerial lines are archaic, dangerous and cause more disruption, death and destruction than is calculable. We need forward looking solutions, not political rhetoric: The World Spoke last week.

Environmental Protection Work Group Recommendation #35 Page 165

Regarding BMP's and the use of borrow materials and soil amendments I would suggest the use of existing stored material and stockpiles generated by Corps of Engineers, BAMR, Mine Reclamation, DEP and other entities. We should deplete all available resources before we mine or manufacture others.

Environmental Protection Work Group Recommendation #58 Page 189

As a general comment regarding the perceived lack of funding discussions: I would suggest the Task Force look at the highly successful, award winning Public Private Partnership that PennDOT instituted during the last administration. It has saved the Commonwealth money, created an open market for jobs, and has allowed the Department to work on multiple fronts with less staff and eliminated funding issues.

Conclusion; Our Commonwealth is a right to work state and we need to be sensitive to that when we authorize work. Our regulatory process is way too top heavy and ready to collapse upon itself. I would ask the Task Force again; go to a future state, see what it looks like and lead the Commonwealth to that end. (57)

83. COMMENT:

Attachment: 12-15-15.TaskforceCommentsCCWC.doc (58)

84. COMMENT:

To Whom It May Concern:

I want to commend the Governor's Pipeline Infrastructure Task Force for the work it is doing to ensure our commonwealth realizes its full energy potential and the benefits that come with it.

As a resident of Delaware County, and as the president of the Delaware County Chamber of Commerce, I can tell you firsthand how important these projects are to our continued revival. With development of the state's shale gas reserves, transporting products like natural gas and natural gas liquids is increasingly important, especially for southeastern Pennsylvania, where the Marcus Hook Industrial Complex is fueling a regional revitalization. New pipelines like the \$3 billion Mariner East project, which would support Marcus Hook, will bring tremendous direct and indirect benefits to consumers and businesses across the state.

In fact, the growth we are seeing today already is attracting new businesses with new products. Local towns can afford to invest in new parks and other environmental projects with the increase in tax revenues. And the potential is even greater. Pennsylvania's energy renaissance gives us a huge competitive edge --- and it is an opportunity we cannot afford to miss.

Pennsylvania has already gained immensely from the development of our homegrown energy resources, as I just noted. But we need to invest in pipeline infrastructure in order to both sustain that growth and maximize its benefit to Pennsylvania consumers and businesses. If the burden on these projects is too immense, Pennsylvania will risk losing out on new pipeline infrastructure to other regions --- as investments are made to send our natural gas resources out of state and down to the Gulf Coast.

With the Governor's Pipeline Infrastructure Task Force, it is encouraging to see a renewed focus on helping our state rise to the occasion to ensure our state does not risk losing out on the direct and indirect benefits of these projects. That's why the Department of Environmental Protection's (DEP) work on a final plan is so important. From a timely regulatory and permitting process, to support from leaders in the state and at the community level, to infrastructure investment, we must take responsible action to maximize the benefits of natural gas development here.

If we are going to realize our full potential, then we must encourage investments in projects that will upgrade and modernize critical energy infrastructure. Our region has an exceptional opportunity with new pipeline projects to invest in our long-term future. An economic analysis prepared by IHS Global, Inc., and released in late October highlights the economic opportunities from future reuse of the Marcus Hook Industrial Complex. But, that report stressed the importance of enhanced infrastructure to bring those opportunities to fruition. The report updates a 2012 IHS study that examined the reuse potential of the once-idled 780-acre complex, which has become the symbol for industrial economic revitalization made possible by Pennsylvania's emergence as an energy leader. Pipelines are incredibly complex. As a result, the regulatory process for each pipeline should be stringent. It's essential, however, that we do not oversimplify the regulatory process, applying one standard of rule over all pipelines. The process currently in place has grown and developed with new pipeline technology, allowing Pennsylvania to safely build and operate pipelines for more than 80 years. Moreover, according to the U.S.

Department of Transportation, pipelines outperform all other types of infrastructure in safety, efficiency, reliability, environmental stewardship, and cost. Pipelines offer communities across the state the infrastructure solution to maximize the economic opportunities in energy with the least amount of burden.

I want to thank DEP and the Governor's Pipeline Infrastructure Task Force for its time and attention to these infrastructure development issues. Let's make the right decisions today to sustain this energy growth for the proud residents of Pennsylvania. (59)

85. COMMENT:

Attachment: [CAC PITF Comment 2015.pdf](#) (60)

86. COMMENT:

Any effort to expand infrastructure of NG ,facilities and pipelines in Pennsylvania is outright irresponsible since the state has not protected it's citizens from the facilities already a burden to those living in drilling areas and the regions beyond these areas .Updates in regulations by the EQB has not addressed many of the hazards that are still allowed by NG companies to pollute our air continuously and when expansion of drilling will occur .Just some of the issues which need to be addressed immediately by the state are the allowing of compressor station blow downs (venting) on a regular and continuous basis (without any violations) and the contamination of local air around drilling operations caused by silica dust a known cause of respiratory issues .These are just two of the many issues that need addressing .Why are the residents of PA not considered more important than profits from natural gas extraction in Pennsylvania .The state of New York has taken on protecting it's residents from the hazards related to natural gas development . Why do we seem to "Pass the Buck " in the state of Pennsylvania. (61)

87. COMMENT:

Attachment: [DEP Pipeline Infrastructure Task Force - FirstEnergy Comments.pdf](#) (62)

88. COMMENT:

Pipelines have covered this state and others for many years. They remain the safest way to transport our abundant natural gas, oil and many other important things to other markets needing to share in our wealth of natural resources here in PA. We need to continue the safe, well-regulated practices currently in place in order to keep the state of PA moving along in it's development of the Marcellus shale. Many jobs in this state depend on getting this resource to markets that need it, notably the East Coast. My wife and I are both employed at different levels and different companies within the energy industry. There are many more like us here in the state as well. We've already seen business be hurt by the talk of a punitive severance tax...restricting pipeline development would be a death knell for us. (63)

89. COMMENT:

Dear Governor Wolf and the Pipeline Infrastructure Task Force,
Thank you for your dedicated efforts and energy toward exploring responsible pipeline infrastructure build-out in Pennsylvania. The Task Force members deserve to be

recognized for the hard work put forth to date. In addition to the Task Force members' individual job responsibilities, each member embraced this additional responsibility and have worked hard toward meeting the goal of exploring the best possible recommendations for this massive 37,000 mile build-out of pipelines in Pennsylvania. LW Survey (LWS) is a local business based in Lancaster County. My company provides pipeline survey services. We are directly affected by all changes in our industry. Currently, the softened market for oil & gas has been a real struggle for operators and supply chain companies like LWS that service them. As result of these conditions LWS has been forced to lay-off people and reduce the amount of new job openings. Granted, this volatility is nothing new to the industry however, making it even more difficult to do business in Pennsylvania considering these challenges is definitely not the answer. The oil & gas regulatory framework in Pennsylvania is one the strictest in the country. Pipeline operators are already subjected to a host of local, state, and federal standards designed to protect communities and our environment. It is imperative that the 184 recommendations encourage best management practices within the industry but they should not result in new costly and burdensome mandates that discourage capital investment or delay needed projects. As Pennsylvanians we are on the precipice of a generational opportunity that provides family sustaining jobs, produces clean energy, lowers energy costs, and ensures national energy security. The real promise of the shale boom, however, has not yet been realized- the resurgence of manufacturing. Now that manufacturers have access to an affordable and reliable energy source (the biggest overhead cost of nearly every manufacturer), they can now afford to offer family sustaining jobs while bringing manufacturing back to the States, ensuring economic security for generations. Please understand that the industry is committed to doing the right things. Layering additional regulations and standards on an industry that is already operating under a world class framework would defeat the ultimate promise of this generational opportunity; leading to job loss, reduction in state revenue, and our continued reliance on foreign energy. The country is watching. Please don't blow it. (64)

90. COMMENT:

Attachment: [Beckets Run Woodlands Comment on the PITF Report.pdf](#) (65)

91. COMMENT:

Attachment: [Pipeline Infrastructure Task Force Report Review.pdf](#) (66)

92. COMMENT:

Attachment: [AFF Letter to PA-pipeline-task-force-report-draft.pdf](#) (67)

93. COMMENT:

On behalf of the American Planning Association Pennsylvania Chapter, we are submitting the attached letter with comments related to the Pipeline Infrastructure Task Force (PITF) initiatives and the associated PITF Draft Report.

Attachment: [APA-PA Letter on PITF Report 122115.pdf](#) (68)

94. COMMENT:

Dear Secretary and members of the Task Force,

At the inaugural meeting of the PITF, you stated that you wanted to "engage stakeholders in a collaborative process". This mark was obviously missed in either a) not considering landowners as stakeholders, or b) intentionally neglecting to have a single landowner advocate on the panel. Hopefully you have admitted to this mistake as evidenced by some of the recommendations in the draft report and by extending the comment deadline.

We landowners are indeed stakeholders in this process. We have land (usually a person's largest lifetime investment) that energy companies need to advance their agenda. As the law now stands, we are the 'stakeholders' LEAST able to negotiate or protect our rights against these companies. A review of the Atlantic Sunrise Project docket alone will show scores of submissions from landowners who have been lied to, cheated (signed contracts when they don't even know the exact pipeline lineage over their property), bullied ("best offer, take it or get nothing in eminent domain process"), and deceived ("sure we will move the line away from your front yard"--which never happens). This, as I see it is the biggest obstacle to having the public accept this grandiose future build out plan. While many of your recommendations are excellent regarding citizen involvement in the planning phase, leak detections, avoidance of wetlands, etc, there is absolutely NO guarantee that the energy companies will stop their vile and often criminal (trespassing, lying, submitting false information to the government) behaviors. They have and likely will continue to act 'above the law' because they know the deck is heavily stacked in their favor. FERC has only denied ONE application in the last decade, which did not relate to an oil or gas pipeline. There is an obvious conflict of interest with an agency regulating an industry that pays its salaries.

My specific interactions with Williams Company has been dismal, and is typical of what so many have experienced. First, they used aged maps to plan their route. They had no idea that since 2009 I had purchased 22 acres in Bloomsburg and invested over \$600,000 to build an equine medical facility. What haunts me to this day is the statement from their land man last year during the survey period when he toured the property and facility and realized the devastation it would have on my business, essentially shutting it down. He pointed his finger at me and said "Dr.Q, the company has no idea what you have here, but mark my words, we ARE coming through your property". For the next year the only statement from Williams was "We have no alternate route". This is the kind of angst Pennsylvania citizens have experienced, knowing that forests, bog turtles and bats have more rights than we do.

