Appendix B

STATE OF NEW HAMPSHIRE
SITE EVALUATION COMMITTEE
SEC Docket No. 98-02

Application of AES Londonderry L.L.C.

DECISION

AES Londonderry, L.L.C. a wholly owned subsidiary of The AES Corporation, filed an application for a Certificate of Site and Facility to construct and operate a 720 megawatt combined cycle natural gas fired power facility in the Town of Londonderry, Rockingham County known as the "AES Londonderry Cogeneration Facility or Project." The proposed project is a 720 megawatt combined cycle natural gas fired cogeneration plant, configured with two Westinghouse 501G combustion turbine trains and a single Heat Recovery steam turbine.

The scope of the Project includes the actual project site in the Londonderry Ecological Industrial Park, as well as the (1) electrical interconnection to PSNH and NEP transmission lines along the existing right-of-way (together the "Direct Electrical Connections"); (2) the lateral gas pipeline connection to the existing Tennessee Gas Pipeline (the "Direct Gas Interconnection" or "Project Lateral"); and (3) a new cooling water supply line connecting the Manchester Wastewater Treatment Facility ("MWWTF") to the Project.

The project will be located on 47.7 acres within the 100 acre Londonderry Ecological Industrial Park, approximately 1.4 miles south of Manchester Airport. The Project will be the anchor industry in the Ecological Industrial Park by providing local steam and heat to industrial and commercial neighbors.

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1. INTRODUCTION

Brief summary of the requirements for siting electric generation facilities in New Hampshire

RSA 162-H was enacted in 1974 to address the need for new energy facilities for Public Utility companies caused by the oil embargos that existed during that period of time. The declaration of purpose in the statute contains the legislature's finding that "the present and predicted growth in electric power demands in the State of New Hampshire requires the development of a procedure for the selection and utilization of sites for generating facilities and the identification of a state position with respect to each proposed site." RSA 162-H:1(II). An application filed with the Site Evaluation Committee is filed in lieu of separate applications normally filed with various state agencies. RSA 162-H:7 (VII). The Site Evaluation Committee provides a single forum for the consideration of all issues which arise in the siting of generating facilities.

In 1996, the New Hampshire legislature enacted Chapter 374-F to restructure the electric utility industry:

> The most compelling reason to restructure the electric utility industry is to reduce costs for all consumers of electricity by harnessing the power of competitive markets. The overall policy goal of restructuring is to develop a more efficient industry structure and regulatory framework that results in a more productive economy by reducing costs to customers while maintaining safe and reliable electric service with minimum adverse impacts on the environment. Increased customer choice and the development of competitive markets for wholesale and retail electricity services are key elements in a restructured industry.

RSA 374-F:1. The legislature recognized a need for a transition from a regulated market to a competitive market to achieve its goal and in RSA 374-F:1 II stated, " . . . Competitive markets should provide electricity suppliers with incentives to operate efficiently and cleanly, open markets for new and improved technologies, provide electricity buyers and sellers with appropriate price signals, and improve public confidence in the electric utility industry."

RSA 374-F:2 defines "Electrical suppliers" to mean suppliers of electrical generation services and includes actual electric generators and brokers, aggregators, and pools that arrange for the supply of electricity generation to meet retail customer demand. The statute declares that competitive energy suppliers, and aggregators of electricity load are not public utilities pursuant to RSA 362:2. This legislation permits non-utility electric generation companies to gain access to the electric grid.

Consistent with its restructuring efforts the legislature amended RSA 162-H in 1998. The amendments provide that electric generating equipment and associated facilities, not subject to

rate regulation by the Public Utilities Commission would no longer be considered to be "Bulk Power Facilities," rather, they are "Energy Facilities." The siting and construction of new energy facilities designed for, or capable of, operation at greater than 30 megawatts is subject to the jurisdiction of the Site Evaluation Committee. Similarly, all transmission lines which would otherwise be considered bulk power supply facilities under RSA 162-H:2 and which are necessary to interconnect one electric generating facility or group of energy facilities to the transmission grid are now considered to be energy facilities. The adoption of the 1998 amendments to RSA 162-H and the enactment of RSA 374-F allows entities which are not public utilities to construct, operate and maintain electric generation facilities in the State of New Hampshire

AES Londonderry, L.L.C., a wholly owned subsidiary of The AES Corporation, filed an application for a Certificate of Site and Facility to construct and operate a 720 megawatt combined cycle natural gas fired power facility in the Town of Londonderry, Rockingham County, known as the "AES Londonderry Cogeneration Facility or Project." The proposed project is a 720 megawatt combined cycle natural gas fired cogeneration plant, configured with two Westinghouse 501G combustion turbine trains and a single heat recovery steam turbine.

II. CRITERIA FOR PROJECT APPROVAL

Pursuant to the Declaration of Purpose set forth in RSA 162-H: 1, the public interest requires the Site Evaluation Committee ("Committee") to maintain a balance between the environment and the need for new energy facilities; to avoid undue delay in construction of any needed facilities; to ensure that operation of energy facilities is consistent with the state's least cost energy policy; and to ensure that the construction and operation of energy facilities is treated as a significant aspect of land-use planning in which all environmental, economic and technical issues are resolved in an integrated fashion.

In exercising its authority, RSA 162-H: 16 IV charges the Committee with the obligation to review Energy Facilities such as the one proposed by AES Londonderry, LLC. In reviewing such applications the Committee must consider available alternatives, fully review the environmental impacts of the proposal, and consider all other factors relevant to the objectives of the statute. In order to issue a Certificate of Site and Facility the Committee must find that the site and facility:

(a) Applicant has adequate financial, technical, and managerial capability to assure construction and operation of the facility in compliance with the terms and conditions of the Certificate.

(b) Will not unduly interfere with the orderly development of the region with due consideration having been given to the views of municipal and regional planning commissions and municipal governing bodies.

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(c) Will not have an unreasonable adverse effect on esthetics, historic sites, air and water quality, the natural environment and public health and safety.

(d) peration is consistent with the state energy policy established in RSA 378:37.

RSA 162-H:16.

The relevant inquiry under the statute, regarding environmental and other impacts, is whether the proposed facility will have an unreasonable impact on the natural environment, public health and safety, and the orderly development of the region. Whether the impacts are unreasonable depends on the assessment of the environment in which the facility will be located, an assessment of statutory or regulatory constraints, or prohibitions against certain impacts on the environment, and determination as to whether the proposed facility exceeds those constraints or violates those prohibitions. In Re: New England Electric Transmission Corp, 67 NHPUC 910, p. 923; Public Service Company of New Hampshire, SEC Report issued Dec. 15, 1992.

The Committee's certificating process subsumes separate permitting procedures under several other state statutes. Ordinarily, the Department of Environmental Services is responsible for excavating and dredging permits, air operating permits, wetlands permits, water quality certification, waste management permits, and a Section 401 water quality certificate, the Office of State Planning for a federal certificate of consistency under the Coastal Zone Management Act, the Department of Resources and Development for a natural heritage inventory permit, and the State Historical Preservation Office for a historic resources review. Because of the integrated process under RSA 162-H, such permits, if issued for the project, will be incorporated in the Energy Facility Certificate.

III. SUMMARY OF CERTIFICATING PROCESS AND PUBLIC PARTICIPATI(

The Legislature recognized that the selection of energy facilities has a significant impact upon the welfare of the population, the economic growth of the state and the environment of the state. The legislature established a procedure for the review, approval, monitoring and enforcement of compliance in the planning, siting, construction and operation of energy facilities. RSA 162-H:1. The Site Evaluation Committee consists of members who are Commissioners, Directors or key personnel in various state agencies. RSA 162-H:3. RSA 162-H:6 creates time frames which provide for informational hearings, public adversarial hearing and a final decision not later than nine months after acceptance of the application.

In this case the public was represented throughout the proceeding by Public Counsel appointed by the Attorney General pursuant to RSA 162-H:9. Assistant Attorney General Justin Richardson was appointed as Public Counsel in this docket. Public Counsel's obligation is to represent the public "in seeking to protect the quality of the environment and in seeking to assure an adequate supply of energy." RSA 162-H:9 (I). In this case Public Counsel fully participated

by submitting exhibits and witness testimony, cross examining witnesses and making recommendations and argument to the Committee. The Committee is also aware that Public Counsel dedicated numerous hours to participating in public meetings and forums, outside the purview of this Committee, designed to inform and debate the issues surrounding this Application. Similarly, Public Counsel is commended for his efforts to insure that the various limited intervenors and other members of the public were permitted access to the hearing process of this Committee. Public Counsel's efforts as a liaison between the public and the Committee extended to the presentation of testimony from limited intervenors who might not otherwise have had counsel to guide them through the process.

Members of the public were encouraged to attend all hearings, file written comments, and present oral statements. Written comments were accepted before, during and after the public hearings until the evidentiary hearings were closed. The Committee received hundreds of letters, electronic mail and post cards from members of the public concerning the Application. All of the public correspondence has become part of the record of these proceedings and marked as Exhibit SEC 1. Executive Councilor Tom Colantuono and Representative Betsey McKinney along with other members of the public presented their oral comments to the Committee

The Application was filed on July 6, 1998.

Requests to intervene in the proceeding under a general appearance[1] were received from the Town of Londonderry ("Town" or "Londonderry"), and Public Service Company of New Hampshire ("PSNH"). The request of PSNH and Londonderry were granted by the Committee on August 26, 1998. On the same date limited appearances were granted to the Town of Litchfield, and Londonderry Neighborhood Coalition. T. 8/26/99 p. 22.[2] Limited Appearances were also granted to United Association of Plumbers and Pipefitters, Local 131 (Local 131), International Association of Bridge, Structural and Ornamental Iron Workers, Local 474, AFL-CIO (Local 474), and the Rockingham County Planning Commission.

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[1]RSA 541-A: 33 (III), the New Hampshire Administrative Procedure Act, permits an agency to limit the scope of participation by an intervenor. The limited appearances granted by the Committee are defined in the Committee's Draft Rules at Site 203.04. Limited intervenors are permitted to "state their position either orally or in writing" prior to the formal close of the record. However, a limited intervenor does not become a party to the proceedings. Site 203.04(b) (Draft). A general appearance allows an intervenor to become a party to the proceedings. Site 203.04(a) (Draft). Although the Committee's Draft Rules are not formally promulgated all intervenors were advised by Order of the Committee to acquaint themselves with the Committee's Draft Rules and RSA 162-H.

[2] References to transcripts of proceedings will be referenced as "T." followed by the date of the hearing and the page number. Reference to the Application of AES Londonderry, LLC, will be referenced as "Application" followed by the page or section reference as appropriate. References to Exhibits admitted during the proceedings will be referred to as "Exhibit" followed by the appropriate numerical or alphabetical designation. References to prefiled testimony will be referred to as "PT" followed by the name of the witness and page designation. References to responses to record requests will be referred to as "RR" followed by the party, date and page or appendix designation.

The Committee held a public meeting on August 26, 1998. At that meeting the Committee determined that the Application contained sufficient information to satisfy the Committee's requirements and the requirements of each state agency with jurisdiction. See, RSA 162-H:7, T. 8/26/98 p. 68. In accordance with the vote of the Committee a written Order on Acceptance of Application was issued on August 28, 1998. The Order accepted the Application as complete with respect to the footprint of the plan but advised the Applicant and the public that the granting of a Certificate of Site and Facility may be conditioned upon or withheld "until such time as gas and electrical infrastructure requirements are more clearly known and evaluated."

On September 22, 1998, the Committee held an informational hearing in the Town of Litchfield. On September 24, 1998, the Committee performed an on-site inspection of the proposed location of the facility and held an informational hearing in the Town of Londonderry. Both informational hearings were duly noticed and published in newspapers having a general circulation in the towns of Londonderry, Rockingham County, and Litchfield , Hillsborough County. At those hearings the Applicant presented information, followed by questions from members of the Committee, the parties and the public.

On September 24, 1998, the Committee also issued a procedural schedule which allowed ample time for the parties to conduct discovery but also permitted the Committee to complete its proceedings and issue a final Order within the nine month time frame required under RSA 162-H:6 (VII).

On September 24, 1998, the Committee issued a written Order allowing The Londonderry Coalition for AES and the Londonderry Neighborhood Network limited intervenor status. On November 12, 1998 the Brook Park Homeowners Association was granted limited intervenor status.

Pursuant to RSA 162-H:8, adversarial hearings were duly noticed by publication in the Union Leader (published in Manchester, Hillsborough County) on February 1, 1999, and in The Derry News (published in Derry, Rockingham County) on February 10, 1999. The affidavits of publication were filed on February 12, 1999. The adversarial hearings commenced on March 1, 1999 and continued through March 3, 1999. The record was held open until March 17, 1999 with final memorandums filed on March 31, 1999.

IV. POSITION OF THE PARTIES

Applicant

The Applicant, AES Londonderry, L.L.C. ("AES"), a wholly owned subsidiary of the AES Corporation, applied for a Certificate of Site and Facility to construct and operate a 720 megawatt (MW) combined cycle natural gas power facility in the Londonderry, New Hampshire. The Applicant submits the project will use one of the world's cleanest, most efficient, lowest-

cost technologies to supply wholesale electricity for New Hampshire and New England and to provide local steam and heat to industrial and commercial customers.