After the last Supreme Court ruling in 2005 on what defines "public use", the energy companies have rushed to take advantage of eminent domain to achieve their financial goals. Many states saw the error of this ruling (as well as the 4 justices who wrote scathing dissents) and immediately enacted stricter state laws on what qualifies for eminent domain. Unfortunately, PA was not one of them. Due to the unprecedented planned build out proposed, certainly protecting our citizens from financial ruin should be addressed. It is documented that citizens are offered far higher settlements for their property when eminent domain cannot be so easily wielded against them. Another example of abuse: one of my clients was offered \$5000/acre for his prime farmland, but he found out another landowner was offered \$27,000/acre for his land. The only difference? His neighbor is married to a pipeline employee. In my case, Williams' offer of

\$70,000 to shut down my business for 2 years is laughable. I won't bore you with details of my individual situation; they are fully documented on the FERC CP15-138 site, but both my home property of 19 acres and my business property of 22 acres would be transected, almost a mile of brand new specialty fence (>\$40,000) taken out and over 75% of my pasture rendered unusable for 2 years (the time it takes newly seeded sod to be suitable for permanent use for horses). For someone who makes her living tending to horses, that pasture is integral to my business staying afloat, and with over half my net worth tied up in my properties, yes, I am fighting this project tooth and nail. Over 530 letters have been sent in to FERC by clients and neighbors requesting a reroute around Buckhorn that would not affect scores of neighborhood homes, businesses are heavily traveled roads. Williams' reply? That would cost us more. This is the type of interaction too many citizens must endure, and it is crucial that recommendations for fair treatment be put into place.

Another enigma to me is why DEP considers these pipelines as necessary for 'public use' but prefers that they don't run through 'public land'. This is ludicrous! We have thousands of acres of public land set aside in forests, game lands and parks. A "public use" pipeline should be run through "public lands" AS MUCH AS POSSIBLE! Since most stakeholders (other than private landowners) tout that pipelines are safe and companies restore the land, and many other propaganda statements to that effect, the public land overseers should welcome the pipelines with open arms, thereby diluting the effect to individual landowners and allowing the taxpaying public to shoulder the effects of the destruction equally. Oh yes, the caveat: pipelines must make yearly payments for 'public land' usage. Pity the private sector doesn't get the same offer.

In that July meeting it was also stated the PA wants to 'burn and make things with' our gas in PA. I think that's a great idea. Why then are we so welcoming of pipelines that are exporting this resource out of the country? This is not good for PA jobs (2000 temporary, 1 yr jobs for the ASP with 1100 landowners affected. I'd rather give my two workers permanent jobs). And it has been documented in the fracking industry and on sites of currently under construction pipelines, MANY of these jobs go to out of state workers who don't pay taxes here, drive up the local cost of living to residents and force older, low income citizens to relocate due to the lack of affordable housing.

Even Australia learned the hard way that exporting their natural resources ended up costing their citizens dearly when the domestic prices rose for those resources. Why can't we extract this gas at a more sensible rate, attract businesses back to PA that can use it, and ensure that we have that resource for generations to come?

Lastly, the health factors are enormous relating to fracking and pipelines in general. Our neighbors to the north (NY) and south (MD) have banned or at least put a moratorium on fracking until some of these issues can be addressed, while PA is moving full steam ahead to rape the land in spite of overwhelming evidence of the toxic nature of this industry on human life and the environment. We are headed down the same path as the coal industry, which only put protections in place after tens of thousands had contracted black lung disease. Can we not learn from past mistakes? And while 'only' 34 people/year on avg in the last 20 years are killed in pipeline incidents, over \$4,000,000 of damage occurs in each transmission line incident, on average. Couple this with the many reports of spills, contamination and explosions that occur regularly and you will see why the citizenry has no confidence that all the recommendations/laws/proposals of PITF will do

any good to protect us when we have seen repeatedly that the current laws, oversights and safeguards are not enforced.

I urge this taskforce and the governor to take their citizens' valid concerns into account, and to pursue only enforceable regulations that will produce accountability and fair treatment by the energy companies who stand to profit greatly at the expense of our state's resources, environment and inhabitants. (69)

95. COMMENT:

Attachment: [MSC - PITF Cover Letter Final.pdf](#)

Attachment: [MSC - PITF Recommendations Comments Final.pdf](#) (70)

96. COMMENT:

Attachment: [PITF Report Comments 12.22.15. FINAL.pdf](#) (71)

97. COMMENT:

Attachment: [PITF Comments Draft Report Package.pdf](#) (72)

98. COMMENT:

Attachment: [ATFS Certified Forest-Bugher.pdf](#) (73)

99. COMMENT:

Attachment: [Beartown Pipeline Comments.docx](#) (74)

100. COMMENT:

Attachment: [Jim.pdf](#) (75)

101. COMMENT:

Attachment: [Bernie.pdf](#) (76)

102. COMMENT:

Attachment: [Sarah \(2\).pdf](#) (77)

103. COMMENT:

Attachment: [Pipeline Infrastructure comment letter.pdf](#) (78)

104. COMMENT:

I agree with this proposal. (79)

105. COMMENT:

Attachment: [Pipeline Infrastructure comment letter.docx](#) (80)

106. COMMENT:

Attachment: [CHTF PIPELINE COMMENT.pdf](#) (81)

107. COMMENT:

Dear PA Government Official,

We own 85 acres in Jefferson County and have since 1977. Between our neighbor and

myself we manage over 200 acres with wildlife management our primary goal. Through NRCS we are enrolled in various multi year contracts that are good for the timber and wildlife.

I believe having a say in pipeline placement is a step in the right direction because, yes, I am very concerned and involved as to what happens on our properties. This is only a step in the right direction. There are landowners like us who do not own the mineral rights, only the surface rights. Years ago the state of PA allowed the separation of mineral rights. It is a helpless feeling to know that an Energy Company can come in and pretty much located and drill at will. Gas leases and royalties go the mineral right owners and we are left with the scars and eyesore. Very sad the potential for this exists.

We appreciate the chance to have a little more say as to what happens on our properties.
(82)

108. COMMENT:

Comments Attachment: [PITF comment 122615.docx](#) (12)

109. COMMENT:

Attachment: [Pipeline County.docx](#)

Attachment: [Map1.jpg](#)

Attachment: [Map2.jpg](#) (83)

110. COMMENT:

gov. wolf-JUST STOP. WE DON'T WANT THE PIPELINE. WE DON'T NEED NATURAL GAS. WE SHOULD BE FINDING ALTERNATIVE ENERGY SOURCES, NOT CONTINUING THE DESTRUCTION OF THE EARTH. STOP THE FRACKING. WE DEPEND ON CLEAN AND SAFE WELL WATER. WHY WON'T YOU LISTEN TO THE PEOPLE OF PENNSYLVANIA? WHY DON'T YOU CARE ABOUT THIS STATE LIKE THE REST OF US? GET YOUR MIND OUT OF YOUR WALLET. SO JUST STOP IT ALL NOW. YOU COULD BE A HERO, BUT YOU ARE CHOOSING TO BE THE VILLIAN. (84)

111. COMMENT:

PITF recommendation #23 (Long-term maintenance of Pipeline Rights-of-Way) suggests that maintenance strategies should include “Integrated Pest Management (IPM) (chemical/mechanical)”.

The use of chemical pesticides and/or herbicides for the maintenance of pipeline ROWs is environmentally irresponsible and a danger to public health. Chemical pesticides and herbicides are toxic to fish, amphibians, song birds, reptiles, mammals, and humans. Research indicates that ingredients used in chemical pesticides have immediate and long-term effects on non-target fauna including beneficial insects such as pollinators and predators that positively influence forest ecosystems. According to a study released by the United States Geological Survey in May of 2013, the widespread use of chemical herbicides is among the reasons for a sharp decline in frog, toad, and salamander populations worldwide, with some species facing a 50 percent drop if the current trend continues.

Chemical pesticides and herbicides have been linked to immune disorders in children and respiratory disorders in the elderly. A 2014 study commissioned by Moms Across

America and conducted by Microbe Inotech Labs in St. Louis Missouri found detectable levels of glyphosate---a common ingredient in herbicides---in human breast milk, urine samples, and in 70% of U.S. household drinking water samples. The data suggest that glyphosate is bio-accumulative, building up in peoples' bodies over a period of time. (See attached files). Organophosphates in pesticides and herbicides have been used in chemical warfare and are linked to Gulf War syndrome, which causes fatigue, chronic headaches, skin and breathing disorders.

With the number of pipelines growing across the commonwealth, and hundreds of thousands of miles of pipeline ROWs to maintain, the potential for public exposure to dangerous levels of neurotoxins in the environment will increase exponentially with the number of pipelines.

In order to protect the public and the environment, pipeline operators should be prohibited from using any chemical pesticides and/or herbicides for the maintenance of pipeline ROWs. In the event that any such substances are used along pipeline ROWs for any reason, operators should be required to publicly disclose the following information:

1. A list of all chemical ingredients, including so-called "inactive" ingredients, used in the maintenance of pipeline ROWs.
2. The method of application---whether sprayed aerially, from truck-mounted sprayers, or applied manually.
3. The dates and times of application, with a minimum of 48 hours advance notice to all communities within .5 miles of the pipeline ROW.
4. A thorough analysis of the potential effects of all listed ingredients, including "inactive" ingredients, to plant, animal, aquatic, and human communities within a specified distance from the pipeline ROW. (85)

112. COMMENT:

Attachment: [ANGA Comments on PA PITF Draft Report 12.26.15.pdf](#) (86)

113. COMMENT:

The Pipeline Residential Impact Tax (PRIT).

In 2010, a single 30 inch pipeline exploded in San Bruno California; destroying 35 homes and incinerating a dozen people. According to Wikipedia, eyewitnesses reported a wall of fire 1,000 feet high. The Federal Emergency Management Agency (FEMA) declared the event a National Emergency. This is the non-stop risk you are placing upon hundreds of Pennsylvania homeowners and their families by allowing big business to run pipelines through residential areas just so big businesses can make money. If you are elected officials that truly represent the safety of Pennsylvania citizens that elected you; and not the financial interests of the big businesses that contributed to your political parties; than you must propose & pass a first of its' kind tax in Pennsylvania; called the Pipeline Residential Impact Tax.

The Pipeline Residential Impact Tax (PRIT) would work much like the monthly charges that are placed on use of utility lines and cell phone towers. Presently; a monthly fee is charged to each cell phone customer for the use of cell tower lines. It is the same concept as Electric companies charging a monthly fee to consumers for the use of their power lines regardless of who the electricity supplier is.

The difference with the Pipeline Residential Impact Tax (PRIT); is that the people who have pipelines pass through their in Pennsylvania property should be compensated on a

monthly basis for the risk that has been forced upon them by the PA courts that have allowed these pipelines to be run through their home properties. The Pennsylvania residents must worry all the time they are inside their homes, that another San Bruno could happen someday to their families inside their homes because of a pipeline that was forced onto their properties by the courts. It is a reality that will never go away as long as their family lives inside their home. So Pennsylvania should develop the Pipeline Residential Impact Tax (PRIT) so that home owners that are forced to take the greatest risk of pipeline explosion, those directly adjacent to these large pipelines, should be compensated for that risk that they never asked for, but was forced upon them. That is how you represent the constituents that elected you; not the businesses that funded your campaigns. None of you have to live in fear inside your homes of a pipeline explosion; but many Pennsylvania Families are forced to; and now the danger will be doubled due to running more than one pipeline next to another one. Each pipeline adds additional risk so each pipeline risk should result in on going risk compensation for the Pennsylvania home owners forced to live next to these large pipelines.