The scope of the Project for which AES is seeking a Certificate of Site and Facility includes the actual Project site in the Londonderry Ecological Industrial Park, as well as the (1) electrical interconnection to the existing PSNH and NEP transmission lines along new or expanded right of way: (2) the lateral gas pipeline connection to the existing Tennessee Gas Pipeline; and (3) a new cooling water supply line connecting the Manchester Waste Water Treatment Facility to the Project.

The proposed Project is planned to be located on 47.7 acres within the 100-acre Londonderry Ecological Industrial park, approximately 1.4 miles south of Manchester Airport. The Site is devoted to sustainable, environmentally compatible industrial development as an eco-industrial park. The fundamental concept underlying the Eco-Industrial Park is the co-location of industries whose waste streams serve as feedstocks to other industries located nearby. Application p. E1, p. 2.4.

The Applicant submits the proposed facility will operate as a merchant power facility and will generate low cost power to supply the New England Regional transmission grid. The Applicant represents the proposed power facility will utilize the latest state of the art natural gas fired technology. The proposed project is a 720 megawatt combined cycle natural gas fired power cogeneration plant, configured with two combustion turbine trains and a single steam turbine. The project will be fueled by natural gas with low sulfur distillate as a backup fuel, used only when natural gas service is interrupted. Application p. E-3.

The Applicant maintains that the combustion cycle is designed to make use of advanced technology Westinghouse 501G turbines equipped with dry low-NOx combustors. Each combustion turbine train will consist of an electric generator, directly connected to the combustion turbine shaft, the combustion turbine, including ancillary control, and fuel handling equipment; a heat Recovery Steam Generator, including Selective Catalytics Reduction equipment for Nox control; and an exhaust stack. Stack emissions will be monitored by a Continuous Emissions Monitoring System. It further argues that the proposed facility will have extremely high operational efficiency and low air emissions. Application p. E-4.

Steven Hase testified that AES is committed to the emissions data presented in the permit. If AES contracts for a different turbine other than the Westinghouse 501 G and AES determines the emissions from that machines are materially different AES would seek a modification from the Committee. T 3/1/99 p.97

The Applicant maintains that its proposed facility is consistent with the objectives of electric industry restructuring in that it will provide reliable and cost competitive electricity to wholesale purchasers in New England. The Applicant proposes specific benefits to the residents of Londonderry in that the Applicant will sell low cost power to the town which may make that

power available to the citizens as an aggregator or otherwise. T. 3/1/99 p. 54. The Applicant submits that the facility will not unduly interfere with the orderly development of the region; will not have an unreasonable adverse effect on the environment and public health and safety; and the proposed construction and operation of the proposed facility is consistent with the state energy policy. The facility will fully comply with the applicable environmental standards and other guidelines of the New Hampshire Department of Environmental Services and other reviewing agencies. Application Section 5.

The Applicant maintains the project meets the criteria for the issuance of a Certificate of Site and Facility.

Public Counsel:

Public Counsel participated fully at every stage of the proceeding. He took an active role in the proceedings through the presentation of witnesses and exhibits and vigorous cross examination of witnesses sponsored by other parties. Public Counsel raised specific concerns regarding the noise impact of the proposed facility; its impact on local fire and safety issues; and its impact on local property values. In addressing these concerns Public Counsel sponsored the testimony of James Barnes of Acentech, a multi-disciplinary acoustical consulting firm, PC Ex 1, and Henry Renfrew, a safety consultant who analyzed the fire and safety issues relative to the construction and operation of the proposed facility, PC EX 4. Public Counsel also presented a report by Thompson Appraisal Company which contained a study of the potential impacts on residential property values as a result of the proposed co-generation facility and transmission line. PC Ex 5.

Public Counsel, at the request of and as a courtesy to certain limited intervenors and members of the public, sponsored prefiled testimony and direct examination of several witnesses[3]. He filed and distributed material submitted by Dr. David T. Wallace regarding his opinion of the impact and effect of the proposed facility on public health and quality of life. Collette Gabbidon and Russell Henderson, co-presidents of the Londonderry Neighborhood Coalition, raised concerns and gave testimony regarding the technical and managerial capability of the Applicant to assure the construction and operation of the facility in compliance with the terms and conditions of any Certificate of Site and Facility, PC Ex 11, 12. Curt Friedman commented regarding the effects of ground fog and visibility caused by the plume discharge. T. 3/3/99 pp. 168-212.

[3] Although Public Counsel assisted the limited intevenors and members of the public in sharing their opinions with the Committee it would be unfair to conclude that Public Counsel agreed with all of those opinions.

Town of Londonderry:

The Town of Londonderry intervened in the proceedings and supports the Application but along with the Public Counsel addressed concerns about the impact the proposed power plant would have on the development of the industrial area, including traffic problems caused by the proposed facility, safety issues regarding the amount of storage of distillate fuel and chemicals, impacts on the town sewer system, the routing of the electric transmission connection, and various safety issues regarding gas leakage detection systems and fire hazard risk assessment plans, as well as compliance with the applicable fire and safety codes during the construction and operation of the proposed facility.

The Town of Londonderry presented three witnesses: Janusz Czyzowski, Public Works Director, Ron Anstey, Fire Marshall, and Peter Lowitt, Director of Economic Development and Planning. Peter Lowitt provided pre-filed written testimony and oral testimony supporting the project. Exhibit 41, T. 3/3/99 pp.60 - 102. In his testimony Mr. Lowitt presented the history of the Ecological Industrial Park and opined that AES is an appropriate company to locate there. He also presented letters of support from the Londonderry Conservation Commission, the Londonderry Chamber of Commerce, the Londonderry Economic Development Committee, The Londonderry Housing and Redevelopment Authority and the New Hampshire State Building and Construction Trade council AFL-CIO. T. 3/19/99 pp. 61, 62.

The witnesses supported the siting of the facility but made recommendations designed to limit impacts on existing sewer pipelines and wastewater treatment. Witnesses Janucz Czyzowski and Ron Anstey also addressed public safety issues including emergency planning processes, site plan issues, drainage issues, site design and off-site utility issues. Exhibits L1 & AES 42. The Applicant stipulated to many of the recommendations made by the Town and agreed that such conditions should be attached to any Certificate of Site and Facility. See, Exhibits No. 60, 61, 62 & 63.

Public Service Company of New Hampshire:

PSNH participated in the proceedings under a general appearance. Although PSNH cross examined witnesses and presented its position on various issues through its counsel, PSNH did not present any testimony at the adversarial hearings.

Limited Intervenors:

The Town of Litchfield entered a limited appearance and expressed its concerns regarding safety issues, lighting spillage on surrounding properties, vegetative screening, fencing and security. All of the towns's concerns were addressed by the Applicant, and a stipulation was entered into which contains recommended conditions to any Certificate of Site and Facility that may issue.

The Londonderry Neighborhood Coalition entered a limited appearance and participated in the proceedings by producing some of its members as witnesses and providing documentation and information on issues that the Committee had to address.

The Londonderry Neighborhood Network and the Londonderry Coalition for AES entered limited appearances and offered comments in support of the application.

Iron Workers Local 474 and the United Association Local Union 131 entered limited appearances and participated in the proceedings by attending hearings and receiving all of the information provided to the service list..

Rockingham Planning Commission entered a limited appearance and participated in the proceeding by attending the hearings and receiving all of the information distributed to the service list.

V. ANALYSIS AND FINDINGS

This project is the second application that comes before the Site Evaluation Committee as a consequence of changes in the electric production and generation industry resulting from legislative action providing for market competition in the generation of electricity in the State of New Hampshire through market facilities. These market facilities are not utility companies and are not subject to price regulation by the Public Utilities Commission. Consideration of these projects involves detailed analysis of the site-specific impacts as well as thorough consideration of the overarching questions of public safety, the natural environment, and orderly development. RSA 162-H:16. The Committee has fully considered all of the issues raised by the Application and the evidence. In this Order the Committee will discuss, in detail, only those issues which require expanded analysis. For uncontested and less complex matters, the Committee will adopt by reference filings and conditions suggested or agreed to by the various parties. Pursuant to RSA 162-H:16 I, the Certificate of Site and Facility will incorporate, without significant discussion, the certificate conditions recommended by the individual agencies that would, in the absence of RSA 162-H, have had jurisdiction over various portions of the application.

A. Requirements for an Energy Certificate

The Site Evaluation Committee must determine whether the facility proposed by the Application requires a Certificate of Site and Facility.

RSA 162-H:2 VII defines "energy facility" as follows:

> "Energy facility" means any industrial structure, other than bulk power supply facilities, as defined in paragraph II, that may be used substantially to extract, produce, manufacture, transport or refine sources of energy, including ancillary facilities as may be used or useful in transporting, storing or otherwise providing

for the raw materials or products of any such industrial structure. This shall include but not be limited to industrial structures such as oil refineries, gas plants, equipment and associated facilities designed to use any, or a combination of, natural gas, propane gas and liquified natural gas, which store on a site a quantity to provide 7 days of continuous operation at a rate equivalent to the energy requirements of a 30 megawatt electric generation station and its associated facilities, plants for coal conversion and onshore and offshore loading and unloading facilities for energy sources. Energy facility shall also include energy transmission pipelines, storage tanks, or any other facility which the Applicant or 2 or more petition categories as defined in RSA 162-H:2 XI request and the Committee agrees, or which the Committee determines requires a certificate, consistent with the findings and purposes set forth in RSA 162-H:1. Energy facility shall include electric generating station equipment and associated facilities only if they are designed for, or capable of, operation at a capacity of greater than 30 megawatts.

The proposed facility is a 720 megawatt (MW) natural gas combined cycle co-generation plant and is to be located on a 47.7 acre parcel located in the Eco Industrial Park in the Town of Londonderry New Hampshire. The plant and its associated facilities are designed to produce, manufacture and transport electrical energy. In doing so the plant will use natural gas as its main fuel. If the Certificate is granted and the facility built, it will be one of the largest natural gas combined cycle co-generation facilities in the country. The proposed site is in close proximity to a major airport and an industrial area that is adjacent to a residential area. The site contains a substantial amount of wetlands. The impact of the proposed facility could be significant and must be carefully examined.

The Committee finds that the proposed facility's size, 720 MW, brings this Application within the requirements of 162-H:2 VII, requiring a Certificate of Site and Facility.

B. Alternative Sites

RSA 162-H: 14 requires the Committee to "consider available alternatives" to the proposed site. The Applicant's site selection criteria is set forth in Section 6.3.2.1, p. 6-9 of the Application.

The Applicant was first drawn to the proposed site through discussions with the Conservation Law Foundation (CLF). The CLF introduced the Applicant to the Economic Development Director for the Town. T. 3/1/99, p. 89; T. 3/2/99 p. 69. The Town was seeking an energy producer that could provide cogeneration services for the Eco Industrial Park. T. 3/1/99 p. 89. The Londonderry site offered advantages to both the Applicant and the Town in its development of the Eco Industrial Park. Application, Section 6.3.1 p. 6-8. In short, the Londonderry site was first considered by the Applicant as a business opportunity and was not the result of a site evaluation study. See, Application, Section 6.3.1 p. 6-8.

In an effort to identify alternative sites the Applicant retained Earth Tech, an environmental consulting firm, to undertake an objective site evaluation study. T. 3/1/99 p. 163. The Applicant directed Earth Tech to focus its study on sites in proximity to the natural gas pipeline which is jointly owned and operated by PNGTS and Maritime & Northeast (Joint Pipeline). This pipeline is being developed in the seacoast area of the state and terminates in Dracut, Massachusetts. The Applicant also required proximity to high voltage electric transmission lines. Earth Tech developed a methodology for comparison of sites which consisted of nineteen weighed criteria. Forty eight sites along the Joint Pipeline met the minimum threshold criteria developed by Earth Tech. Through the application of more restrictive objective criteria, nine sites along the Joint Pipeline corridor were targeted. The Applicant then used its objective criteria to rank the sites. The objective criteria were also applied to the Londonderry site. The Londonderry site scored as well as any other site. T. 3/1/99 p. 163; Application, Section 6.3.4 p. 6-23.

It should be noted that the committee does not have the authority, implied or otherwise, to order the Applicant to develop a particular site. Neither the Applicant nor the Committee has the power of eminent domain or condemnation. See generally RSA 371. The function of the Committee regarding alternative sites is to confirm that the Applicant has reviewed alternative sites.

The Committee accepts the criteria and analysis used by the Applicant in studying available alternative sites. The Committee finds that the Londonderry site, located in the Eco Industrial Park, is an appropriate site for the development of the proposed facility.

C. Statutory Criteria

1. Applicant's Capability

The first statutory factor the Committee must consider is whether the Applicant has adequate financial, technical, and managerial capability to assure construction and operation of the facility in compliance with the terms and conditions of the Certificate. RSA 162-H: 16, IV(a).

In its application, AES Londonderry L.L.C., submits that it is a wholly owned subsidiary of AES Corporation, a leading independent power producer in the United States and in the world. Founded in 1981, the company has constructed and/or operated and now owns more than 100 gas fired, hydro and solid fuel power plant facilities and energy businesses in 17 countries. Application Section 1.1, p. 1-1. The Applicant's facilities serve more that 50 million people with reliable, safe, economical, environmentally responsible supplies of electricity. Id., T. 3/1/99 p. 46. AES Corporation has assets in excess of $8 billion dollars with revenue in 1998 of $ 2 billion. T. 3/1/99, p. 47. The Applicant asserts that it will draw on the collective knowledge and experience of over forty thousand worldwide employees in order to marshal the necessary resources to handle the financial, technical and managerial implementation of the project. T. 3/1/99 p. 46.