If you cannot call it a tax; then call it a risk fee. Just make sure the Pennsylvania families that will never stop living with this risk directly next to their homes, receive non-stop compensation for being forced to live inside their homes next to this non-stop risk; just so people outside of Pennsylvania, can make money at our families expense; families who's only misfortune is being Pennsylvania residents. (87)

114.COMMENT:

Attachment: [PA Tree Farm Program Comments.pdf](#) (74)

115.COMMENT:

Attachment: [MCWA - PITF Report Public Comment Dec 2015.pdf](#) (75)

116. COMMENT:

As a landowner in Chester County with a pipeline on my property and an advocate of public participation in pipeline proceedings, I was pleased to participate in the public participation workgroup of the PITF.

In addition to participating in the workgroup, I have developed a Guide to Pipelines for Chester County Municipalities as part of a Technical Assistance Grant awarded to the Chester County Association of Township Officials (CCATO) by the US DOT Pipeline and Hazardous Materials Safety Administration (PHMSA).

I submit the Guide as an attachment to this comment to demonstrate the need in Pennsylvania of a structured framework for early and continuous involvement of all stakeholders in pipeline projects. Without such a framework, a cohesive pipeline infrastructure system with public participation will not be achieved.

Attachment: [CCATO Guide for Pipelines 2015 FOR WEBSITE.pdf](#) (89)

117. COMMENT:

Attachment: [Dawood PADEP PITF Comment Letter.pdf](#) (90)

118. COMMENT:

Attachment: [Western PA Conservancy PITF report comments December 2015.pdf](#) (91)

119. COMMENT:

I am very leery of this draft report. Instead of suggesting ways to dramatically reduce the need for these invasive pipelines throughout PA, it seeks to find ways to make their placement more amendable to the public. The U.S. is now committed to reducing our greenhouse gas emissions, so building new pipeline infrastructure that impinges on property owners and our environment is directly contrary to what we need to do to get off a carbon based economy. It's important to point out, too, that building more pipelines will translate into thousands of new fracking wells in Pennsylvania. The negative ecological and environmental effects of this will be staggering.
So this draft report is a far cry from what is right and proper. (92)

120. COMMENT:

Pa needs to focus on renewable energy this will take time to develop natural gas is needed the question is do we need a drastic expansion of infrastructure and fracking . the penn east pipeline to New Jersey for example is it needed ? according to New Jersey they have ample supplies of natural gas. then there is the mariner east 2 and 3 yes 3 they are proposing to install 2 24 inch pipes across Pa for the purpose of the export of ethane propane and butane to foreign markets strictly for profit. this does not benefit Pa or its residents.Sunoco claims public utility status for the mariner east 2 and 3 project this is being challenged by many property owners across the state. the P.U.C. should not allow public utility status for this interstate project. Sunocos strong arm tactics and total disregard to landowners property rights is appalling.we have worked 28 years to finally own our property. now that we are retired we have to fight and spend a lot of money to protect our home from a company that their only concern is their profit. this should not be allowed. this panel and the P.U.C. need to look at this if sunoco wants to put their pipes in they need to buy the easement from property owners or go around the property. eminent domain should never be granted for projects to export our resources for private gain. there is 350 mi. of trees water and other natural resources being destroyed for this project with no public convenience.do not be fooled by their slick talk and shady maneuvering to get around law and regulations. they are not to be trusted. do the right thing for Pennsylvanias property owners and residents stop the expansion of fracking and pipelines for private gain (93)

121. COMMENT:

Attachment: [PipelineTaskForce.docx](#) (94)

122. COMMENT:

Why is the right of eminent domain used for private gain? Why are the taxpayers of Pennsylvania not adequately compensated for fossil fuel use as usual. Where are the progressive thinkers in the state? Is the pipeline expansion for export or internal use? Are the gas companies paying their fair share? Are the taxpayers subsidizing this industry and paying for the environmental impacts and health impacts? I see this plan as costing us money. (95)

123. COMMENT:

Attachment: [151222 PA SIC Pipeline TF Comments.pdf](#) (96)

124. COMMENT:

Attachment: [Pipeline TskFrc Letter12282015.pdf](#) (97)

125. COMMENT:

Attachment: [PSATS Comments PITF Report.pdf](#) (98)

126. COMMENT:

Attachment: [PITF TNCComments 28Dec2015.pdf](#) (99)

127. COMMENT:

Attachment: [Recommendation Summary for Comment.pdf](#)

Attachment: [PITF Public Comment 2015-Dec.pdf](#)

Attachment: [Recommendation Summary for Comment.pdf](#) (100)

128. COMMENT:

VIA Electronic Filing

Secretary John Quigley, Pennsylvania Department of Environmental Protection

Chairman, Pennsylvania Pipeline Infrastructure Task Force

400 Market Street

Harrisburg PA 17101

Unfortunately, the Pipeline Infrastructure Task Force (PITF) has been convened to propel Pennsylvania into the 21st century with accelerated fossil fuel development. The task force mission to “achieve a world-class pipeline infrastructure” is part of a quixotic, retrograde energy plan. The irrefutable science of anthropogenic climate change and the dire irreversible consequences of global warming prohibit continued fossil fuel development. It is unconscionable that industry representatives are allowed on the task force to have direct and undue influence on the report when their active lobbying and deep pockets, have to date, ensured their profiteering interests are shielded from regulations, taxes, and accountability. It is apparent that our Governor and legislature are more interested in promoting and protecting the fossil fuel industry than the health, safety and welfare of the public and our environment. And where is the public in this process? Where is Scott Cannon, anti- fracking documentarian who was appointed to the task force only to be summarily dismissed, and disaffected property owners who have lost their health, potable water, property values and sense of wellbeing in communities beset with fracking and pipelines? Where are the task force voices of science and reason opposing fossil fuel extraction and infrastructure development? Where are the doctors, hospital administrators, and veterinarians speaking of the impacts of toxic chemicals and radiation exposure? Once again, the public has been marginalized with no representation, an insufficient 30 day comment period, and no scheduled public hearings. This industry-laden task force is a ruse and this report is a futile exercise.

New York State studied the industry and banned fracking. We need to follow their lead.

Pennsylvania is a failed experiment that cannot be salvaged. There was neither a formal collection of baseline geologic and hydrologic data nor the ongoing collection and studies

of health impacts. Our government irresponsibly allowed gas and pipeline companies to operate without appropriate regulations and fully funded and staffed agencies to oversee the industry. We are now left with the untenable situation of gas and pipeline companies denying culpability and state and federal agencies operating as industry partners. Our state legislature is tax and spend adverse, so it is inevitable that agencies tasked to protect us and the environment will remain underfunded, understaffed and unable to enforce even the weakest regulations and policies.

According to the PITF draft report, Pennsylvania will suffer a quadrupling of gathering lines by 2030. "The footprint of just that expansion is larger than the cumulative area impacted by all other Marcellus gas infrastructure combined, and could exceed 300,000 acres, or 1 percent of the state's land area." "Pennsylvania already has more than 12,000 miles of large diameter oil and gas pipelines in the ground" and alarmingly, there is no single federal or state agency responsible for pipeline permitting nor are any government regulating agencies staffed and equipped well enough to adequately manage and monitor the industry. The report states, "All told, this pipeline infrastructure build-out will impact communities and the environment in every county in Pennsylvania." This is an unsustainable and unforgiveable model for our Commonwealth and the world.

Governor Wolf, Secretary Quigley, and our legislature must stop promoting and aiding a senescent, retrograde industry and allow the forces coming to bear on the fossil fuel industry to have their consequences. This has been the model of industrial and technological progression. Climatology is demanding that we abandon carbon based energy now, not later. Exxon scientists conducting climate research in the 1970's and 1980's concluded that "the world's use of fossil fuels would warm the planet and could eventually endanger humanity." 1 In the 1990's, "...scientific experts commissioned by the Global Climate Coalition- a coalition of 50 U.S. corporations and trade groups including British Petroleum (now BP), Chevron, Exxon, Mobil, and Shell- warned that heat trapping gases were indeed causing global warming."2 Now, no one can reasonably deny this conclusion. The United Nations Climate Change Conference in Paris, Pope Francis' "Laudato Si," the incontrovertible science, and public opposition cannot be ignored nor suppressed. Pennsylvania must change course and convert to renewable energy sources now- we have the intellectual, technological and financial capital to make it happen, we need the commensurate, collective commitment to accomplish it.

1 Banerjee, Neela, Song, Lisa and Hasemyer, David. (16 September 2015). Exxon: The Road Not Taken. Retrieved from insideclimatenews.org.

2 Negin, Elliott. "Documenting Fossil Fuel Companies' Climate Deception." Catalyst 14 (2015 Summer): 9-11. Print

Respectfully submitted on behalf of Lebanon Pipeline Awareness, Inc and Concerned Citizens of Lebanon County

Attachment: [pipeline task force final draft comments.docx](#) (101)

129. COMMENT:

December 29, 2015

The Honorable John Quigley

Secretary, Pennsylvania Department of Environmental Protection

Rachel Carson State Office Building

400 Market Street, 16 Floor

Harrisburg, PA 17120

Dear Secretary Quigley,

In writing this response to you today we comment in support of the “Governor’s Pipeline Infrastructure Task Force Report”, specifically, to note the importance of the Conservation & Natural Resources Workgroup Recommendation #4 that gives special consideration to protected/designated lands in pipeline sitings, particularly the American Tree Farm System third party certified lands.

The multi-generational certified Burnham Woodlot’s purpose is the conservation of our family forest, to provide a venue for outreach and education, and to demonstrate BMPs. Third party certification through the American Tree Farm System differentiates our 550-acre contiguous property and forest land from other forms of land use.

Certified private forest landowners are a subset of forest landowners committed to the highest forest conservation standards, in common to our State Forest.

The Conservation & Natural Resources Workgroup Recommendation #4 identifies that subset of landowners and provides guidelines for the necessary pipeline infrastructure development in our State. These guidelines are well aligned with their commitment to the conservation of their working forests and the protection of one of our most important natural resources.

Thank you for allowing us to offer comments on the draft report and share our support.

Burnham Woodlot

John C. Burnham

Manager and Owner

CC: Pennsylvania Governor Tom Wolf (102)

130. COMMENT:

As a real stakeholder in the Penneast pipeline I am absolutely appalled at this task force. Our elected officials are here to serve the PEOPLE of Pennsylvania, not the gas and oil industry.

The fact that you are helping the gas industry to steal our land and commit an environmental disaster just shows how little concern you have for Pennsylvania citizens. We all know that this pipeline is unneeded and unwelcome.

The pipeline companies do not need your help, the citizens of Pennsylvania do!

They have entirely too much power now and are just waiting for you to hand them more on their Golden Platter!

I’ll bet that not a one of you has a pipeline proposed to run through their back yard or property. (103)

131. COMMENT:

Attachment: [PipelineTaskForceCCAPComments20151228.pdf](#) (104)

132. COMMENT:

Attachment: [Pipeline Infrastructure.pdf](#) (105)

133. COMMENT:

Attachment: [Mary.pdf](#) (106)

134. COMMENT:

Attachment: PITF joint comments FINAL 122915.pdf (107)

135. COMMENT:

Attachment: 12.29.15 B. Stovern PITF Draft Report Ltr with CPG comments.docx (108)

136. COMMENT:

Public Comment on the Pipeline Infrastructure Task Force Draft Report dated February 2016

I write to express my dismay at the PITF Draft Report, and indeed, the entire process by which the PITF was constituted, its mission and goals, and not least, its findings and recommendations.

To my mind this has been an illegitimate process from its inception. The PITF is heavily weighted in favor of corporate oil & gas interests, does not adequately represent communities most affected by the fracking & pipeline revolutions in PA, and is based on a fundamentally flawed premise: that it is inevitable that Pennsylvania will build a pipeline infrastructure so that oil and gas companies can bring their extracted commodities to market.

I reject that premise. It is NOT inevitable, or desirable, that the oil & gas resources in Pennsylvania be extracted or brought to market. The PITF draft report takes us down the wrong road, for the wrong reasons, and should be rejected in its entirety. The stark reality is that global climate change demands that we accelerate our transition to renewable resources, and that the continued extraction & transport of natural gas and natural gas products threatens all Pennsylvanians, all Americans, and all human beings with a vastly more impoverished and degraded world.

The problems with the PITF begin with its mission statement, which essentially seeks to facilitate the process of oil & gas extraction and transport. That is exactly the wrong approach. The PITF mission statement also directly contradicts the mission statement of the PA-DEP, charged with protecting the Commonwealth's natural environment. It also directly contradicts Article 1, Section 27 of the PA Constitution.

For these and many other reasons, I urge that the PITF be disbanded, its draft report discarded, and that Governor Wolf's office begin to explore the range of policies it can pursue in order to wean Pennsylvanians, and the United States of America, from our destructive addiction to fossil fuels.

Pennsylvania should follow the lead of New York State and ban hydraulic fracturing altogether. If our goal is to bequeath a habitable world to our children, our grandchildren, and the thousands of generations yet to come, we have no other choice: we must leave it in the ground. (109)

137. COMMENT:

As we enjoy the holidays with our families in Riegelsville PA, we can't help but notice the incredibly unseasonable temperatures that has beset the Northeast in the past 2 months. According to NASA's Goddard Space Flight Center (reported nationally by CNBC on Dec.16, 2015) here the following facts:

*The high temperatures continue a trend that's likely to establish 2015 as the warmest year ever recorded.

*The global average temperature last month was warmer by 1.05 degrees Celsius than the overall average global temperature for the years 1880-2015, according to the Land-Ocean Temperature Index published by NASA. That marks only the second time the monthly index has climbed more than 1 degree above the average since 1880, which was when record-keeping began. The first time it happened was the month prior, in October of this year, when the global average temperature was 1.06 C above the average.

*In the Eastern US records were broken nearly weekly, such as the 142 year record broken the weekend of December 15th with temperatures 20 to 30 degrees higher than average.

*Globally, weather patterns are reaching milestones never met before, rivers are flooding breaking records everywhere and in Iceland and England are now expecting what must be a newly minted weather description aptly called a CLYCLONE BOMB.

And Yet pipeline companies such as PennEast (the proposed transmission pipeline that is threatening to destroy the area I live in) and it's associated private corporations continue tow the line of the Polar Vortex, and Superstorm Sandy as the model that they will follow and repeat ad-nauseum to overstate as the need for the public to undergo a sea change of devastation that threatens private farmland, homes, historical gathering places, over 80 watersheds and 3 rivers and countless creatures both endangered and those not yet endangered. They do this knowing full well that the unpredictability of future weather trends can point to a decidedly lesser need domestically for the methane seeping, methods of transporting the gas which has already befouled countless water supplies in some of PA's most fracked counties, and is now threatening to add to the violence of our future weather models. The recent lifting of the Oil Export ban should give everyone pause as our lands will be destroyed to "hedge" on forecast profits that can be made with the sale of oil and gas overseas. AND Each day counties like Potter in PA are discovering new and more dangerous chemicals have entered their water supplies. The chemicals discovered there are BTEX(Benzene, Toulene, Ethylbenzene and Xylene) along with a unknown plasticizer used in the cement for frack wells. That Plasticizer is unknown because the gas industry gaurds it as a trade secret and it was not revealed in a recent meeting with residents where public comment was not allowed.

Meanwhile in Porter Ranch California, there is an unprecedented gas leak that has already caused thousands to be displaced, with over 6,000 hoping to vacate the area for fear that they and their children are in danger and risking their health by staying. There has been a no-fly zone established over the area for fear that a plane's engine could ignite with all the methane being released. There, a population of 30,000 people are effected, in an area that is neither rural nor sparsely populated, yet the gas industry put that community in harms way in order to shave a few dollars off their bottom line by employing methods such as not inspecting safety valves since 1976 and then removing the said valves in 1979. This news is sobering for the fact that Southern California Gas is an entity that services 5.9 million customers and still thought so little of this community that they wouldn't afford them the most rudimentary safety measures. Surely SOUTHERN CALIFORNIA GAS could have afforded to keep their customers safe, but chose NOT TO, likely because of the costs. Why would anyone ever think that UGI, a corporation with a customer base of 600,000 would be any better? The truth is the gas industry has given us little to be sure of except the fact that they simply view most communities with a bottom line mentality that leads to things like offering the lowest

class pipeline possible while selling it as an actual improvement (most of the line is proposed to be a class 1 pipeline, with the caviat of class 2 pipe thickness). The bottom line will serve only one thing...the corporations that would build this monstrosity, and no one else.

While we are experiencing the warmest November and December on record and seeing catastrophes such as Porter Ranch, we have head of the PHMSA, the government agency tasked with keeping us safe, stating the following:

...the regulatory process he oversees is "kind of dying."

*Wiese told several hundred oil and gas pipeline compliance officers that his agency, the Pipeline and Hazardous Materials Administration (PHMSA), has "very few tools to work with" in enforcing safety rules even after Congress in 2011 allowed it to impose higher fines on companies that cause major accidents.

*"Do I think I can hurt a major international corporation with a \$2 million civil penalty? No," he said.

With the heavy burden of risk these pipelines pose to countless communities, and vast tracts of our environment and water, Governor Wolf and the PA DEP should listen to citizens that ask that this proliferation of pipelines be stopped. The headlong rush towards decimating communities should be halted, and the no option alternative must be invoked because we demand to be acknowledged as more than a nuisance to a corporation's bottom line. Keep in mind, there are lives, and communities that are being threatened. And because we, the citizens that would be affected deeply by these pipelines' invasion will never forget, nor will we ever stop fighting this massive injustice by the Marcellus Shale Cartel, assisted by the larger nationwide Gas Cartel. The gas industry has proven over and over, to be an un-trustworthy associate, where citizens are intimidated and overrun by the monied interests that care nothing about maintaining the facilities and infrastructure that they have already built. We refuse to become a footnote to a cautionary tale of what not to do when artificially propping up a private sector corporate taking of land and resources by stating a false need. (110)

138. COMMENT:

Comments on Draft Report from Pipeline Infrastructure Task Force 12 29 2015

When this task force was being formed, I submitted an application. My application, as well as others, who were interested in preserving Pennsylvania's farmland, forests, waters and air, as well as, the safety, health, and property of those in direct path of these pipelines was rejected. Why wasn't the Union of Concerned Scientists, Penn Environment, Clean Air Council to name a few part of this task force?

Doesn't this task force have an obligation to uphold the PA. Constitution Article 1, Section 27: "The people have a right to clean air, pure water, and to the preservation of the natural, scenic, historic, and esthetic values of the environment. Pennsylvania's public natural resources are the common property of all of the people, including generations yet to come. As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all the people."

John C. Dernbach, a professor at Widener University's School of Law and constitutional researcher, points out that Pennsylvania's environmental constitutional amendment makes environmental protection part of the constitutional purpose of state government. The environment is given the same legal protection afforded to individual property rights

and, balanced against those rights, is directed toward environmentally sustainable development. The public trust part obliges the state to conserve and maintain public natural resources for the benefit of all people. The state is obligated to ensure that consideration and protection of constitutional values concerning the environment are made part of all state decision-making. Constitutional law is there to prevent environmental degradation.

State officials, especially the governor, have a moral, ethical, legal and fiduciary responsibility, as trustees of state resources, to protect those resources for the beneficiaries – and that is the highest duty under the law. Pennsylvania citizens, and future generations, are the beneficiaries – not gas drilling or pipeline companies, their stockholders or those they fund. A fiduciary is legally bound to act within the law in the best interests of the beneficiaries. Citizens are entitled to a state government that accepts, as its first responsibility, the duty to carry out constitutional law.

Natural resources are the common property of all the people, now and forevermore. The governor's legal constitutional duty is to conserve and maintain those resources for all – not just for the gas drilling and pipeline industry. Pennsylvania is not for sale despite what the fossil fuel industry thinks.

Would we be here if fracking and the required pipelines had not been brought to Pennsylvania's Marcellus Shale area as a result of the Bush-Cheney National Energy Policy and Halliburton (Cheney's company) in 2005? This made fracking exempt key provisions within the Clean Air Act and the Clean Water Act. Without strict regulations and agencies staffed to monitor, both entities will continue to put profits before safety, health, and environment.

The pipeline companies represented on this task force have no interest in protecting the state that we call home. They are interested in one thing: profits. How can this task force bend so easily to the fossil fuel industry?

As part of Lebanon Pipeline Awareness, we have asked for open meetings with Williams, represented on this task force by Cindy Ivey and Sunoco, represented by Joseph McGinn. Yet, these companies continue to disregard this request and Cindy Ivey is chair of the public participation committee. Am I missing something here! If the pipeline companies are being totally upfront, honest, and consistent with the landowners they have approached, what do they have to fear. If they provided the same information to each individual at their "open, multiple table" meetings, they should have no fear to answer questions in an open public forum, in which all in attendance would hear the same answers.

Previous Governor Pinchot, also forester, would be appalled to see that Dan Devlin is not against this infrastructure, an infrastructure that requires the removal of vast amounts of timber, sacrificing the environment of species that call these trees their home and removing trees that function as a carbon sink. Pinchot coined the term conservation ethic as applied to natural resources. Then, there's Heather Smiles, whose predecessor in 1971 was Ralph W. Abele. Ralph believed that public service was a noble career, took his job seriously and believed he an obligation to protect Pennsylvania's lakes, streams and aquatic life from the damaging effects of acid rain, pollution and habitat destruction. He took on the strip mining industry, didn't give up and ultimately won some important victories. Let us uphold their legacies.