The Londonderry Neighborhood Coalition alleges that the Applicant has repeatedly demonstrated inadequate or unscrupulous managerial practices and lack of employee oversight at its existing facilities, leading to numerous violations of permit conditions or terms of certificates issued by state and federal agencies and violations of state and federal regulations designed to protect the environment and public health. LNC argues that, based on the record of past performance, the public cannot rely on the Applicant's statements and promises to abide by any terms or conditions which are made part of the Certificate of Site and Facility or to comply with the federal and state regulations pertaining to public health and safety. Exhibit PC 11. T. 3/3/99 p. 116 - 165. Testimony from Collette Gabbidon and Russell Henderson detailed allegations of various spills, toxic releases, and falsification of wastewater documents. In addition, LNC, through its panel of witnesses, questioned the Applicant's methods of obtaining permits and zoning relief. Id.

The Committee, concerned with the allegations made by the Londonderry Neighborhood Coalition, requested the Applicant to provide documentation relating to the allegations raised.

The Applicant responded to the record request with four volumes of material containing a report from the Applicant entitled Environmental Compliance Report and substantial correspondence and documentation regarding various environmental or permit violations from various facilities across the United States owned by the Applicant. See, RR 3/17/99 Volumes 2 - 4.

The Applicant, through the testimony of Steven Hase and in the response to the record requests, confirmed many of the alleged incidents. Understanding the impression that these incidents may create, the Applicant asserts that 1992 was a turning point in the Company's regulatory compliance record. AES claims that it now demands full compliance at each of its facilities. It submits the Company's record over the past five to seven years shows that it is committed to learning from its experiences and that its employees are dedicated to identifying and correcting environmental problems promptly. Moreover, when problems have arisen recently, they have generally involved much less serious regulatory issues. See AES response to record request No.1 and accompanying documents. Also see T. 3/3/99 pp. 355 - 378.

The Applicant represents that since 1992 it has made significant changes in its corporate policies to avoid similar occurrences. The Applicant indicates that it has instituted a rigorous and multi-tiered hiring process, enhanced its employee training efforts, required internal reporting to executives outside the individual facilities, and provided increased compensation for performance and environmental compliance. T. 3/1/99 p. 72 - 74. In this proceeding, AES pledges to implement an internal, self auditing procedure to assure compliance at the Londonderry facility, consistent with RSA 149-E. Furthermore, AES maintains it will be an integral part of the Eco-Industrial Park's internal management of environmental performance through its environmental management system and ecological design guidelines. Exhibit AES 41.

The Town of Londonderry in its closing brief appropriately notes that the Londonderry Neighborhood Coalition did not include a discussion of the Applicant's response at the time of

the various violations. In summarizing the objective documentation provided by the Applicant, the Town of Londonderry recognized the seriousness of the incidents raised by the Londonderry Neighborhood Coalition, but noted that AES responded promptly and appropriately in each instance. All of the incidents were resolved through consent agreements with AES accepting financial responsibility. AES demonstrated its ability to maintain open communication with the regulatory authorities involved, cooperating with authorities and documenting compliance results. Based on its analysis, the Town submits that it is confident that the Applicant has the financial, technical and managerial capability to assure construction and operation of facility in continuing compliance with the terms and conditions of the Certificate.

After a review of the allegations concerning managerial capability and the response provided by the Applicant, the Committee finds that the Applicant has sufficient managerial capabilities and safeguards to warrant the issuance of a Certificate of Site and Facility. Although the Applicant did have some serious violations in the past at other facilities, the record reflects that it reported the incidents promptly and assumed responsibility by correcting the violation and satisfying any penalties incurred. However, the Committee views violation of terms and conditions of Certificates of Site and Facility, as well as violations of state and federal agencies as very serious matters. The Committee will insist that if any violation of a condition of a Certificate, or state or federal regulation occurs, it be reported to the proper authorities immediately and proper steps be taken to eliminate or mitigate any damage that takes place.

Based on the information submitted, the Committee concludes that the Applicants have sufficient financial, technical, and managerial capability to assure construction and operation of the facility in compliance with the terms and conditions of the Certificate.

2. Orderly Development

RSA 162-H: 16, IV (b) requires the Committee to consider whether the proposed project will "unduly interfere with the orderly development of the region with due consideration having been given to the views of municipal and regional planning commissions and municipal governing bodies."

The Town of Londonderry participated as a party in these proceedings. The Town through its Town Council and Planning Board supported the Application. The Town presented witnesses and exhibits pertaining to the effect of the proposed facility on the orderly development of the region. The Town introduced the Londonderry Master Plan, Exhibit L-2 and asserts that the proposed facility is consistent with the Plan. Peter Lowitt, former Director of Planning and Economic Development for Londonderry, described how the AES facility fits into the Town's Master Plan for development. Exhibit L-2 . Mr. Lowett further testified that the AES facility was an appropriate business for the Town's Ecological Industrial Park. The Eco Industrial Park is an industrial zoned area within a large 1000 acre area, designed to combine environmental awareness and by-product exchange in support of a sustainable environment. The Applicant's proposed use of recycled waste water from the City of Manchester, its minimal wetlands impact,

its dedication of 110 acres to permanent conservation land and its efficient and low pollutant emitting plant design, all support Londonderry's commitment to environmentally sustainable business development. Exhibit 41 p.3-5

The Applicant voluntarily submitted to a site plan evaluation by the Londonderry Planning Board. The Planning board review which was conducted by Vollmer Associates, an engineering and planning firm, identified certain areas pertaining to the orderly development of the region that should condition the Certificate. Particularly the Vollmer report addressed sanitary sewer and drainage issues. See, PT Janusz Czyzowski, Exhibit A. Numerous conditions pertaining to the orderly development of the area were offered as stipulations by the Applicant and the Town. See, Stipulation for Permit Conditions, 3/31/99.

The Town also presented the testimony of its Public Works Director, Janusz Czyzowski. Mr. Czyzowski testified favorably towards the Application and concurred in the recommended conditions jointly offered by the Town an the Applicant.

The Committee finds that the proposed facility will not have an unreasonable adverse impact on the orderly development of the area. Indeed, the proposed facility is consistent with the Master Plan for the Town and with the goals underlying the Town's development of the Ecological Industrial Park.

3. No Unreasonable Adverse Effect

RSA 162-H: 16 IV (c) requires the Committee to find that the site and facility will not have an unreasonable adverse effect on 1) aesthetics, 2) historic sites, 3) air and water quality, 4) the natural environment and 5) public health and safety.

The Committee has previously recognized that there are few, if any human endeavors which can be undertaken without some impact to the environment. Recognizing this, the Legislature sensibly charged the committee to "maintain a balance between the environment and the possible need for new energy facilities in New Hampshire." RSA 162-H:1. The statute requires this inquiry to determine whether the impact is "unreasonably adverse." This phraseology assumes there will be an impact, and calls for an assessment of the impact. State and federal statutes and regulations provide the framework for this assessment. They establish constraints or prohibitions against certain environmental impacts. If the proposed project complies with those constraints or prohibitions, it is reasonable to assume that the impacts created can be considered reasonable. Re: Tennessee Gas Pipeline, SEC 89-01 p. 8.

Each of the five categories set forth in RSA 162-H: 16 IV (c) are discussed as follows:

a. Impacts on Aesthetics

The construction of the proposed project will be in an existing ecological industrial park, adjacent to the Stonyfield Farm facility, just south of the Manchester Airport. The area is located in the industrial zone area and per the Town of Londonderry Master Plan, is in compliance with the Town's objectives for Eco Industrial Park development.

In evaluating the potential visual impacts of the proposed facility, the Applicant conducted a field program to evaluate the visibility of the facility components. The program utilized helium-filled weather balloons. A computer graphic software program which superimposed view shed photographs from different locations, showed that the aesthetics impacts of the plant were minimal from all locations. The highest structure within the project are the two stacks, designed to exhaust the products of natural gas combusted in the turbines. They will be approximatel[illegible]1 feet in diameter and 132 feet tall, from a base elevation of approximately 300 feet. The most prominent structures, in terms of bulk are the 78 feet high generation building and the 95 feet high HRSG enclosure. The generation building (the core of the project facility) will house the combustion turbines, the steam turbine and the condenser. Its 78 foot height is measured from a base elevation of approximately 312 feet. The 95 foot high HRSG building will be measured from a base elevation of approximately 300 feet. The Applicant maintains that the view of the project structures from all directions is extremely limited and therefore does not cause an unreasonable adverse impact upon the aesthetics of the area. Application, Section 5.1.2.

The Committee finds the presence of the proposed energy facility in the ecological industrial park conforms to the characteristics of the area. Based upon the visual modeling performed by the Applicant and the lack of any evidence to the contrary, the Committee finds the visual impacts to the residential area to be minimal, and there will not be any unreasonable adverse impact on the aesthetics of the area due to the height of the structures at the proposed facility.

b. Impacts On Historic Sites

The Applicant presented a cultural resources investigation that would adequately satisfy the requirements of the Federal National Historic Preservation Act. An initial on-site reconnaissance lead by a recognized archaeologist was conducted. See Application, Section 3.4. A Phase IB study will be conducted if deemed necessary by the New Hampshire Division of Historical Resources. In the event that any archeological artifact, questionable artifact or unidentified burial is uncovered or discovered during construction the Applicant shall immediately report same to the appropriate state or federal agency. With this safeguard, the committee finds the proposed facility will have no unreasonable impact on historic sites in the area. See, Application, Apx. C; PT Mark E. Slade, p. 4.

c. Impacts On Air And Water Quality:

i. Air Quality

The Applicant's witness suggests that the facility will have no significant impacts on the ambient air quality, as defined by the US EPA, and as a new major stationary source, will have to comply with numerous federal and state regulations. These include the prevention of significant determination ("PSD") regulations, non attainment new source review for emission of nitrogen oxide ("NOx") and volatile organic compounds ("VOC"), and the National Ambient Air Quality Standards (NAAQS"). These regulatory programs require that the facility apply the lowest achievable emission rates ("LAER") for non-attainment pollutants such as NOx and VOC and the best available control technology ("BACT") for carbon monoxide, particulate matter, and sulfur dioxide. In addition to the foregoing regulatory programs the facility must also demonstrate that it will not cause or contribute to a violation of the PSD Class II increments or the New Hampshire AALS in the surrounding area and will not have a negative impact on local visibility; damage local vegetation; or degrade visibility in Class I areas.

To achieve these regulatory limitations, the Applicant submits the proposed facility will use high technology control strategies for air pollution. These strategies include the use of advanced combustion technology to reduce carbon monoxide emissions. The project will also use the natural gas and very low sulfur distillate as primary and back up fuels for the combustion turbines, respectively. The use of this combustion technology and fuel sources will limit the production of sulfur dioxide and particulate matter.

The project proposes to use two combustion turbine trains and a single steam turbine. Low-sulfur distillate will be the backup fuel, limited to times when natural gas service in interrupted. The combustion cycle is designed to make use of advanced-technology Westinghouse 501G turbines equipped with two dry low-NOx combustors. Each combustion turbine will consist of an electric generator, directly connected to the combustion turbine shaft; the combustion turbine, including ancillary control, and fuel handing equipment; a Heat recovery Steam Generator (HRSG), including Selective Catalytic Reduction (SCR) equipment for NOx control; and an exhaust stack. Stack emissions will be monitored by a Continuous Emissions Monitoring System (CEMS). In addition oil firing will be limited to 29.2 million gallons per year, which is equivalent to 30 days per year of fuel oil usage. This will further reduce the emissions of NOx.

In addition to these emissions controls, the facility will obtain offsets from existing sources equal to 1.2 times its proposed allowable emissions for NOx. These offset credits will be obtained pursuant to state and federal regulations.

The Applicant, after conducting extensive study and modeling, concludes that the facility will not cause or contribute to violations of the NAAQS for any criteria pollutant; that the facility will not exceed all control technology requirements by not exceeding the emission limits for LAER or BACT: that the facility will not have an adverse impact on visibility in any Class 1 areas; the facility will not have an adverse impact on local vegetation; and that the facility will not cause adverse impacts to visibility; and that the facility will comply with all other applicable federal and state air quality requirements. local vegetation; or visibility. The Applicant concluded that

the facility will be a model for using high-technology and careful site design to minimize impacts to air quality, and will have no adverse effects on the air quality of the State of New Hampshire. The use of natural gas reduces emissions of air pollutants and provides the opportunity to lower energy costs and economically meet strict, new environmental requirements. The Applicant, has prepared illustrations and air quality studies on how natural gas can provide direct air quality benefits to the northeast, which are set forth in Section 5.2 of the Application

The Department of Environmental Services, Air Resource Division, pursuant to federal and state requirements prepared a Preliminary Determination to Grant a Prevention of Significant Deterioration Permit and Non-Attainment Permit, and a Temporary Permit. Exhibit AES 85. A final permit as now issued has 23 conditions. See Attachment D. The temporary permit contains twenty conditions for the Applicant to comply with. The Committee finds that the proposed facility with the condition attached to the Temporary Air Resource permit will not have an adverse impact on Air quality.