Before this task force finalizes any document, maybe they should arrange to stay with

those homeowners in the Marcellus Shale area that no longer have potable water accessible directly to their homes. Maybe they should stay next to a pump station and try to sleep during the frequent blasts of jet engines. Maybe, they should stay in homes that are next to these "safe pipelines"

2015 has been the warmest year since the past century. Look at the current month of December in the northeast. Look at the extreme weather in the west and midwest of the United States. Look at weather conditions throughout the world. Can we really afford to continue down this path?

An investigation by Inside Climate News confirm that ExxonMobil knew about the effects of fossil fuels on climate change decades ago. The Union of Concerned Scientists site further that other fossil fuel companies coordinated a campaign of deception spreading disinformation on climate change.

Now, a community in California (Porter Ranch) is experiencing a massive gas leak of methane that will take months to resolve. This is said to be at a magnitude of the BP Gulf Oil spill. The residents must leave their homes due to health, safety and environmental risks. The path of the current and future pipelines in PA. go through areas subject to sinkholes, blasting and military vibrations. Do you really want this for PA? Do we really want to have PA. designated a superfund site resulting from fracking and pipelines? Do we really want to be a significant contributor of climate change?

In view of the Paris Summit on Climate Change, Pope Francis's encyclical, and the volumes of scientific evidence, the only logical and ethical document that should be submitted to Governor Wolf from this Task Force would be a recommendation to declare a moratorium on fracking and pipelines in Pennsylvania. This would be accompanied by an evaluation of renewable energy options and how to move PA toward a carbon free energy future.

This state can no longer be bought by the fossil fuel industry. If this industry wants to continue to provide profits to its shareholders, they should move toward investments in renewables. If they continue to keep their heads in the sand, that's their choice. But, this state has a obligation toward its citizens to uphold the PA constitution. (112)

139. COMMENT:

Attachment: [Pipeline Infrastructure Task Force 12 28 2015.docx](#) (112)

140. COMMENT:

Comment on Pipeline Infrastructure Task Force Draft Document 12 29 2015

When this task force was being formed, I submitted an application. My application, as well as others, who were interested in preserving Pennsylvania's farmland, forests, waters and air, as well as, the safety, health, and property of those in direct path of these pipelines was rejected. Why wasn't the Union of Concerned Scientists, Penn Environment, Clean Air Council to name a few part of this task force?

Doesn't this task force have an obligation to uphold the PA. Constitution Article 1, Section 27: "The people have a right to clean air, pure water, and to the preservation of the natural, scenic, historic, and esthetic values of the environment. Pennsylvania's public natural resources are the common property of all of the people, including generations yet to come. As trustee of these resources, the Commonwealth shall conserve and maintain them for the benefit of all the people."

John C. Dernbach, a professor at Widener University's School of Law and constitutional researcher, points out that Pennsylvania's environmental constitutional amendment makes environmental protection part of the constitutional purpose of state government. The environment is given the same legal protection afforded to individual property rights and, balanced against those rights, is directed toward environmentally sustainable development. The public trust part obliges the state to conserve and maintain public natural resources for the benefit of all people. The state is obligated to ensure that consideration and protection of constitutional values concerning the environment are made part of all state decision-making. Constitutional law is there to prevent environmental degradation.

State officials, especially the governor, have a moral, ethical, legal and fiduciary responsibility, as trustees of state resources, to protect those resources for the beneficiaries – and that is the highest duty under the law. Pennsylvania citizens, and future generations, are the beneficiaries – not gas drilling or pipeline companies, their stockholders or those they fund. A fiduciary is legally bound to act within the law in the best interests of the beneficiaries. Citizens are entitled to a state government that accepts, as its first responsibility, the duty to carry out constitutional law.

Natural resources are the common property of all the people, now and forevermore. The governor's legal constitutional duty is to conserve and maintain those resources for all – not just for the gas drilling and pipeline industry. Pennsylvania is not for sale despite what the fossil fuel industry thinks.

Would we be here if fracking and the required pipelines had not been brought to Pennsylvania's Marcellus Shale area as a result of the Bush-Cheney National Energy Policy and Halliburton (Cheney's company) in 2005? This made fracking exempt key provisions within the Clean Air Act and the Clean Water Act. Without strict regulations and agencies staffed to monitor, both entities will continue to put profits before safety, health, and environment.

The pipeline companies represented on this task force have no interest in protecting the state that we call home. They are interested in one thing: profits. How can this task force bend so easily to the fossil fuel industry?

As part of Lebanon Pipeline Awareness, we have asked for open meetings with Williams, represented on this task force by Cindy Ivey and Sunoco, represented by Joseph McGinn. Yet, these companies continue to disregard this request and Cindy Ivey is chair of the public participation committee. Am I missing something here! If the pipeline companies are being totally upfront, honest, and consistent with the landowners they have approached, what do they have to fear. If they provided the same information to each individual at their "open, multiple table" meetings, they should have no fear to answer questions in an open public forum, in which all in attendance would hear the same answers.

Previous Governor Pinchot, also forester, would be appalled to see that Dan Devlin is not against this infrastructure, an infrastructure that requires the removal of vast amounts of timber, sacrificing the environment of species that call these trees their home and removing trees that function as a carbon sink. Pinchot coined the term conservation ethic as applied to natural resources. Then, there's Heather Smiles, whose predecessor in 1971 was Ralph W. Abele. Ralph believed that public service was a noble career, took his job seriously and believed he an obligation to protect Pennsylvania's lakes, streams and

aquatic life from the damaging effects of acid rain, pollution and habitat destruction. He took on the strip mining industry, didn't give up and ultimately won some important victories. Let us uphold their legacies.

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141. COMMENT:

Attachment: [Pipeline Infrastructure Task Force Draft Comment 12 29 2015 Part 1.docx](#)

Attachment: [Pipeline Infrastructure Tak Force Draft Comment Part 2 12 29 2015.docx](#)

Attachment: [Pipeline Infrastructure Task Force Draft Comment Part 3 12 29 2015.docx](#)
(112)

142. COMMENT:

Attachment: [EAP Comments Re PITF Report-Final.pdf](#) (113)

143. COMMENT:

It is clear to me that the gas industry has had a stranglehold on the task force throughout the fact-finding process. This has been the case for far too many years, where the gas

companies get whatever they want, and we are left to stare at the devastation. My friends and neighbors are sadly facing the desolation of their homes and farms. Without clean water, how can our friends and their farm animals survive? On top of water woes such as pollution from fracking chemicals, we are having to deal with the release of methane into our air. Not only is it past time to tax and regulate these polluting companies, it is time to put a stop to developing the pipeline infrastructure further. The world has come to an agreement at the Paris Climate Change talks to commit to renewable energy sources. To align with that commitment, we must not invest our state's resources or destroy more of its pristine lands to promote the fossil fuel industry. It is time to invest fully in renewable energy for our children's future. They deserve no less. (114)

144. COMMENT:

In the Draft Report, the "Environmental Protection" subgroup has submitted almost 3 TIMES the number of recommendations than that of the next most prolific group! I would like to know why non-governmental, so-called "Environmental" groups are entitled to have input into this process? Is it the administration's view that these groups somehow have more expertise, awareness or even concern for the environment than Pennsylvania citizens and Pennsylvania regulators? We know that Pennsylvania local and state government, as well as its citizens and businesses, have a specific vested interest in balancing pipeline development with environmental stewardship, but do we really know what the full intention of these various environmental groups may be? They may have friendly sounding names like "Penn - "fill in the blank", however, we do not know their full funding sources nor are all of their members Pennsylvania citizens. How can we be sure that there are not coal, solar, wind, residual fuel oil, foreign oil, etc., interests involved here, working to slow down the development of Pennsylvania's bounty of natural gas? (115)

145. COMMENT:

Attachment: [final PITF comments .doc](#) (116)

146. COMMENT:

- The recommendations in the Draft plan are extensive and detailed. It is clear that a serious attempt has been made to address the myriad problems that exist in this pipeline development.
- The problem that is not addressed anywhere is why it is in the interest of the common good of the citizens of Pennsylvania to launch into this massive invasion into every corner of our state with pipelines and the increased fracking, water contamination and risks to air quality of unintended consequences of gasses released into the atmosphere in leaks and accidents.
- There is much information on how to "mitigate the harm" which is recognized as inherent in this project and nothing to address the rationale for initiating the substantial harm to the health of local citizens, air quality.
- Other states and countries have started with that more important question and issued moratorium or bans on the process.
- There is nothing to address the effects of all this new gas development on global warming and climate change in the first place.

- If even half of the time, talent and treasure that this plan reflects was used to address these very real and larger topics, we could be in a genuinely constructive conversation. (117)

147. COMMENT:

Attachment: [12-29-15-PITC-Electronic-Comments.docx](#) (118)

148. COMMENT:

Attachment: [Trout Unlimited comments on Governor's PITF report.pdf](#) (119)

149. COMMENT:

Attachment: [FINAL Public Interest PITF Comments.pdf](#) (120)

150. COMMENT:

Attachment - [EQT Dalena Comments - PA Pipeline Infrastructure Task Force 12-29-2015.pdf](#) (121)

151. COMMENT:

Attachment: [COMMENTS ON PIPELINES.docx](#) (122)

152. COMMENT:

Attachment: [Dominion Resources Service Comments to PITF Report.pdf](#) (123)

153. COMMENT:

Attachment: [Civil & Environmental Consultants Inc-Comments on Draft Recommendations.pdf](#) (124)

154. COMMENT:

December 29, 2015

Submitted via electronic transmission

After a long read of the Pipeline Infrastructure Task Force draft report, I have concluded that the report fulfills its mission: “to assist in pipeline development.” How unfortunate for the citizens of Pennsylvania that the PITF’s mission does not include such things as: to review the actual need for additional pipelines based on public need, not corporate profit; to assess the value to the communities along the route versus the negative impacts the pipeline will inflict on them when determining if a pipeline should be constructed; or to allow for community choice in decisions on whether a pipeline should cross their boundaries.

Instead, this report speaks much to streamlining the pipeline construction process instead of slowing it down to allow for more careful consideration. Instead, public “buy-in” appears quite often – why must the public be convinced to “buy in” if these pipelines are such a good idea? And instead, at a time in history when nations have come together to plan how to decrease fossil fuel use to insure our future, this report explores ways to increase natural gas use in Pennsylvania.

Most importantly, though cumulative impacts are mentioned, little discussion is given to the end effect that the natural gas industry will bring to Pennsylvania. Pipelines are the

enablers of an industry that will bring the systematic destruction of our state's environment as we know it. Our state forests are already being fragmented, our best water is being withdrawn to be wasted and lost forever, and the pollution in our air mounts with each new well pad, pipeline, and compressor station. Though still at the relative beginning of this industry's build-out, we have already seen people lose their water wells, their homes and their health. For this report to be a true discussion of pipelines, these cumulative impacts must be considered.

We have already witnessed the devastation of Pennsylvania from the former clear-cutting of our forests and the still ongoing consequences of coal mining. Rather than look for ways to increase natural gas use and encourage the expensive build-out of an infrastructure that will become obsolete in a short time, Pennsylvania should look to invest in the renewable energy we will need to use in the future – yet there is no discussion of renewable energy in this report and what that impact will be on pipeline projects going forward.

For these reasons, I find this report to be a vehicle designed mainly to aid the natural gas industry, not to protect the citizens of Pennsylvania. As a life-long resident of this state, I consider myself to be a stakeholder in this process: My recommendation is that the PITF look for ways to minimize or eliminate pipeline projects instead of assisting in their development. (125)

155. COMMENT:

December 29, 2015

The Honorable John Quigley
Secretary, Pennsylvania Department of Environmental Protection
Rachel Carson State Office Building
400 Market Street, 16th Floor
Harrisburg, PA 17120

Dear Secretary Quigley:

I am writing you today to comment in support of the "Governor's Pipeline Infrastructure Task Force Report", and more specifically, to note the importance of the Conservation & Natural Resources Workgroup Recommendation #4 that gives special consideration to protected/designated lands in pipeline sitings, particularly the American Tree Farm System third party certified lands.

Our Tree Farm's purpose is the conservation of our family forest. Third party certification through the American Tree Farm System differentiates our property and forest land from other forms of land use.

Certified private forest landowners are a subset of forest landowners committed to the highest forest conservation standards, in common to our State Forest.

The Conservation & Natural Resources Workgroup Recommendation #4 identifies that subset of landowners, and provides guidelines for the necessary pipeline infrastructure development in our State, which are well aligned with their commitment to the conservation of their working forests and the protection of our most important natural resource.

Thank you for allowing us to offer comments on the draft report. (126)

156. COMMENT:

1. In review of the task force committees and membership, it appears that no representation from Licensed Professionals Surveyors nor Act 367 (Professional Engineers, Land Surveyors and Geologists) is listed, although many of the document items and technical specifications pertain to surveying and mapping accuracies and criteria. Please include at least one member of the Pennsylvania Society of Land Surveyors or at a minimum a licensed professional surveyor to one of the task forces.
2. Multiple references to GIS which may require oversight by Professional Engineers or Surveyors, especially those used for planning, engineering, and authoritative use. These sections should be written and approved by appropriate licensed professionals.
3. Multiple references to the Statewide Geospatial Board for technical comment and review, although this Board has yet to be chosen by the Governor, and has a limited term.
4. References to GIS do not discuss the importance and requirement of metadata, which is usually lacking in most GIS datasets. Without knowing the methodology of data collection, the horizontal and vertical definitions cannot (and are usually not) completed. We have noted some metadata states “collected using a 1m GPS” for the accuracy statement inferring all data location points are 3’ accurate. This statement is very misleading, as 1m GPS systems collect 1m accuracy 65% of the time, and only in ideal conditions (i.e. open sky, good satellite geometry, etc.). The remaining 35% of the locations can vary up to 100m accuracy. Accuracy of data collected in deep ravines or under tree canopy degrade substantially. Without reviewing the final RMS and precision of each shot, it is negligent to state a 3 foot horizontal accuracy. Many wetland locations have been collected using this technology in deep ravines and heavy forest cover, casting further doubt on the true positions. Also note that by current State law, only professional engineers and surveyors may certify as to horizontal and vertical accuracies.
5. Multiple references to rights of ways and boundary, which require oversight by Professional Land Surveyors, and not GIS.
6. Conflicting accuracy requirements within the document (100’, 50’, 1:2400, 6.67’, and six decimal places for latitude/longitude (roughly 0.3’’)). A standard accuracy requirement needs to be in place, written and approved by appropriate licensed professionals. No mention is listed of who will certify these accuracies for infrastructure and GIS datasets. The accuracy requirements need to be stated in all GIS metadata to alert the user that the accuracy listed may not be adequate for engineering, planning, and permitting work, which requires oversight by licensed professionals.
7. No mention of required as-built certification of pipelines and oil/gas wells. All accuracies listed are denoted for planning and permitting phases, and never addressed as the final built location, which can, and do vary from the proposed locations. Almost all datasets are based on proposed locations only, which rarely denote the actual location of infrastructure.
8. No mention of approved methodology of right of way recordation and process (currently done by both laypersons and licensed individuals, with varying accuracies, based on proposed locations and not actual constructed locations)
9. It should be noted that references to the PA One Call system does not always entail accuracy statements. Review of PA One Call standards do not relate any accuracy requirements for submission to their mapping. Location of features with accuracy will provide for safety in future construction activities as utility companies will be able to

definitively tract and mark the lines.

10. Please include ACT367 Pennsylvania Act 367, Engineer, Land Surveyor And Geologist Registration Law, Act of May 23, 1945, P.L. 913, No. 367 Cl. 63, Specifically Section 2 (Definitions) and Section 3 (Practice without Licensure) as a reference and in the Acronym section.

11. Please include PLS (Professional Land Surveyor) in the Acronym section.

12. Please include NSPS (National Society of Professional Surveyors) in the Acronym section, as many of their standards already written and approved may be applicable to this document.

157. COMMENT:

My concerns about the proliferation of Pipelines and related Infrastructure are many, and I will attempt to list them here for your consideration.

While there are a multitude of New, "Greenfield" lines proposed by the largest Pipeline builders in the country, most of these lines are designed for the express purpose of transporting nearly all of the gas contracted for shipment, Out of Pennsylvania. It is easily discoverable that much of the gas will be delivered to existing and under construction LNG Export Facilities. These huge projects will require the clear cutting of thousands of acres of forest, risky mountainous traverses, wetland, stream and river crossings and destruction of private property thru strong arm "negotiation" or Eminent Domain Condemnation for the "Public Good".

The fact that the Pennsylvania Public will bear the consequences and little if any benefit seems to be lost on our regulators and public servants. Additionally, the Williams Transco system which Does supply gas to heat Pa. homes has had numerous ruptures, leaks, explosions, and compressor station "accidents" that caused Blow-downs, fires and extreme trauma to the human and non-human animals who reside near these sites. Is it the aim of this Task Force to allow investment in new, larger, higher pressure Export Pipelines while the existing lines continue to corrode, leak, fail and expose the communities that have grow near them to the current danger they present?

Will this Task Force, so heavily weighted with Industry Profiteers be remembered if and when people have their dream homes, farms, and villages dissected and bisected by 36-42 inch 1,500 PSI nightmares? Will these projects bring the jobs, economic prosperity and "environmental benefits" as claimed, or will they divide neighborhoods, ruin ecologically sensitive areas, weaken our tax bases due to property devaluation, tax our first responders during and long after construction, displace poor and elderly residents from their homes and destroy once thriving agriculture, tourism, and our historic heritage?

Finally, will the zealous assistance of Pa Government and this Task Force enable us to transition to a cleaner way of living with sustainable energy that will be safer, less expensive, and better for Pennsylvanians, Americans, and the global community, or will it lock us in to another generation of Fossil Fuel with the same deleterious effect on our health and wellbeing as King Coal and Prince Petroleum?

Thank you for considering these concerns and questions (128)

158. COMMENT:

I am an avid hiker and outdoorsman. Our state parks and forests are a treasure that should not be compromised for short term commercial gain. Thank you for the opportunity to make the following comments.

First, you state that one of the goals is to "Amplify and engage in meaningful public participation;".

To this end I would like to ask that the public comment period be extended. I only just found out about this - it has not been well publicized, and I'm sure many others who would comment are unaware of this document. Perhaps including its availability in one of the DCNR bulletins would allow it to be seen by a wider audience.

Second, I am pleased in general with the recommendations for Conservation & Natural Resources, but they could be stronger. I feel that pipelines MUST NOT cross state parks and should only use new rights of way in state forests if there is absolutely no other alternative. Also, these are currently just recommendations - they MUST become reality. Do not allow them to be watered down by commercial interests. (129)

159. COMMENT:

Real question for Pennsylvania Pipeline Infrastructure Task Force (PITF) is does Pennsylvania actually NEED 30,000 miles of new pipeline covering over 300,000 acres? Do the huge losses to private property owners statewide, public lands, forests, streams, and wildlife, and the vital economies they support, justify a build out on such a massive scale that it will scar Pennsylvania's beautiful landscape county by county, ridge by ridge, stream by stream for 100 plus years? Recent findings show pipeline capacity not nearly constrained as claimed, both across the country and in New England. As a taxpayer in Pennsylvania, I'm horrified bad policy with permanent consequences could be promulgated based on inflated assumptions. Certainly gives pause to thought of ever retiring to Pennsylvania where I have deep family roots.

While Secretary Quigley thinks "need" is not in his purview, nor PITF's, analyzing 'just enough' versus 'overkill' scenarios could make easier to develop policies appropriate to scale and strengthen Pennsylvania's hand in reigning a renegade industry too long accustomed to getting what they want without regard to consequences, environmental, trespass and otherwise.

Saw first hand at November meeting how PITF heavily stacked with industry representatives at expense of civic leaders, scientists, environmental leaders, and ultimately the public. Watched industry routinely object to innocuous recommendations such as 5 year post construction monitoring of ROWs, avoidance of stream crossings, etc. Dismaying to watch elected officials constantly appease the industry reps as if they were permanently indebted.

Meanwhile PITF's Public Participation Work Group has Alisa Harris of UGI and PennEast Pipeline sitting on it along with David Hanobic of FERC. PITF members with PROJECTS IN PROCESS should never be permitted to formulate policy, even if they're Work Group members. They shouldn't even be on same panels as FERC. Both are clear conflicts of interest. Gets to heart of problems Pennsylvania's Pipeline Infrastructure Task Force needs to rectify.

As a property owner I welcome real regulations, the more stringent the better. Steer pipelines to routing along highways and under roads. Adopt generous setbacks for buildings, avoidance of steep slopes, wetlands, and 300' plus buffers for all streams. Require boring under streams, not open cuts. Require daily sterilization of construction equipment to keep invasives out of streams and ROWs. Prohibit herbicides for ROW maintenance. Allow saplings to grow in. Hand weed invasives entering ROWs for 10-20

years—they are a major problem in New Jersey and spreading westwards into Pennsylvania.

Lastly, what goes on in Pennsylvania does not stay in Pennsylvania alone. Pennsylvania should not aim pipelines out of state without equal consideration to neighboring citizens. Right now New Jersey residents have the most unpopular, unethical, unneeded—and thoroughly redundant—PennEast Pipeline breathing down their proverbial necks. PennEast has shown no regard for New Jersey’s finest preserves and natural areas. PITF’s policies should not lead to more of these random ‘de trop’ pipelines staging at our borders. (130)

160. COMMENT:

Attachment: [PITF.RDA comments.docx](#) (131)

161. COMMENT:

Dear Mr. Quigley,

I write to submit some commentary on the Draft Report of Governor Wolf’s Pipeline Infrastructure Task Force. This commentary is based on my experiences living and working in Columbia County through which the proposed route of a 42” pipeline, the Central Penn Line South, passes. I have spoken with many landowners along the proposed route, as well as local officials and other stakeholders.