DES also anticipates that the construction and operation of the AES Energy facility may result in a direct benefit to regional air quality. This benefit would be realized as the facility commences operation, if it displaces other facilities currently operating in the region. The current fleet of power generating facilities in the region include oil-fired, coal-fired, nuclear fueled and some limited hydro. The coal and oil units in the region emit air pollutants at a rate significantly higher than AES. The table below compares the regional average emission rates for fossil fuel (coal and oil) facilities in the region to AES:

Pollutant	Average Fossil Plant[4]	AES on Natural Gas	AES on Fuel Oil
NOx	4.4 lb/MW-hr	0.03 lb/MW-hr	0.14 lb/MW-hr
SO2	8.3 lb/MW-hr	0.009 lb/MW-hr	0.20 lb/MW-hr
CO2	2339 lb/MW-hr	1070 lb/MW-hr	1500 lb/MW-hr

The table above clearly demonstrates that the AES facility will emit pollutants at a rate significantly below the average fossil fuel plant in the region. If each MW of power produced by AES were to displace a MW of power currently being produced by an average fossil plant in the region, the net emission reductions of NOx, SO2 and CO2 in the region would be as follows:

[4] Source: NESCAUM Generating Performance Standards Workgroup.

Pollutant	Annual Emissions from AES[5]	Annual Emissions From Average Fossil Plant	Net Reduction of Pollutants
NOx	264 TPY	12,488 TPY	12,224 TPY
SO2	154 TPY	23,557 TPY	23,403 TPY
CO2	3,036,916 TPY	6,638,643 TPY	3,601,727 TPY

The construction and operation of facilities like AES may produce significant regional benefits if output of older, dirtier plants are displaced. These benefits would lead to regional reductions in air pollution which would help protect public health, improve environmental quality and reduce regional haze.

The Committee finds that the proposed facility constructed and operated, as conditioned by the DES, will not impose any unreasonable adverse impact to air quality. Said conditions will be attached to the Certificate of Site and Facility, as Attachment G.

At the adjudicatory hearing the Committee heard evidence regarding the possible contamination of air associated with aerosols generated by wastewater from treatment plants. Dr. David T. Wallace a member of the public, presented by Public Counsel, testified that " AES does not know what is in the water they are releasing" and they " are releasing too much water and that will affect the local environment of Londonderry." He believes that although there will not be any pathogenic bacteria transmitted via water vapor, viruses and organic molecules are easily transported in water vapor.

The Applicant submitted the testimony of Amy Rosenstein, a public health specialist. Ms Rosenstein conducted a study of the literature regarding biocides and opined that the controls used in the cooling system as proposed by the application would be sufficient to control the emission of any pathogen out of the tower to a level that would be insignificant to the health of the public.

The Department of Health and Human Services, Office of Community and Public Health, prepared a memo regarding the health impacts of cooling towers and concluded:

> "the information collected by multiple investigators indicates that no health problems have been demonstrated to be associated with aerosols generated by wastewater treatment plants. The use of reclaimed water is usually regulated through state law and by the EPA. In NH, wastewater treatment plants are regulated by the Department of Environmental Services. Wastewater treatment

[5] All emissions estimates are based on AES producing 5,676,480 MW-hr on an annual basis.

facilities may also be regulated by EPA where EPA regulations are more stringent than State standards. The DES regulation ensures that the design, construction, and operation of wastewater treatment facilities is in accord with state standards. DES also has discharge standards which must be met."

See, Memo, 3/19/99 submitted pursuant to a record statement, T. 3/3/99 p. 40.

After a review of the applicable testimony and exhibits, the Committee accepts the position of the Department of Environmental Services Air Resource Division that the proposed facility poses no unreasonable adverse impacts on air quality. The Committee will accept the conditions that are imposed by the Air Resource Division's final permit as Attachment "D".

ii. Water Quality

The New Hampshire Division of Environmental Service has reviewed the Application and the various permit filings of the Applicant. Several permitting requirements were identified. The proposed facility requires a Site Specific Permit and a wastewater design review from the Wastewater Engineering Bureau for the effluent line from Manchester to the site and for the wastewater interconnection to the Londonderry system. The project will require a Standard Dredge and Fill Permit and registration with DES as well as record keeping requirements for water use activities.

The New Hampshire Department of Environmental Services, Water Division having reviewed the material and information provided by the Applicant has recommended permit conditions to the Dredge and Fill Permit and Permit conditions to be attached to the Certificate of Site and Facility as set forth in revised Exhibit AES 84.

The Committee finds that there are no unreasonable adverse impacts on air and water quality caused by the construction, operation or maintenance of the proposed facility limited by the appropriate conditions that will be attached to the Certificate of Site and Facility, as Attachments D and E.

4. Impacts On The Natural Environment:

The Applicant has taken extensive measures as outlined in the application to reduce impacts on sensitive environmental areas. Wetland resources on the site were identified and mapped. Application, Apx. C, Normandeau Report. The Applicant's constructions plans are to fully restore and replace any wetland resources affected by the project.

Correspondence with the New Hampshire Heritage Program and ecological surveys of the site indicated that no threatened or endangered plant or animal species were found on the site. Application, Apx. C.

In addition to the above the Applicant will preserve the majority of wooded sections on the site by leaving them in their natural state.

The New Hampshire Heritage Program has been made aware of the project, and indicated it has no recorded occurrences for sensitive species near the project. Fish and Game, and the United States Department of Interior, Fish and Wildlife Service also indicated, that no impacts to federally-listed species will occur.

i) Merrimack River Impacts

Questions concerning the impacts on the Merrimack River were raised and examined by the Water Division of the Department of Environmental Services. The Applicant proposes to use treated effluent water from the City of Manchester Waste Water Treatment Plant for cooling water after further treatment. An average of 3.5 million gallons per day (mgd) with a maximum flow of 4.4 mgd of treated effluent water will be required. Approximately 80 percent will be used by the proposed plant; the remaining 20 percent will be returned to the Merrimack River through the Manchester waste water system. At an average daily flow of 3.5 mgd to the proposed facility, about 0.1% of the approximately 3,400 mgd average flow in the Merrimack River will be diverted. Under extreme conditions, with a maximum reuse rate of 4.4 mgd and the Merrimack River's 7Q10, the low flow which occurs statistically every 10 years for 7 days, at Goff's Falls between 422 to 430 mgd, about 1 percent of the river's flow will be diverted. Due to treatment at the proposed facility, the mass of suspended solids released to the river will also be somewhat reduced. These impacts are sufficiently small so as to be not readily measurable in the river. The Committee finds that there will be no unreasonable adverse impact on the Merrimack River.

As in any project of this size, considerable analysis, examination and studies of the effects on the natural resources of the state have been performed. The various agencies have examined and studied the Applicant's Environmental Construction Plan and have advised, informed and directed the Applicant to take certain measures to eliminate or mitigate, environmental impacts. The areas reviewed included river impacts, state fisheries, threatened, endangered and rare plants, and animal species; and sensitive and wetland habitats. The New Hampshire Natural Heritage Program, the Fish and Game Department and the DES have all participated in developing suitable mitigation measures for these areas.

The Committee finds the proposed facility will not cause any unreasonable adverse impacts on the natural environment.

5. Impact on Public Health and Safety

The Applicant states it is committed to safety, both in the work place and in the surrounding community. It claims to have used state of the art technology to design a safe facility and state it is of fundamental importance that the facility be conducted in a safe manner. The Applicant

maintains that the construction and operation of the Project will be designed and managed to ensure maximum safety for employees and the surrounding community. All design , construction and operation activities and equipment for the proposed project will be in accordance with good engineering practice and local, state, and federal regulations (including Department of Labor and Occupational Safety and Health Administration standards), and will comply with the latest editions of the regulations of applicable governmental agencies and engineering associations. (Ex AES1 Sec. 4.10).

The Applicant maintains that the facility is designed with the most up to date safety features available. It will conform to all applicable state and federal regulations and statutes regulating the safe design, construction and operation of electrical generation facilities. The gas interconnection will also be designed in consultation with the pipeline operator to minimize any associated dangers. The Applicant has also developed specific procedures for certain activities including the handling of toxic chemicals. Exhibit AES1 Sec. 4.8. In addition the Applicants has developed training programs to provide emergency health care. Exhibit AES1 Sec. 4.10.4, emergency training programs and safety programs.

Concerns for public health and safety issue were raised pertaining to, noise, fire safety, emergency response and ground fog and icing. These concerns are addressed as follows:

i) Noise

The Applicant also presented information on the impacts of noise from the construction and operation of the proposed facility in Section 5 of its Application. The Applicant concludes that the project will emphasize noise abatement in the design of the proposed facility. By holding its design to an appropriate standard, the project will comply with federal recommendations and the Town of Londonderry's industrial performance standards. To assure the community that there will not be significant noise, the Applicant will design the proposed facility to maintain an overall "not to exceed" plant noise established for the project for community locations to 45 dBA.

Public Counsel presented an acoustical engineer, James Barnes of Accentech, a multi-disciplinary acoustical engineering firm, who stated that "Based on our review and on our experience with the construction of other power facilities, we judge that the construction of this facility will not likely result in an unreasonable adverse noise impacts on the community." PT James Barnes, p. 6. Mr. Barnes initially made the following recommendations to assure that construction noise be limited:

1. The Applicant maintain a telephone hot line service and respond to individual noise complaints from community residents.

2. Limit construction work to weekday hours of 7:00 AM to 7:00 PM, with additional hours by special permit only.

3. Utilize mufflers on all engine driven equipment.

4. Utilize mufflers for the steamblow activity.

5. Notification to the Community in advance of pile driving and blasting activities.

PT James Barnes, p. 7.

Mr. Barnes also testified that based on his review, significant effort will be necessary to design, construct, and operate a facility that will not result in an unreasonable adverse noise impact on the community. Id. Barnes recommended the following conditions for the design and operation phases of the proposed facility:

1. The facility be designed, constructed, and operated to meet at a minimum the Applicant's commitment of 45 dBA at all existing residences.

2. The facility be designed to limit the noise to 70 dBC (the C-weighted scale measures low-frequency sounds to a greater extent than the A-weighted scale) in the residential community to address the potential for excessive low-frequency sound and for sound-induced vibrations in residential structures.

3. The facility be designed so that it does not produce any prominent pure tones [as defined in Appendix A of ANSI S1.13- 1971(R1986)] that are noticeable in the residential community.

4. During the design phase, the Applicant provided information on the steam vent systems, estimated sound power levels of each vent the attenuation provided by each vent muffler, and the estimated sound levels for each vent at the community locations in the application.

5. During the design phase, the Applicant provided details of the design (including the updated acoustical model) that clearly demonstrate the facility noise will meet the 45 dBA and 70 dBC project limits.

6. Consider a voluntary buyout program in the event a resident is adversely impacted by facility noise; this type of program has been employed at another power facility in the United States. The program could apply only to current residents (i.e., exclude new residents since licensing of the facility) who become unhappy with the facility noise within one year of initial plant operation, and who experience facility noise levels greater than a preset value.

7. Following initial plant operation, measure the facility noise to demonstrate that all project requirements have been achieved. Compliance should be at each of the residential locations given in the application. The results should show that the facility noise does not exceed 45 dBA and 70 dBC, and does not contain any prominent pure tones [per Appendix A of ANSI S1.13-1971(1986)] at each residential location.

PT James Barnes, p. 7 - 8.

The Town of Londonderry was also concerned with the possible noise due to the operation of the facility and recommend that the Committee condition any certificate on the plant design of 45dBa sound level during operation of the plant.

After engaging in negotiations the parties offered a noise stipulation which essentially embodied the conditions recommended by Mr. Barnes for the construction and operation phases of the facility.

The Committee recognizes that the buy-out agreement contained in the noise conditions is a voluntary action by the Applicant. However the Committee is concerned that the buy out process is fair and meaningful to the affected residents. To assist the affected residents, the Committee will direct the Applicant to send a fact sheet to each of the affected residents explaining the buy-out process as well as the obligations of the Applicant and the affected residents. The Applicant shall include in the fact sheet the hotline number. The Town of Londonderry shall approve the format and language of the fact sheet before it is distributed.

The Committee is satisfied and finds that the stipulation containing the proposed noise conditions adequately protects against unreasonable noise impact. The stipulation shall become a condition of the Certificate.

ii) Fire Safety & Emergency Response

As can be expected with a proposed facility of this size all parties are concerned with plans for emergency response and the handling of hazardous materials. There was no dispute amongst the parties regarding these matters. All of the parties substantially agree that conditions suggested by Public Counsel's safety expert, Henry Renfrew should attach to the Certificate. Exhibit AES 34. 34.

The Committee has reviewed the recommended conditions concerning fire safety, hazardous materials and emergency responses and find said conditions proper and will adopt the conditions as part of the Certificate.

iii) Ground Fog & Icing

One of the concerns raised by intervenors and members of the public was the issue of ground fog and icing, as a result of evaporating water to cool the effluent from the steam generating process. Curt Friedman, a registered professional engineer, presented information he has gathered about water vapor and associated ground fog and icing from power plants similar to AES Londonderry, and about the alternatives of dry cooling and wet/dry combination cooling T. 3/3/99, pp. 167-212, Dr. David T. Wallace, an immunologist who lives in Londonderry, also testified to his concern that the plant's wet cooling system would produce water vapor that would settle as ground fog and ice under certain weather conditions T. 3/3/99, pp. 275-276. After the record was closed, Mr. Wallace sent the Committee a critique of AES Londonderry's studies of the issue, in which he argued that the Applicant's studies did not support the claim that ground fog and icing would be prevented.