My purpose is not to argue that the pipeline build out, presented as inevitable in the Draft Report, is wrong for the State of Pennsylvania (although that is my opinion) but merely to flag issues that I feel deserve deeper consideration before further infrastructure is built. My major recommendation to yourself and the Governor is to enact a moratorium on all pipeline projects until the issues raised here and in other public comments on the Draft Report can be addressed.

The gas industry has a very different relationship to and vision for the PA communities where it does business than many of the people living in those communities. For various reasons, the gas industry is very efficacious in imposing their vision upon these communities. Significant among those reasons is the complicity of government officials who are pro-gas and/or have ties to the industry.

To begin with the decree that Pennsylvania will undergo a massive pipeline build out is to disenfranchise the many Pennsylvanians who, for valid reasons, do not want pipelines in their communities. Why not add “whether you like it or not!” to the opening sentence of the mission statement?

I concur with all the comments provided by Eric and Bonnie Friedman and the recommendations that follow, particularly #6, concerning the use of eminent domain:

6. Any future PITF should recommend modernization of the Pennsylvania Eminent Domain

Code so that eminent domain authority for petroleum pipelines is eliminated. In addition, the PITF should recommend modification of the Eminent Domain Code to ensure that persons whose property is condemned are fully compensated for a) the decrease in value of their remaining property, and b) a significant percentage of the revenue stream, in perpetuity, from the transit of any material across condemned property.

In a comment to FERC filed in the Atlantic Sunrise Pipeline Expansion docket (accessible at

5011) Clean Air Council Executive Director Joseph Otis Minnot argues that Williams, the company filing for permit, has not provided sufficient evidence that the land they seek to acquire under eminent domain will be put to public use.

Williams is not a public utility, and it has not demonstrated that this pipeline will be used to benefit the public in any way remotely similar to a road or a power line. Thus they have no more right to acquire property through which to build a pipeline than a fast food chain would in order to build a restaurant in someone's back yard.

It would seem that the principle of eminent domain, the right of the State or Federal Government to take private land in specific instances in which the taking of the land in question would benefit the public, as in the construction of a road or power line, is being distorted to benefit the aims of Williams and other firms in the business of pipeline construction and operation.

That private property may be seized in order to build a pipeline of dubious benefit to the public demonstrates the need for further consideration of the constitutionality of how the principle of eminent domain is being applied by FERC.

The report outlines ways that pipeline infrastructure can be built responsibly. It is proposed that regulation and "smart planning" can create a "win-win" scenario, in which natural and cultural resources are preserved even as a "world-class pipeline infrastructure system" is constructed.

I question the integrity of existing regulatory systems, notably the DEP. I know of many people who have, upon engaging with the DEP, been subject to a Kafkaesque experience. It is often challenging to access relevant information. The permitting process at the state level is difficult to understand and engage with. Comment periods are short and (as noted in the report) often poorly advertised. The DEP routinely processes permits in such a way that obscures the cumulative effects of a project. The extent to which public comments are acted upon in meaningful ways is highly questionable.

In order to slow or stop a particular infrastructure project, significant pressure must be placed on regulatory agencies and other decision makers. However, in rural areas, low population density, economic stress, and often a pervasive desire for peace and privacy make it challenging to assemble a group of impacted people of sufficient size to assert their rights. There is also a dearth of affordable and knowledgeable law practitioners. Thus the ability of communities, particularly rural ones, to formulate and follow their own unique vision is being eroded.

Given the above concerns, I wonder to what extent the recommendations and guidelines advanced in the Draft Report will translate into real responsibilities for State organizations, real protection offered to communities, and real restrictions placed on the industry.

It is also highly questionable how effective even legally binding regulations will be to mitigate the effects of the industry's presence. Time and time again we hear of industries that did not comply with regulations because they felt they could get away with it, that it was cheaper to simply pay the fines in those select instances where the violations were reported, or simply because of poor oversight of their employees and subcontractors. Even with ironclad regulations (that we do not currently have) I am left to wonder who will be responsible for checking up on the industry? The DEP? Local governments? The public? The industry itself? Each of these options presents major difficulties.

Residents who turn to local officials often find these officials to be without the resources,

legal authority, or all too often the will to stand up for their constituents.

The Public Participation Workgroup includes a document entitled “Public Officials' Checklist for Pipeline Projects.” This checklist encourages local officials to inquire about the costs and benefits of a pipeline in their community.

In Columbia County, Williams has taken pains to become the exclusive source of information concerning the costs and benefits of the project they are proposing. They made sure to provide their own biased information to local officials and other key stakeholders around the county early on. For example, they funded an Economic Impact study by Penn State researchers.

Even employing the good faith assumption that the statistics provided by Williams used to calculate the influx of capital predicted in the report is accurate, the report does not capture the effect of this influx on the community.

A temporary influx of capital into a local economy does not guarantee a lasting improvement to quality of life. Indeed, consider the oil boom in North Dakota and the host of social problems it has brought with it: murders, gang activity, traffic and increased truck accidents, higher rates of drug addiction, higher rates of sexual assault, and a general fragmentation of what were once tightly knit communities. All of this in addition to the negative health effects caused by the industry.

Will construction of the pipeline create similar problems in Columbia County? Will the money that does reach the local population and governance be sufficient to offset these problems? How will the county be affected when the period of frenzied economic activity ends?

It is my sincere and informed belief that anyone who fully understands the effects of a pipeline on the community it passes through would not consent to it. Indeed many community members, possibly a majority of them, are not pleased about the Atlantic Sunrise. However, they have been told by Williams representatives that it is inevitable. That if they refuse to sign their land will be taken through eminent domain (see the CAC comment, mentioned above). In spreading this kind of propaganda, the company representatives implicitly purport to represent not just the company or even the industry but progress itself.

Will the public education program recommended by the Draft Report genuinely contribute to public understanding? Will it encourage those who are anti-pipeline to stand up for their rights and their communities and instruct them how to do so? Or, will it be more pro-industry propaganda—the kind that portrays pipeline development as inevitable evident in the Draft Report itself? The kind that sees no valid reasons against building pipelines and views any opposition to pipeline development as naïve, remediable through better “education”?

In conclusion, the concerns listed above require decisive action, not just for the sake of expanded public participation but for public protection. The changes that must take place in order to offer the public a genuine say of how and indeed whether pipelines are built are far reaching. I do not believe that these changes can take place while the industry is in operation in Pennsylvania. It already has a stranglehold on the State and will find ways around any guidelines, recommendations, or even regulations that stand in its way. The harm to the people, the land, and the democracy of the State cannot be ignored. For these reasons, in the name of moral law as well as the law of the land, I ask yourself and the governor to place a moratorium on all natural gas infrastructure projects until more

information can be gathered and methods to address the issues above can be enacted.
(132)

162. COMMENT:

Attachment: [132 Comments](#) (133)

163. COMMENT:

Attachment: [134 Comments](#) (134)

164. COMMENT:

Attachment: [135 Comments](#) (135)

165. COMMENT:

Attachment: [136 Comments](#) (136)

166. COMMENT:

Attachment: [137 Comments](#) (137)

167. COMMENT:

Attachment: [138 Comments](#) (138)

168. COMMENT:

Attached please find Pipeline Task Force Comments from James T. Kunz, Jr., Business Manager of Local 66 and International Trustee. Should you need anything else, please do not hesitate to contact us. Thanks!

Attachment: [139 Comments](#) (139)

169. COMMENT:

I am writing to you from the Philipsburg/Moshannon Valley region of western-Centre County/eastern Clearfield County. I work for an economic development/community development/chamber of commerce called the Moshannon Valley Economic Development Partnership (MVEDP). The MVEDP is a member of the PA Energy Infrastructure Alliance and a strong supporter of the development of natural gas line infrastructure that will enable natural gas reserves to be piped to markets. Our region of central Pennsylvania has not capitalized on the tremendous growth of the natural gas industry because the region lacks the infrastructure needed by that industry. There are wells that have been drilled but they remain capped/non-producing because there is no infrastructure to capture the gas. The development of energy infrastructure is vital to continuing the energy boom our state has enjoyed the past seven years. Thank you for the opportunity to comment. (140)

170. COMMENT:

Attachment: [141 Comments](#) (141)

171. COMMENT:

Attachment: [142 Comment](#) (142)

172. COMMENT:

Attachment: [143 Comments](#) (143)

173. COMMENT:

Attachment: [144 Comments](#) (144)

174. COMMENT:

Dear Pennsylvania Dept. of Environmental Protection,
I'm writing to urge you to conduct a thorough and comprehensive environmental review of the impacts of natural gas pipeline expansion on our land, water, air, and our communities.
The rapid expansion of pipeline infrastructure in our state over the last few years has been unprecedented, and the people of Pennsylvania deserve answers on how new pipelines will impact our environment, our health, and our communities.
With plans to build thousands of miles of pipelines, compressor stations, and related facilities near homes and communities, every region of our state will be impacted. Streams will be disturbed and perhaps permanently damaged. Thousands of acres of woodlands will be cleared and not be reforested. Farm fields and dedicated conservation land will be encroached upon. Residential communities will be divided. You must review the environmental consequences before taking action on the Task Force Report.
By conducting a thorough and comprehensive environmental review, you and the Pennsylvania Department of Environmental Protection can protect communities from unnecessary disturbance, preserve health and safety, and help curb climate change. Please fulfill your responsibility to protect the people and the environment of Pennsylvania, Reject the current draft of the Task Force Report until a thorough and comprehensive study is conducted. (145-1530)