The director of the Manchester airport, and other officials with responsibility for various aspects of public safety that would be affected by ground fog or icing, have endorsed the plant, and expressed no concern about ground fog or icing.

During the proceedings, the Applicant amended its petition to include a proposal for plume abatement technology at the plant.

The Applicant presented the testimony of Jack Burns and Jim Van Garsse, both of whom are engineers engaged in the design and construction of cooling towers. Each conclude that wet cooling process proposed by the Applicant with the proposed plume abatement technology would not cause ground fog or icing. Both Mr. Burns and Mr. Van Garsse have considerable experience with cooling tower technology. Mr. Burns is a former director of the Cooling Tower Institute and Chairman of the American Society of Engineers PTC 23 Cooling Tower Committee.

Additionally, the Applicant has agreed with the Town of Londonderry that there shall be no ground level icing and no ground level fogging as a result of the operation of the plant as a condition of the Certificate. AES recognizes that a failure to comply with this condition may result in enforcement pursuant to RSA 162-H. See, Brief Stipulations for Permit Conditions, Section I (G).

The Site Evaluation Committee credits the testimony of Mr. Burns and Mr. Van Garsse and finds that the proposed AES facility , through the use of its plume abatement technology, and subject to the stipulation with the Town of Londonderry, which will become part of the Certificate, will not cause ground fog and icing to a degree which would cause a public safety risk.

While Mr. Friedman argued that without dry cooling or wet/dry cooling such a condition could not be met, the offered condition puts the risk of such failure on the Applicant. That is, should

ground fog or icing occur, all enforcement actions, including voiding the certificate, would be available.

Given the Applicant's willingness to subject its right to continue operation to the condition that no ground fog or icing be allowed to occur, the concerns raised by intervenors are addressed. The Committee thanks both Dr. Wallace and Mr. Friedman for taking their time to research these issues, and for putting the issue on the table.

The Committee finds that the proposed facility and associated facilities, with the conditions imposed by the Committee, will not have any unreasonable adverse effect of the public health and safety.

D. Consistency with State Energy Policy

RSA 162-H:16I V (d) requires that the construction, operation and siting of a proposed generation facility be consistent with state energy policy as set forth in RSA 378:37:

> The general court declares that it shall be the energy policy of this state to meet the energy needs of the citizens and businesses of the state at the lowest reasonable cost while providing for the reliability and diversity of energy sources; the protection of the safety and health of the citizens, the physical environment of the state, and the future supplies of nonrenewable resources; and consideration of the financial stability of the state's utilities.

In its filing, the applicant directly addressed the issue of consistency with the state's energy policy only briefly. The applicant asserts that the proposed facility will meet the energy needs of the citizens and businesses of the state at the lowest reasonable cost while providing a diverse energy resource to the state and region. Specifically, the applicant states that through use of state-of-the-art technology and equipment, and the use of low-cost natural gas, the facility will produce reliable lower cost power in New England, which will benefit New Hampshire consumers.

In assessing whether the proposed project is consistent with the state's energy policy, the Committee notes that this energy policy statement comports with the balancing of interests set forth in the Site Evaluation Committee's enabling legislation. In crafting RSA 162-H, the legislature was both mindful of the need to address "the present and predicted growth in electric power demands in the State of New Hampshire," and also careful to assert that "the public interest requires that it is essential to maintain a balance between the environment and the need for new power sources…." RSA 162-H:1(II). Under our mandate to consider compliance with state energy policy, the Committee must focus on whether the proposed facility will meet the need for new power in a fashion that fosters reliability, source diversity, environmental improvement, and lower costs for New Hampshire customers. We find that the proposed facility meets these criteria.

The Applicant has presented evidence that this facility introduces generating technology to New Hampshire that is significantly more energy-efficient and environmentally friendly than existing fossil fuel plants in the region. The Applicant has also presented evidence that development of this gas-fired combined cycle facility will enhance the diversity of energy sources in New Hampshire. The Committee also determines that the facility will foster system reliability, including during peak periods that create capacity shortages, such as those New Hampshire and the region have experienced in recent summers. Indeed, this facility may well reduce the likelihood that dirtier "mothballed" generating units will need to be reactivated to avert capacity shortages, thus further contributing to reduced emissions and improved air quality as well as lower power costs. Further findings regarding this project's compliance with environmental protection, as well as public safety and health goals, are addressed more fully elsewhere in this decision.

This project will provide the opportunity for the citizens of Londonderry to be the recipients of low cost power. The Applicant has represented that the Town of Londonderry will have the opportunity to create a low cost power agreement which can provide for power to be sold to residents at a cost of approximately three cents per kilowatt hour T. 3/1/99 p. 54. The Town will have the ability to act as an aggregator or otherwise and make this power available to the citizens.

With the advent of competitive wholesale and retail power markets in New England, the Committee's inquiry as to need for new power facilities has of course broadened to include not only immediate and long term capacity needs to serve projected increases in native consumption and demand, but also the degree to which new, more efficient facilities will benefit New Hampshire customers by helping to foster regional market development. The Committee finds that the proposed plant will increase the number of wholesale producers in New England, and that such new, efficient generating capacity will serve the interests of New Hampshire customers by fostering competition as a means to bring lower cost power to New Hampshire and the region.

In light of the above, the Committee finds that the proposed facility is consistent with the state energy policy.

E. Public Participation/Protection of the Public Interests

The Committee acknowledges that the public participated actively in presenting its views and concerns about the design, construction and operation of the proposed electric generating facility. In the formal proceeding, the Committee held two informational hearing, both of which were well attended and numerous questions were submitted. Answers by the Applicant and Committee members were provided. In addition to the formal proceedings the Applicant provided for a collaborative process where it sought to foster public participation and reach public consensus in creating the best possible project, one that would be both environmentally and economically beneficial to the Londonderry area. As a result of the informational hearings held by the

Committee and the Applicant's private collaborative process, the Committee received numerous letters from residents and citizens expressing their views for and against the prosed project. The Committee received a large quantity of letters or post cards in support of the project, including letters from the Londonderry Housing Authority, the Manchester Airport Authority, the Eco-Industrial Commission and the Londonderry Chamber of Commerce. The Committee also received an equally large quantity of letters and postcards from members of the public in opposition to the facility. All of this correspondence has been marked as Ex SEC1 and filed in the records of this proceeding. The amount of correspondence from the public clearly shows the great interest the public has in this proposed project. The Committee appreciates and applauds the participation of the public and commends everyone that contributed in providing information to the Committee.

The Committee was informed that the Town of Londonderry was to have a referendum vote on the question as to whether the proposed facility should be located in Londonderry. The Committee indicated that it did not appear likely that a decision would be reached before the date of the referendum vote and would hold the record to receive the results of that vote.

By letter dated March 17, 1999, Legal Counsel for the Town sent to the Committee two letters from the Town Council. One provided the results of what is described as the "non-binding and advisory only" referendum of Londonderry voters on the question: Do you favor the construction of a 720 megawatt power plant as proposed by AES Londonderry? The other, which the Town Council asked be included in the record as the official position of the Council, indicated that the Council had voted 4-1 to support approval of the project with the recommended permit conditions.

Ultimately, it is the responsibility of the Committee to apply the statutory standards, and to consider the Application and the impacts of the proposed facility, not just in the town where the plant will be built, but in the surrounding region as well. Similar referenda were not held in other municipalities in the region, such as Litchfield and Manchester. In any case, such referendum are not binding on the Committee and in this case the Londonderry referendum was not binding on the Town Council. The Regional Planning Commission, the Manchester Airport Authority, and the Town of Litchfield gave their support to the project along with the Londonderry Conservation Commission, the Londonderry Chamber of Commerce, the Londonderry Economic and Development Committee, the Londonderry Housing and Redevelopment Authority, the New Hampshire State Building and Construction Trade Council, and AFL-CIO. All indicated their support for the facility. In addition, as noted, despite the results of the referendum vote in the Town of Londonderry, the Town Council and the Town Planning Department support the site and indicate that the proposed facility will not impinge on the orderly development of the region.

The Committee appreciates the concerns demonstrated by the public reaction of the referendum voters in Londonderry, as well as the participation of neighborhood groups and individuals from the Town. As a result of the input from these groups and individuals, numerous conditions on

plant operation and construction have been fashioned and will be required of the Applicant, to address these and other concerns. In light of the findings regarding the Application, the Committee determines that the proposed facility, if constructed and operated pursuant to the Application and the conditions imposed in this Order, meets the statutory standards and should be approved.

VI. FINDINGS AND CONCLUSION

The Site Evaluation Committee, pursuant to RSA 162-H:2,VII and RSA 162-H:1 finds that the proposed AES Londonderry Cogeneration Facility requires a Certificate of Site and Facility to construct and operate the natural gas electric production facility and its associated facilities in the Towns of Londonderry and Litchfield, New Hampshire.

After having considered available alternatives and having fully reviewed the environmental impacts of the proposed facility and other factors bearing on whether the objectives of Chapter 162-H would be best served by the issuance of a Certificate the Committee will issue a Certificate of Site and Facility to the Applicant for the proposed facility.

The Committee finds the Applicant AES Londonderry, L.L.C. has adequate financial, technical, and managerial capability to assure construction and operation of the facility in compliance with the terms and conditions of the Certificate.

After due consideration having been given to the views of municipal and regional planning commissions and municipal legislative bodies, the Committee finds the proposed project will not unduly interfere with the orderly development of the region..

Upon compliance with the conditions attached to the Certificate the project will not have an unreasonable adverse effect on aesthetics, historic sites, air and water quality, the natural environment or public health and safety.

The proposed Facility is consistent with the state energy policy established in RSA 378:37.

The Site Evaluation Committee finds that the construction and operation of the proposed facility complies with the criteria of RSA 162-H. The Committee will approve the application for a Certificate of Site and Facility for AES Londonderry L.L.C. to construct and operate a 720 megawatt electric production facility, and associated facilities, in the Towns of Londonderry and Litchfield, New Hampshire. The proposed project is a 720 megawatt combined cycle natural gas fired cogeneration plant, configured with two Westinghouse 501g combustion turbine trains and a single heat recovery steam turbine.

The scope of the Project includes the actual project site in the Londonderry Ecological Industrial Park, as well as the (1) electrical interconnection to PSNH and NEP transmission lines along the existing right-of-way (together the "Direct Electrical Connections); (2) the lateral gas pipeline connection to the existing Tennessee Gas Pipeline (the "Direct Gas Interconnection" or "Project Lateral"); and (3) a new cooling water supply line connecting the Manchester Wastewater Treatment Facility to the Project.

The Application and Petitions are referred to the Air Division, Water Division, and Waste Management Division, of the Department of Environmental Services, The Office of State Planning and the Public Utilities Commission for the issuance of such permits and licenses as required by law to be included in the Certificate of Site and Facility.

Dated this 25th day of May, 1999 at Concord, New Hampshire.

Robert W. Varney, Chairman
Commissioner, Dept. of
Environmental Services

Douglas L. Patch, Chairman, Vice Chairman
Chairman, Public Utilities Commission

Harry Stewart, Director
Water Division, Dept of
Environmental Services

Wayne Vetter, Director
Fish and Game Dept.

Jeffrey H. Taylor, Director
Office of State Planning

Kenneth A. Colburn, Director
Air Resources Division,
of Environmental Services

Deborah Schachter, Director
Governor's Office of Energy &
Community Services

Philip Bryce, Director
Division of Forest & Lands

Leon S. Kenison, Commissioner
Dept. of Transportation

Brook Dupee, Office of Community &
Public Health, Dept of Public Health &
Human Services

Richard McLeod Dir.
Division of Parks,
Dept. of Resources & Economic
Development

George Bald, Commissioner
Dept. of Resources & Economic
Development

Susan S. Geiger, Commissioner
Public Utilities Commission

Nancy Brockway, Commissioner (CA)
Public Utilities Commission

Michael D. Cannata Jr.,
Chief Engineer
Public Utilities Commission

STATE OF NEW HAMPSHIRE
SITE EVALUATION COMMITTEE
SEC Docket No. 98-02

Application of AES Londonderry L.L.C.

AES Londonderry, L.L.C. a wholly owned subsidiary of The AES Corporation, filed an application for a Certificate of Site and Facility to construct and operate a 720 megawatt combined cycle natural gas fired power facility in the Town of Londonderry, Rockingham County known as the "AES Londonderry Cogeneration Facility or Project." The proposed project is a 720 megawatt combined cycle natural gas fired cogeneration plant, configured with two Westinghouse 501G combustion turbine trains and a single Heat Recovery steam turbine.

The scope of the Project includes the actual project site in the Londonderry Ecological Industrial Park, as well as the (1) electrical interconnection to PSNH and NEP transmission lines along the existing right-of-way (together the "Direct Electrical Connections"); (2) the lateral gas pipeline connection to the existing Tennessee Gas Pipeline (the "Direct Gas Interconnection" or "Project Lateral"); and (3) a new cooling water supply line connecting the Manchester Wastewater Treatment Facility ("MWWTF") to the Project.

The project will be located on 47.7 acres within the 100 acre Londonderry Ecological Industrial Park, approximately 1.4 miles south of Manchester Airport. The Project will be the anchor industry in the Ecological Industrial Park by providing local steam and heat to industrial and commercial neighbors.

ORDER

CERTIFICATE OF SITE AND FACILITY

Upon Consideration of the foregoing Decision, the findings of the Energy Facility Site Evaluation Committee, with conditions imposed by the Department of Environmental Services, Air Resources Division, Water Division, Waste Management Division, the Office of State Planning, and the Public Utilities Commission, and by the Towns of Londonderry, Litchfield and Public Council, all of which are made part of this order, it is hereby

ORDERED, That AES Londonderry, L.L.C. a wholly owned subsidiary of The AES Corporation, filed an application for a Certificate of Site and Facility to construct and operate a 720 megawatt combined cycle natural gas fired power facility in the Town of Londonderry, Rockingham County known as the "AES Londonderry Cogeneration Facility or Project." The proposed project is a 720 megawatt combined cycle natural gas fired cogeneration plant, configured with two Westinghouse 501G combustion turbine trains and a single Heat Recovery steam turbine, is approved subject to compliance with the terms and conditions imposed by the Site Evaluation Committee as attachments to the report and decision issued this date.

The proposed facility is to be located on 47.7 acres within the 100 acre Londonderry Ecological Industrial Park, approximately 1.4 miles south of Manchester Airport. The Project will be the anchor industry in the Ecological Industrial Park by providing local steam and heat to industrial and commercial neighbors. In addition to the site proper, the proposed facility includes an electric transmission line from the site proper to the substation at the PSNH and New England Power substations and a gas pipe line from the proposed Tennessee Gas Pipeline to the site.

FURTHER ORDERED, that the proposed Energy Facility is of sufficient character and environmental impact to require a Certificate of Site and Facility; and it is hereby

FURTHER ORDERED, that the requisite good cause exists to permit issuance of this Certificate of Energy Facility to permit construction of the proposed facility and associated facilities; and it is hereby

FURTHER ORDERED, that all licenses and/or permits issued by the New Hampshire Department of Environmental Services, Air Resources Division, Water Division, and Waste Management Division, the Office of State Planning, and the Public Utilities Commission under RSA Chapter 371, are granted, with the conditions attached thereto and pursuant to RSA 162-H:16 VII and VIII. All permit conditions imposed by the state agencies and conditions imposed by the Site Evaluation Committee shall be complied with, and all state standards and requirements shall be met by the AES Londonderry, L.L.C., as a condition of granting this Certificate of Site and Facility; and it is

FURTHER ORDERED, pursuant to RSA 162-H:4 III-a, the Committee delegates authority to the New Hampshire Department of Environmental Services Air Resources Division to specify the use of any appropriate technique, methodology, practice or procedure associated with the air emissions of the facility including authority to approve minor modifications to the facility's emission sources and control equipment, so long as such modifications do not substantially modify the design of the facility, as determined by the Air Resources Division. The Committee also delegates to the DES the authority to issue to AES Londonderry, LLC subsequent permits such as the Title V Operating Permit, including the Acid Rain Portion. Such permits shall be issued in accordance with the requirements of DES administrative rules, the Clean Air Act and conditions imposed herein.

FURTHER ORDERED, pursuant to RSA 162-H:4 III-a, the Committee delegates to the New Hampshire Department of Environmental Services authority to specify minor modifications in the natural gas pipeline interconnection alignment to the extent that such modifications are necessary as a result of information that was unavailable due to conditions which could not have been reasonably anticipated prior to the issuance of the certificate, including, but not limited to, information regarding various environmental resources, alignment requests from property owners, alignment modifications necessitated by compliance with either State or Federal law, and alignment modifications requested by the Towns of Londonderry and Litchfield.

FURTHER ORDERED, pursuant to RSA 162-H:4 III, IIIa, the Public Utilities Commission is authorized to monitor the construction safety aspects of the natural gas pipeline, and the Department of Environmental Services is authorized to monitor and enforce environmental standards as well as the authority to specify minor changes in the route alignment to the extent that such changes are authorized by the certificate for those portions of the electric transmission line or natural gas pipeline for which information was unavailable due to conditions which could not have been reasonably anticipated prior to the issuance of the certificate.

FURTHER ORDERED, Pursuant to RSA 162-H:4 III-a, the Committee delegates to the New Hampshire Department of Environmental Services authority to specify minor modifications in the water intake and discharge structures alignment to the extent that such modifications are necessary as a result of information that was unavailable due to conditions which could not have been reasonably anticipated prior to the issuance of the certificate, including, but not limited to, information regarding various environmental resources, alignment requests from property owners, alignment modifications necessitated by compliance with either State or Federal law, and alignment modifications requested by the Towns of Londonderry and Litchfield.

FURTHER ORDERED, The Site Evaluation Committee hereby adopts and incorporates the conditions which are attached as part of the Certificate of Site and Facility. Said conditions shall remain in full force and effect unless otherwise further ordered by the Committee.

By Order of the Energy Facilities Site Evaluation Committee of New Hampshire this 25th day of May, 1999, at Concord, New Hampshire.

Robert W. Varney, Chairman
Commissioner, Dept. of
Environmental Services

Douglas L. Patch, Chairman, Vice Chairman (cd)
Chairman, Public Utilities Commission

Harry Stewart, Director
Water Division, Dept of
Environmental Services

Wayne Vetter, Director
Fish and Game Dept.

Jeffrey H. Taylor, Director
Office of State Planning

Kenneth A. Colburn, Director
Air Resources Division,
of Environmental Services

Deborah Schachter, Director
Governor's Office of Energy & Community Services

Philip Bryce, Director
Division of Forest & Lands

Leon S. Kenison, Commissioner
Dept. of Transportation

Brook Dupee, Office of Community & Public Health, Dept of Public Health & Human Services

Richard McLeod Dir.
Division of Parks,
Dept. of Resources & Economic Development

George Bald, Commissioner
Dept. of Resources & Economic Development

Susan S. Geiger, Commissioner
Public Utilities Commission

Nancy Brockway, Commissioner (ret.)
Public Utilities Commission

Michael D. Cannata Jr.,
Chief Engineer
Public Utilities Commission

STATE OF NEW HAMPSHIRE
SITE EVALUATION COMMITTEE

Docket No. 2004-01

Decision and Order

Joint Application of AES Londonderry, L.L.C. and ABN AMRO Bank N.V. as Agent, for Approval to Transfer Equity Interests in AES Londonderry, L.L.C. Under R.S.A. 162-H (Joint Application)

In this Joint Application, AES Londonderry, L.L.C. and ABN AMRO Bank N.V., (Co-Applicants) seek approval from the Site Evaluation Committee (Committee) to transfer the equity in AES Londonderry, LLC, from AES Holdings Londonderry, LLC, a subsidiary of the AES Corporation, to a new entity owned by a consortium represented by ABN AMRO Bank N.V., as agent. AES Londonderry LLC owns and operates: 1.) a 720 MW combined cycle natural gas fired power plant in the Ecological Industrial Park located in Londonderry, Rockingham County, New Hampshire; 2.) a 2.9-mile electrical transmission interconnection from the power plant to the North Litchfield substation in Litchfield, Hillsborough County; 3.) a 1.3-mile electrical transmission interconnection from the power plant to the Watts Brook substation; 4.) a cooling water supply pipeline connecting the power plant to the Manchester Wastewater Treatment Plant (including a pumping station and chlorine injection system located at the Manchester Wastewater Treatment Plant). This application also implicates a 2.7-mile lateral gas pipeline connection, owned by Keyspan, to a natural gas pipeline operated by the Tennessee Gas Pipeline Company. The Committee's authority to consider the issue raised in this docket is set forth at N.H.R.S.A. 162-H: 5 *et. seq.*

General Appearances:

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FOR THE COMMITTEE:
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Decision and Order

Joint Application of AES Londonderry, L.L.C. and ABN AMRO Bank N.V. as Agent, for Approval to Transfer Equity Interests in AES Londonderry, L.L.C. Under R.S.A. 162-H (Joint Application)

Introduction

In this Joint Application, AES Londonderry, L.L.C. (AESL) and ABN AMRO Bank N.V., (ABN) (jointly referred to as Co-Applicants) seek approval from the Site Evaluation Committee (Committee) to transfer the ownership of all equity in AESL, from AES Holdings Londonderry, LLC, a subsidiary of the AES Corporation, to a new entity owned by an international consortium of banks and financial institutions[1] represented by ABN, as agent. AESL owns and operates a certificated power plant in Londonderry known as AES Granite Ridge. The power plant includes the following facilities: 1.) a 720 MW combined cycle natural gas fired power plant in the Ecological Industrial Park located in Londonderry, Rockingham County, New Hampshire; 2.) a 2.9-mile electrical transmission interconnection from the power plant to the North Litchfield substation in Litchfield, Hillsborough County; 3.) a 1.3-mile electrical transmission interconnection from the power plant to the Watts Brook substation; 4.) a cooling water supply pipeline connecting the power plant to the Manchester Wastewater Treatment Plant (hereafter together referred to as the Project.) The Project is supplied with natural gas by a 2.7-mile lateral gas pipeline connection, owned by Keyspan, to a natural gas pipeline operated by the Tennessee Gas Pipeline Company.

The Project is subject to the terms and conditions of a Certificate of Site and Facility issued by the Committee in SEC Docket No. 98-02 (Certificate). The conditions to the Certificate require Committee approval prior to a change in ownership. *See* Certificate, General Condition 6. Similarly, R.S.A. 162-H: 5, I, requires Committee approval before a transfer or assignment of a certificate.

History of the Project

On July 6, 1998, AESL submitted an application to construct and operate the Project. After complying with the procedural requirements of R.S.A. 162-H, including

[1] At the time of the filing of the Joint Application the consortium consisted of ABN and the following financial institutions: Abbey National Treasury services, PLC (UK); Bank of Scotland (UK); Bayerische Hypo-Und Vereinsbank AG (New York Branch)(Germany); Cargill Financial Services International, Inc. (US); CoBank ACB (US); Deutsche Bank Trust Co. Americas (Germany); Kreditanstalt Fur Wiederaufbau (Germany); Merrill Lynch Credit Products, LLC (US); NIB Capital Bank N.V (Netherlands).; Rabobank Ireland PLC (Ireland); The Bank of Nova Scotia (Canada); The Royal Bank of Scotland (UK). However, the membership and relative shares in the consortium have changed since the filing of the Joint Application. CoBank ACB (US) and Abbey National Treasury Services PLC (UK) have since left the consortium transferring their interests to the remaining consortium members. Transcript, August 31,2004, p. 23.

public informational and adversarial hearings, the Committee issued the Certificate on May 25, 1999. The integrated permitting process produced a comprehensive set of approximately 500 permit requirements and conditions applicable to the construction and operation of the Project. *See*, Joint Application, Appendix B. These conditions included but were not limited to items such as the conditions contained in the Environmental Protection Agency's Prevention of Significant Deterioration (PSD) and Non-Attainment Permit, construction noise conditions, and wetlands and site-specific construction conditions. The proceedings included the input of AESL, the Town of Londonderry, Public Counsel appointed by the Attorney General, and various local citizens groups.

Construction of the Project commenced on or about September 17, 2000. The Project commenced commercial operation and began selling power into the New England NEPOOL wholesale market administered by ISO-New England, Inc. on April 1, 2003. Although provisional acceptance under its engineering, procurement and construction ("EPC") contract was achieved on March 17, 2003, the Joint Applicants report that final acceptance of the Project has yet to occur. *See*, Joint Application, p. 6.

Nature of and Reasons for the Relief Sought

The Joint Application proposes a transfer of the controlling ownership interest in AESL from AES Holdings, LLC (a wholly owned subsidiary of AES Corporation) to Granite Ridge I, SPE, LLC (Granite Ridge I.) Granite Ridge I is a newly formed "special purpose entity" organized as a limited liability company under the laws of the State of Delaware.[2] Granite Ridge I was formed by the consortium that is represented by ABN. Granite Ridge I, at present, has no assets and is formed solely as a vehicle to take ownership of the equity interests of AESL. AESL will continue to be the owner of and Certificate holder for the Project. The consortium represented by ABN specifically disavows any ownership interest in AESL (except through Granite Ridge I) and has clearly indicated that it "will not own or manage the project and will not be putting their balance sheets behind the project." Pre-Filed Testimony of Steven L. Bissonnette, p. 4.

AESL represents that current market conditions, including depressed merchant power profit margins and significant overcapacity in some areas of the restructured New England power market, have resulted in AESL being unable to meet its obligations to its Lenders. AESL is currently in default. Joint Application p. 2; Transcript, August 31, 2004, p. 11. As a result the Joint Applicants seek to transfer all of AESL's equity interests and holdings to Granite Ridge I, a new special purpose limited liability company formed by the lenders or their affiliates. It is further represented that Granite Ridge I will hold the equity interest in AESL only until it receives a satisfactory offer to purchase the Project and, if required, approval of the transaction by the Committee. AESL will continue to own the Project assets (including the Certificate). However, AESL will have a new owner. After approval of the application to transfer the equity interest of AES Londonderry, LLC to Granite Ridge I, Granite Ridge I will engage North American Energy Services (NAES) to complete and operate the Project.