ACRONYMS

ABACT	Antidegradation Best Available Combination of Technologies
ACHP	Advisory Council for Historical Preservation
Ag	Pennsylvania Department of Agriculture
AMLIS	Abandoned Mine Land Inventory System
ANPRM	Advance Notice of Proposed Rulemaking
APE	Area of Potential Effects
API	American Petroleum Institute
ARRI	Appalachian Regional Reforestation Initiative
AVO	Audible, Visual and Olfactory
BAMR	DEP, Bureau of Abandoned Mine Reclamation
BMPs	Best Management Practices
BOF	DCNR, Bureau of Forestry
BTGS	DCNR, Bureau of Topographic and Geological Survey
CBR	Crude Oil by Rail
CCAP	County Commissioners Association of Pennsylvania
CESSWI	Certified Erosion Sediment & Stormwater Inspector
CNG	Compressed Natural Gas
CO2	Carbon Dioxide
COGENT	Connection for Oil, Gas and Environment in the Northern Tier
CPESC	Certified Professional in Erosion and Sediment Control
CPSWQ	Certified Professional in Stormwater Quality
CREP	Conservation Reserve Enhancement Program
CRGIS	Cultural Resources GIS
CSC	Civil Service Commission
CWA	Clean Water Act
DA	Department of the Army
DCA	Division of Compliance Assistance
DCED	Pennsylvania Department of Community & Economic Development
DCNR	Pennsylvania Department of Conservation and Natural Resources
DEP	Pennsylvania Department of Environmental Protection
DOE	United States Department of Energy
DRBC	Delaware River Basin Commission
DSIC	Distribution System Improvement Charge
ECAs	Emission Control Areas
E&S	Erosion and Sedimentation
E&SPC	Erosion and Sediment Pollution Control
EHB	Environmental Hearing Board
EIA	U.S. Energy Information Administration
EIS	Environmental Impact Study
EMA	Emergency Management Agency
EOZ	Energy Opportunity Zone
EPA	United States Environmental Protection Agency
EPCAMR	Eastern Pennsylvania Coalition for Abandoned Mine Reclamation
ERPs	Emergency Response Plans

ESCGP2	Erosion and Sediment Control General Permit
EV	Exceptional Value
FAQ	Frequent Asked Questions
FERC	Federal Energy Regulatory Commission
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FLIR	Forward Looking Infrared
FRCOP	First Responder Community of Practice
GAO	Federal Government Accounting Office
GAT	Governor's Action Team
GIS	Geographic Information System
GPTC	Gas Piping Technology Committee
HDD	Horizontal Directional Drilling
HQ	Hazard Quotient
IAP	Incident Action Plans
ILF	In Lieu Fee
ILI	In Line Inspection
IMO	International Maritime Organization
IMP	Integrity Management Program
IRT	Interagency Review Team
IVM	Integrated Vegetation Management
JPA	Joint Permit Application
KOZ	Keystone Opportunity Zone
L&I	Pennsylvania Labor and Industry
LDAR	Leak Detection and Repair
LEAP	Leaders in Energy and Preservation
LNG	Liquefied Natural Gas
LPG	Liquefied Petroleum Gas
MCWA	Mehoopany Creek Watershed Association
MOUs	Memoranda of Understanding
MS4	Municipal Separate Storm Sewer Systems
MSC	Marcellus Shale Coalition
NASFM	National Association of State Fire Marshalls
NEPIRC	Northeastern Pennsylvania Industrial Resource Center
NFR	Non-Federally Recognized
NG	Natural Gas
NGL	Natural Gas Liquids
NGOs	Non-Governmental Organizations
NOI	Notice of Intent
NO _x	Nitrogen Oxide
NPDES	National Pollutant Discharge Elimination System
NRHP	National Register for Historic Places
NPRM	Notice of Proposed Rulemaking
NRCS	National Resources Conservation Services
OA	Pennsylvania Office of Administration
OGC	Open Geospatial Consortium

OMB	Office of Management and Budget
ONAA	Office of Native American Affairs
OPS	Office of Pipeline Safety
OSFC	Office of the State Fire Commissioner
OSHA	Occupational Safety & Health Administration
PA1Call	PA1Call System
PACT	Permit Application Consultation Tool
PA APA	Pennsylvania Chapter – American Planning Association
PACD	Pennsylvania Association of Conservation Districts
PAPA	Pipeline Association for Public Awareness
PASDA	Pennsylvania State University Spatial Data
PA SHPO	Pennsylvania State Historic Preservation Office
PCH	Pennsylvania Certified Horticulturalist
PCSM	Post-Construction Stormwater Management
PDE	Pennsylvania Department of Education
PDG	Permit Decision Guarantee
PEMA	Pennsylvania Emergency Management Agency
PennDOT	Pennsylvania Department of Transportation
PE	Professional Engineer
PFBC	Pennsylvania Fish and Boat Commission
PG	Professional Geologist
PGA	Pennsylvania Game Commission
PGC	Pennsylvania Game Commission
PHMC	Pennsylvania Historical and Museum Commission
PHMSA	Pipeline and Hazardous Material Safety Administration
PIESCES	Pennsylvania Integrated Ecological Services Enhancement and Support
PIOGA	Pennsylvania Independent Oil and Gas Association
PIPA	Pipelines and Informed Planning Alliance
PITF	Pipeline Infrastructure Task Force
PM	Particulate Matter
PNDI	Pennsylvania Natural Diversity Index
PPMS	Pennsylvania Pipeline Mapping System
PPP	Public Pipeline Portal
PSA	Public Service Announcement
PSAPS	Public Safety Answering Point
PSATS	Pennsylvania State Association of Township Supervisors
PSP	Pennsylvania State Police
PUC	Public Utility Commission
QA	Quality Assurance
QC	Quality Control
RFP	Request for Proposal
ROD	Record of Decision
ROW	Right-of-Way
RTKL	Right to Know Law
RTP	Request for Proposal
SCC	State Conservation Commission

SCORP	Statewide Comprehensive Outdoor Recreation Plan
SFA	State Fire Academy
SLC	Sustainable Landscape Certificate
SOP	Standard Operating Procedure
SO _x	Sulphur Oxide
S-R	Susquehanna - Roseland
SRBC	Susquehanna River Basin Commission
STEM	Science, Technology, Engineering and Math
STO	Service to Opportunity
STPs	Shovel Test Pits
SWM	Stormwater Management Plan
TMDL	Total Maximum Daily Loads
USACE	United States Army Corps of Engineers
USDA	U.S. Department of Agriculture
USDOT	U.S. Department of Transportation
USF	U.S. Forestry
USFWS	U.S. Fish and Wildlife Services
UULPL	Underground Utility Line Protection Law
VSM	Value Stream Mapping

ENDNOTES

- ⁱ *Governor's Marcellus Shale Advisory Commission Report*, 7/22/2011, http://files.dep.state.pa.us/PublicParticipation/MarcellusShaleAdvisoryCommission/MarcellusShaleAdvisoryPortalFiles/MSAC_Final_Report.pdf
- ⁱⁱ *Pipeline Development – Strategies and Tools to Minimize Landscape Impacts*, presentation by Nels Johnson to Pennsylvania Pipeline Infrastructure Task Force, September 23, 2015. <http://files.dep.state.pa.us/ProgramIntegration/PITF/Meetings/9-23-15/Pipeline%20Development%20-%20Strategies%20and%20Tools%20to%20Minimize%20Landscape%20Impacts.pdf>
- ⁱⁱⁱ *Natural Resource Management of Pipeline Infrastructure*, presentation made by Dan Devlin, State Forester, Pennsylvania Department of Conservation and Natural Resources, August 26, 2015. <http://files.dep.state.pa.us/ProgramIntegration/PITF/Meetings/8-26-15/Natural%20Resource%20Management%20of%20Pipeline%20Infrastructure%20Presentation.pdf>
- ^{iv} *The Case for Smart Planning in Pipeline Infrastructure Development*, presentation by John Quigley, Pennsylvania Department of Environmental Protection Secretary, July 22, 2015. <http://files.dep.state.pa.us/ProgramIntegration/PITF/Meetings/7-22-15/Smart%20Planning%20Presentation%20PITF%207-22-15.pdf>
- ^v *Pipeline Infrastructure Task Force Meeting, opening remarks by John Quigley, Pennsylvania Department of Environmental Protection Secretary, July 22, 2015.* <http://files.dep.state.pa.us/ProgramIntegration/PITF/Meetings/7-22-15/Overview%20Presentation%20PITF%207-22-15.pdf>
- ^{vi} *Report to the General Assembly on Pipeline Placement of Natural Gas Gathering Lines, December 11, 2012.* http://files.dep.state.pa.us/OilGas/BOGM/BOGMPortalFiles/Act13/PipelinePlacementReport/FINAL_REPORT.pdf
- ^{vii} *Pennsylvania's environmental regulations are codified in various chapters of Title 25 (Environmental Protection) of the Pennsylvania Code available at <http://www.pacode.com/secure/browse.asp>; see e.g., 25 Pa. Code Chapter 93 (water quality standards), 25 Pa. Code Chapter 92a (national pollutant discharge elimination system permitting, monitoring and compliance), 25 Pa. Code Chapter 102 (erosion and sediment control), and 25 Pa. Code Chapter 105 (dam safety and waterway management).*
- ^{viii} *25 Pa. Code Chapter 127 (construction, modification, reactivation and operation of sources).*
- ^{ix} *The Pennsylvania Oil and Gas Act is codified in Title 58 of the Pennsylvania Consolidated Statutes available http://www.legis.state.pa.us/cfdocs/legis/LI/Public/cons_index.cfm; see 58 Pa.C.S. Section 3218.4 (corrosion control requirements), .*
- ^x *58 Pa.C.S. Section 3218.5 (gathering lines); see also Underground Utility Line Protection Law available at <http://www.legis.state.pa.us/WU01/LI/LI/US/PDF/1974/0/0287..PDF>.*
- ^{xi} *25 Pa. Code Chapter 78 (oil and gas wells).*
- ^{xii} *Pennsylvania's public utility regulations are codified in various chapters of Title 51 (Public Utilities) of the Pennsylvania Code; see e.g., 51 Pa. Code Chapter 59 (gas service).*
- ^{xiii} *The Pennsylvania History Code is codified in Title 37 of the Pennsylvania Consolidated States available at <http://www.legis.state.pa.us/WU01/LI/LI/CT/PDF/37/37.PDF>.*
- ^{xiv} *The federal pipeline safety regulations are codified in Parts 190-199 of Title 49 (Transportation) of the Code of Federal Regulations available at <http://www.ecfr.gov/cgi-bin/ECFR?page=browse>.*
- ^{xv} *United States Census Bureau. <http://quickfacts.census.gov/qfd/states/42000.html>*

^{xvi} *Planning, Mapping and Permitting: A County Overview*, presentation by Carol Stauffer, AICP, Infrastructure and Plan Review Director, Chester County Planning Commission, August 26, 2015.

<http://files.dep.state.pa.us/AdvisoryCommittees/PITF/Planning,%20Mapping%20and%20Permitting%20-%20A%20County%20Overview%20Presentation%20-%20Part%201.pdf>

^{xvii} *Pennsylvania Conservation Districts' Role in Natural Gas Pipelines*, presentation by Jim Garner, Manager, Susquehanna County Conservation District, August 26, 2015.

[http://files.dep.state.pa.us/AdvisoryCommittees/PITF/Planning,%20Mapping%20and%20Permitting%20-%20A%20County%20Overview%20Presentation%20\(PA%20Conservation%20Districts%20Role%20in%20Natural%20Gas%20Pipelines\)%20-%20Part%203.pdf](http://files.dep.state.pa.us/AdvisoryCommittees/PITF/Planning,%20Mapping%20and%20Permitting%20-%20A%20County%20Overview%20Presentation%20(PA%20Conservation%20Districts%20Role%20in%20Natural%20Gas%20Pipelines)%20-%20Part%203.pdf)