[2] See, Transcript, June 30, 2004, p. 31.

The primary purpose of the transfer, as represented by the Joint Applicants, is to avoid an adversarial foreclosure process whereby the ABN consortium would foreclose on the Project under the terms of the credit financing agreement and Article 9 of the Uniform Commercial Code (UCC). *See generally*, RSA 382-A:9 . The transfer would satisfy the consensual transfer provisions of the UCC. *See*, RSA 382-A:9-620. The Joint Applicants suggest that avoidance of an adversarial foreclosure proceeding is beneficial to all parties and to the people of the State of New Hampshire as it will eliminate the uncertainty of an adversarial foreclosure proceeding and the possibility of concomitant proceedings in bankruptcy court. *See*, Transcript, August 31, 2004, p. 36 – 39.

Procedural History

The procedural history of this docket is as follows:

On June 11, 2004, the Committee issued an Order and Notice that a public hearing be held on June 30, 2004.

On June 30, 2004, at a duly noticed public meeting, the Committee reviewed the Joint Application and voted to issue a Procedural Order and Notice which provided deadlines for intervention and a date for a pre-hearing conference.

On July 26, 2004, Sustainable Design and Development, LLC (SDD) and the Town of Londonderry each filed a motion to intervene in the proceedings.

On July 27, 2004, a Pre-Hearing conference was held and a procedural schedule was consented to by the parties and reported to the Committee. On August 11, 2004, Chairman Michael P. Nolin issued an order granting the motions to intervene. Public Hearing on the Joint Application was set for August 31, 2004, and duly noticed by publication. *See*, Transcript, August 31, 2004, p. 67; Committee Exhibit 1.

The Joint Applicants pre-filed the written testimony of Steven L. Bissonnette, Senior Vice-President, Financial Recovery and Restructuring Department, ABN AMRO Bank, Oscar D. Scarborough, Vice President, Power Plant Operations, North American Energy Services and Terry D. Ramborger, Senior Soils and Wetlands Scientist, Earth Tech Inc. SDD pre-filed the written testimony of Justin Bielagus. The Town of Londonderry did not pre-file testimony.

A public hearing was held on August 31, 2004. The Joint Applicants and SDD appeared. The Town of Londonderry did not appear at the hearing. At the commencement of the hearing SDD withdrew from the proceeding and withdrew its pre-filed testimony.[3] At the hearing Mr. Bissonnette and Mr. Scarborough were presented for

[3] SDD's withdrawal was apparently based upon certain representations by AESL. See, Transcript, August 31, 2004, p. 7 – 10. However, those representations are not within the jurisdiction of the Committee and the parties were specifically advised that any decision of the Committee would be based upon the record and no further hearing would be held. Transcript, August 31, 2004, p. 9.

examination by the Committee. Additionally, Attorney Gregory A. Bray, of Millbank Tweed Hadley & McCoy, representing ABN, made an offer of proof outlining the likely issues to arise if an adversarial foreclosure should occur. Transcript, August 31, p. 34 – 39.

Criteria For Approval of the Joint Application

In issuing a certificate pursuant to RSA 162-H the Committee considers, among other things, whether the applicant "has adequate financial, technical and managerial capability to assure construction and operation of the facility in continuing compliance with the terms and conditions of the certificate." RSA 162-H:16, IV (a).

In 1999 the Committee was persuaded that AESL possessed adequate financial, technical and managerial capability as required by RSA 162-H: 16 IV (a). However, anticipating the possibility of changes in ownership, the Committee conditioned the Certificate upon Committee approval of any change in ownership of AESL: "Any change in ownership of the applicant, AES Londonderry LLC without the approval of this committee, shall render the Certificate subject to revocation. The Certificate itself shall not be transferred or assigned to any other person or entity without the approval of the Committee. RSA 162-H: 5 I." Certificate, Attachment A, General Condition 6.

In this case, where the Project has been substantially completed, many of the siting issues implicated by the original application for a certificate are moot.[4] However, when a change in ownership is proposed, it is important for the Committee to investigate the financial, technical and managerial capability of the proposed new owner. This information is vital for the Committee and other state agencies to be able to ensure that the conditions of the certificate are continuously met. Ongoing environmental compliance and the safe operation of the facility are of the utmost concern to the Committee and the State of New Hampshire. Thus, the Committee's focus in this Docket is on the financial, technical and managerial capability of the proposed new owner of AESL.

Findings and Analysis

The Project was developed and financed through a debt-finance, limited recourse structure that is typical in the industry. Under this structure, AESL holds the equity interest in the Project, as well as the debt finance obligation. AESL must service debt borrowed to build the plant through project cash flows, generated primarily through power sales. The lenders represented by ABN loaned AESL approximately $288 million of which approximately $285 million (plus accrued and unpaid interest) is still owed. *See*, Pre-Filed Testimony of Steven L. Bissonnette, p. 2 – 3. Market factors, including

[4] In issuing a certificate of site and facility the Committee is required to review available alternatives and the environmental impact and determine that: a) the applicant has adequate financial, technical and managerial capability to ensure construction and operation in continuing compliance with the terms and conditions of the certificate; b) whether the project will unduly interfere with the orderly development of the region; c) whether the project will have unreasonable adverse effects on aesthetics, historic sites, air and water quality, the natural environment or public health and safety; and d) whether operation of the project is consistent with the state's energy policy. *See generally*, RSA 162-H: 16, IV.

depressed profit margins and overcapacity in the New England power market have rendered the Project unable to generate sufficient revenue to sustain its debt service and have led to a default under the terms of AESL's financing agreement with the ABN consortium. *See*, Pre-Filed Testimony of Steven L. Bissonnette, p. 2 – 3; Transcript August 31, p. 11; Joint Application, p. 1-2.

The Committee must determine whether the proposed transferee of AESL equity, Granite Ridge I, has adequate financial, technical and managerial capability to operate the Project in accordance with the terms and conditions of the Certificate. Neither Granite Ridge I nor ABN has the technical and managerial capability to operate the project. Granite Ridge I is for all intents and purposes an entity of convenience that will own the Project and operate it through a contractor while ABN seeks a purchaser for the Project. ABN and the lenders it represents will provide a working capital credit facility of up to $40 million to AESL. *See,* Transcript, August 31, 2004, p. 16; Pre-Filed Testimony of Steven L. Bissonnette, p. 4. This additional financing will be available for the day-to-day operations of the Project with the hope that an operational Project will be more attractive to potential purchasers. Transcript, August 31, p. 27 – 29.

The Joint Applicants represent that AESL will contract with NAES to complete, operate and maintain the Project.[5] NAES is an independent power plant operation and maintenance company that was formed in 1980 by four power companies in the Northwest United States. Itochu International Inc., the United States subsidiary of Itochu Corporation, now owns NAES. Pre-Filed Testimony of Oscar D. Scarborough, p. 2; Joint Application, Appendix F. NAES has operated and managed more than 60 power plants ranging in size from 10 to 1070 MW. NAES has been involved in at least 34 plant transfers and takeovers. As of the date of the hearing in this Docket, NAES had managed 36 combined cycle combustion turbines in both North and South America. Pre-Filed Testimony of Oscar D. Scarborough, p. 4. NAES's power plant operations experience includes the completion, operation and maintenance of plants that are similar in technology to the Project. These plants include four "G" turbine technology plants and a number of "F" turbine technology plants which are manufactured by Mitsubishi, General Electric, or Siemens -Westinghouse. Transcript, August 31, 2004, p. 54; Pre-Filed Testimony of Oscar D. Scarborough, p. 6. NAES has experience in dealing with the operational challenges that accompany the management of such plants. Transcript, August 31, 2004, p. 51.

The record reflects that NAES has educated itself with respect to existing permitting and regulatory issues at the Project. Mr. Scarborough testified that he is familiar with the administrative consent order pertaining to emissions issued by New Hampshire Department of Environmental Services on June 9, 2004. He indicates that NAES has the expertise to understand and strive for compliance with that order and any modifications that may occur. Transcript, August 31, 2004, p. 48 – 49. Mr. Scarborough also testified that NAES has expertise and experience in dealing with plume abatement

[5] A copy of the proposed Operation and Maintenance Agreement between AESL and NAES was provided to Committee counsel. The copy was redacted to maintain the confidentiality of proprietary information and the document itself was not included in the record.

operational protocols and has the ability to address such issues with the Manchester Airport Authority. Transcript, August 31, 2004, p. 49. Finally, Mr. Scarborough testified that NAES has the experience and expertise to comply with the provisions of the effluent supply agreement between AESL and the City of Manchester. Transcript, August 31, 2004, p. 50.

The Committee is aware and recognizes that the financing of electric power generation facilities can be complex and difficult. Large electric generation projects are expensive and implicate numerous permitting, regulatory and safety concerns all of which are extremely important to the State of New Hampshire, lenders in this industry and to the public at large. These concerns are precisely the reason why the Legislature delegated the consolidated permitting authority set forth throughout RSA 162-H to this Committee. See, RSA 162-H:1. These concerns also underlie the Committee's authority to monitor the construction and operation of energy facilities. RSA 162-H: 4, I, (c).

The default by AESL in its financial obligations to its lenders creates a distinct prospect that the Project will not be continuously operated. Furthermore, it is the Committee's conclusion that a voluntary foreclosure is preferable to adversarial proceedings between AESL and the consortium represented by ABN. Such proceedings would very likely be lengthy, complicated and might involve the initiation of either voluntary or involuntary bankruptcy court proceedings. The continued availability of the plant for operation during such proceedings would be at risk. Thus, the proposal to transfer the equity of AESL to Granite Ridge I is a reasonable effort to avoid the uncertainties and expense of a complex and expensive adversarial process. The proposal also provides an appropriate way to find an owner who will operate and maintain the Project in accordance with the conditions of the Certificate for the remaining life of the Project.

The lenders represented by ABN have expressed a willingness to extend up to an additional $ 40 Million towards the completion, maintenance and operation of the Project. Although the Committee recognizes that these operating funds are not guaranteed, it is also apparent that the lenders have an interest in marketing a Project that is available for operation in accordance with the terms and conditions of its Certificate. The availability of this working credit facility makes it more likely that AESL will continue to have the financial capability of operating the Project in accordance with the terms and conditions of its Certificate.

The Joint Applicants also propose that they will employ NAES to manage and operate the Project. The record clearly demonstrates that NAES has the technical and managerial capability to manage and operate the Project. NAES has over twenty years experience in the industry and has successfully managed and operated dozens of power plants, many of which share similar technologies with this Project. Additionally, NAES is familiar with operating plants that are in a distressed financial condition and subject to the same constraints that apply in this case.

Conclusion

In summary, the Committee continues to believe that the clean and efficient power produced at the Project, as well as the commerce created by the Project, is a benefit to the surrounding community, the State of New Hampshire and the entire New England region. Moreover, the Joint Applicants' proposal to transfer the equity in AESL to Granite Ridge I presents the most economical and convenient method to ensure that AESL maintains adequate financial, managerial and technical capabilities to complete, maintain and operate the Project in accordance with the terms and conditions of the Certificate issued in Docket No. 98-02, Application of AES Londonderry, LLC. It should be noted that this Order does not change or modify any of the terms and conditions of the Certificate. The Committee maintains the authority to monitor and enforce the terms and conditions of the Certificate. RSA 162-H:4, I. Finally, any future changes in ownership or attempts to transfer the Certificate itself are subject to the approval of the Committee.

Order

The Joint Application is GRANTED and the Applicants are hereby authorized to transfer all of the equity interest in AESL to Granite Ridge I. All other terms and conditions of the Certificate of Site and Facility in Docket No. 98-02, Application of AES Londonderry, LLC, remain in full force and effect.

By Order of the Energy Facilities Site Evaluation Committee of New Hampshire this 14th day of October 2004, at Concord, New Hampshire.

Thomas B. Getz, Presiding
Chairman, Public Utilities Commission

Michael Walls, Assistant Commissioner
Dept of Environmental Services

Harry Stewart, Director
Water Division
Dept. of Environmental Services

Lee Perry, Director
Fish and Game Department

Brook Dupee, Legislative Manager
Dept. of Health & Human Services

Robert Scott, Director
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Mary Ann Manoogian, Director
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Douglas Brogan, Utility Engineer
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August 8, 2008

Thomas S. Burack, Chairman
Site Evaluation Committee
New Hampshire Department of Environmental Services
6 Hazen Drive, P.O. Box 95
Concord, NH 03302-0095

Re: Granite Ridge Energy, LLC

Dear Commissioner Burack:

We are writing to advise the Site Evaluation Committee ("SEC") of a technical change in the ownership structure of the Granite Ridge electric generating facility in Londonderry (though it represents no change in substantive ownership).

As you know, the immediate owner of the Granite Ridge plant and the holder of its Certificate of Site and Facility is Granite Ridge Energy, LLC ("GRE"), a Delaware limited liability company originally known as AES Londonderry, LLC and sometimes referred to as the "project company". At the request of the original developer, AES, in November 2004 the lenders who had financed the project took it over in a voluntary foreclosure, in which the membership (equity) interests in the project company were transferred from an AES subsidiary holding company (AES Londonderry Holdings, LLC) to a special purpose holding company formed and owned by the lenders (Granite Ridge I SPE, LLC). At that time, the project company's name was changed to Granite Ridge Energy, LLC. Following the transfer of ownership, the ultimate owners of the project were the lenders party from time to time to the Credit Agreement with the project company.

As you may recall, we wrote to you on October 30, 2007 to advise the SEC of a proposed restructuring plan in which, among other things, a large portion of GRE's debt to the lenders would be converted to equity, the intermediate holding company (Granite Ridge I SPE, LLC) would be eliminated so that ownership of GRE would be held directly by the lenders (or their special purpose affiliates), and a conventional five-member board of directors would be

put in place to manage GRE. The letter noted that under GRE's LLC Agreement, the GRE board of directors have the authority to create a holding company between the project company and the ultimate owners, without changing the substantive ownership of GRE.

On November 28, 2007, you wrote to advise that the proposed restructuring would not be considered a change of substantive ownership requiring the prior approval of the SEC, and on January 31, 2008, we advised you that the restructuring had been effected as proposed, and identified the owners of the five largest equity interests in GRE, accounting for 80% of its equity.

Since then, as you know, the owners have decided to initiate a potential auction sale of the project. If a buyer is found on mutually agreeable terms, then the current owners would expect to file a joint application with the prospective purchaser seeking the SEC's approval for the transfer of ownership.

The owners have concluded that it would be advantageous to create a holding company in order to facilitate such a sale or, alternatively, a refinancing of the project company. Accordingly, GRE's Board has approved and on July 28, 2008 formed Granite Ridge Holdings, LLC, a Delaware limited liability company, to serve as the sole member of GRE. The holding company's membership interests are held by the ultimate owners, as shown on the two-page organization chart attached as Exhibit 1. (There has been one sale of a minority equity interest in GRE since our letter of January 30, 2008, with the result that the five largest equity owners, accounting for more than 80% of the ownership of GRE, are now CFSI (for Cargill Financial Services International) Corporation I, Merrill Lynch Credit Products, Inc., Stonehill Institutional Partners, LP, KSCH Energy V Limited, and TPG Credit Opportunities Fund, L.P.) GRE itself continues to hold the Certificate of Site and Facility.

We would be happy to answer any questions you may have concerning this non-substantive reorganization.

Sincerely yours,

Howard M. Moffett

Howard M. Moffett

HMM:kjc
Enclosure
cc: James Carlton, Granite Ridge Energy, LLC
Michael Iacopino, Esquire

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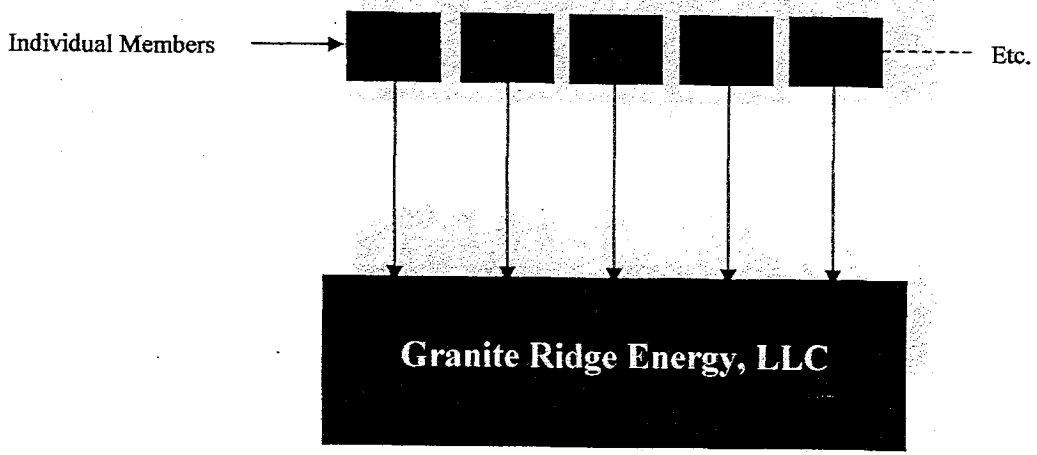
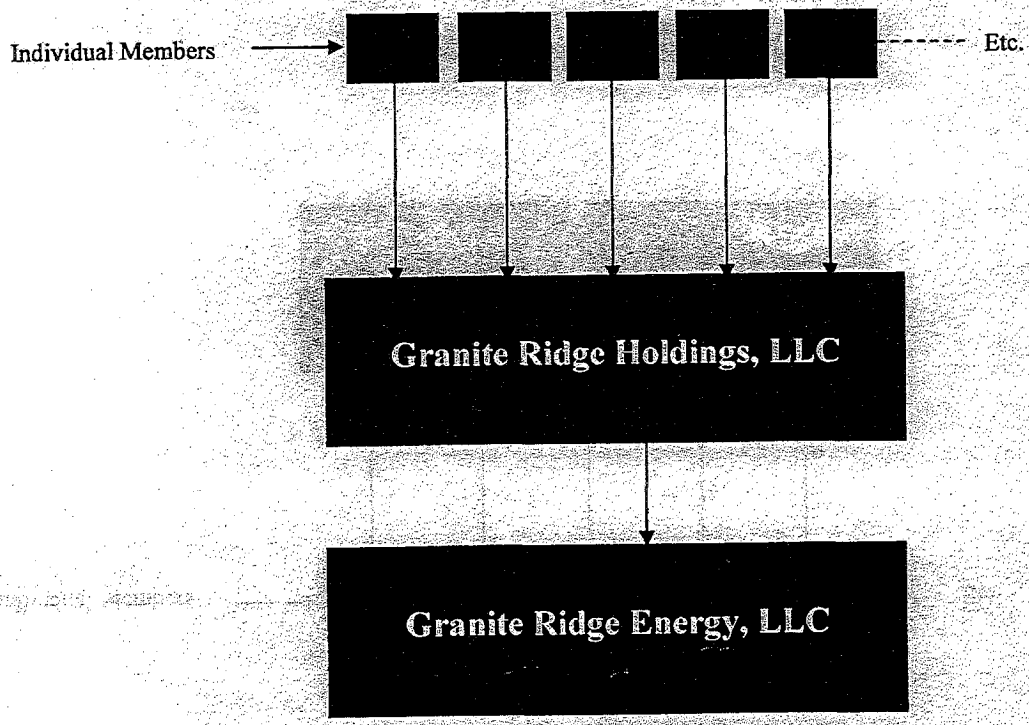
Granite Ridge Energy, LLC Corporate Structure Pre-Reorganization



Post-Reorganization Granite Ridge Energy, LLC Corporate Structure



State of New Hampshire

Site Evaluation Committee

http://nhsec.state.nh.us
P. O. Box 95
29 Hazen Drive
Concord, New Hampshire
03302-0095
Telephone (603) 271-3503
Fax (603) 271-2867

August 28, 2008

Howard M. Moffett, Esq.
Orr & Reno, Professional Association
One Eagle Square, P.O. Box 3550
Concord NH 03302-3550

Re: Granite Ridge Energy, LLC

Dear Mr. Moffett:

I received and acknowledge your letter dated August 8, 2008, concerning a change in ownership structure of Granite Ridge Energy, LLC (formerly known as AES Londonderry, LLC). Your letter has also been forwarded to each member of the New Hampshire Site Evaluation Committee.

Granite Ridge, LLC, is the holder of a Certificate of Site and Facility (Certificate) to construct and operate a 720 MW combined cycle natural gas fired power plant and associated facilities. See, SEC Docket No. 1998-02. The plant itself is located in the Ecological Industrial Park, Londonderry, N.H. The associated facilities are located in Litchfield and Manchester, N.H. Granite Ridge Energy, LLC, is presently owned by a consortium of lenders that obtained ownership of Granite Ridge Energy, LLC as the result of a voluntary foreclosure process in 2004. The present owners of the equity in Granite Ridge Energy, LLC, are Cargill Financial Services Corporation I, Merrill Lynch Credit Products, Inc., Stonehill Institutional Partners, LP, KSCH Energy V Limited and TPG Credit Opportunities Fund LP.

In your letter you advise that the lenders who own Granite Ridge, LLC, wish to once again create a holding company entity to take direct, equity ownership of Granite Ridge Energy, LLC. The equity in the proposed holding company would remain with the current owners in shares that may, from time to time, be adjusted. Your letter indicates that the purpose behind this re-organization is to better facilitate an auction sale or refinancing of Granite Ridge Energy, LLC.

The proposal contained in your letter does not involve a transfer of the Certificate of Site and Facility for the project, which will remain with Granite Ridge Energy, LLC. Likewise, the proposal does not involve a substantive change in ownership as the current owners of Granite Ridge, LLC will continue to hold the equity interest in the new holding company. Additionally, I note that you apprised the Site Evaluation Committee of this possibility in your correspondence of October 30, 2007. The

proposed change in ownership structure does not appear to require any action by the Site Evaluation Committee and none, save this acknowledgement, will be taken.

Nevertheless, please remember that the Site Evaluation Committee maintains the authority and jurisdiction to monitor and enforce the terms and conditions of the Certificate granted to Granite Ridge Energy, LLC, pursuant to R.S.A. 162-H: 4, and the terms of the Certificate itself. Any future changes in ownership or any attempt to transfer the Certificate itself are subject to approval by the Site Evaluation Committee.

Thank you for bringing this change in ownership structure to our attention.

Very truly yours,

Thomas S. Burack, Chairman
N.H. Site Evaluation Committee

cc: SEC roster

Orr&Reno
Professional Association

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Concord, NH 03302-3550
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Facsimile 603.224.2318
www.orr-reno.com

September 12, 2008

Thomas S. Burack, Chairman
Site Evaluation Committee
P.O. Box 95
29 Hazen Drive
Concord, NH 03302-0095

Re: Granite Ridge Energy, LLC
Status of Auction Sale Process

Dear Commissioner Burack:

As you know from our earlier letters, the owners of Granite Ridge Energy, LLC ("GRE"), the 720-MW combined cycle gas turbine Granite Ridge power plant in Londonderry have initiated a process to divest the equity interests of GRE in a private auction sale. The purpose of this letter is to give you a status update on the auction sale process.

The GRE Board of Directors, working with Merrill Lynch, completed an initial bid round in late August, and selected a small group of second-round bidders. As of today, GRE has completed management presentations to the second round bidders at the plant in Londonderry and is now in the process of addressing final information requests and presenting the final bidders with a proposed purchase and sale agreement ("PSA").

GRE expects to select a purchaser and negotiate a final PSA during the last week of September. We anticipate filing a joint application (with the purchaser) with the Site Evaluation Committee in early October. We expect to pre-file testimony on the purchaser's managerial, technical, and financial qualifications with the application. Our intent is to provide the SEC with a complete package of information to allow your committee to complete its review as promptly as practicable.

We will keep you informed as we move into the final phase of the sale process. In the meantime, if you would like any further information, please do not hesitate to contact me.

Sincerely yours,

Howard M. Moffett

Howard M. Moffett

HMM:kjc
cc: James Carlton, Granite Ridge Energy, LLC
Michael Iacopino, Esquire

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October 30, 2008

Thomas S. Burack, Chairman
Site Evaluation Committee
P.O. Box 95
29 Hazen Drive
Concord, NH 03302-0095

Re: Granite Ridge Energy, LLC
Delay in Auction Sale Process

Dear Commissioner Burack:

This letter is in follow-up to our letters of August 8 and September 12 regarding the proposed auction sale of equity (membership) interests in Granite Ridge Energy, LLC ("GRE"), which owns the 720-MW combined cycle gas turbine Granite Ridge power plant in Londonderry.

The GRE management team worked with several interested parties as they deliberated on the possible purchase of the asset. However due to the significant change in the credit markets the potential buyers valuations changed significantly.

GRE has continued its discussions with the potential buyers who remain interested in completing a purchase, but in light of the current uncertainty in the financial markets, GRE and the potential purchasers have agreed to slow the process down until the markets show some greater degree of stability. At this point, we expect that it may be several months before the parties resume negotiations which could lead to a sale.

We will keep you informed of any significant developments. If you have any questions in the meantime, please do not hesitate to contact us.

Sincerely yours,

Howard M. Moffett

Howard M. Moffett

HMM:kjc
cc: Jim Carlton, Granite Ridge Energy, LLC
David Caron, Londonderry Town Manager

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ATTACHMENT A

GENERAL CONDITIONS:

1. All conditions placed on Applicant as conditions for Site and Facility Certification shall become conditions of sale and apply to any subsequent owners of the power facility.

2. The facility shall at all times be operated in a safe manner and consistent with prudent electric generating and transmission practices.

3. Applicant shall commence construction within 18 months of receipt of all approvals, permits and clearances, including, but not limited to, any such approvals, permits and clearances as may be necessary for interconnection with the transmission grid, and shall diligently prosecute construction within the terms provided by such approvals, permits and clearances, within 48 months.

4. Applicant shall certify through the Town, NHDES or an independent consultant that the Town's sewer system will have adequate capacity to manage all of the waste water flows of the Applicant facility and that any system modifications proposed by Applicant will accommodate the Town for reasonably projected future usage.

5. AES Londonderry, LLC and the Town of Londonderry have reached an agreement which sets forth their expectations with respect to AES Londonderry, LLC's obligation to work with Londonderry to achieve adequate plans for training of emergency services.

6. Any change in ownership of the Applicant, AES Londonderry LLC without the approval of this Committee, shall render the Certificate subject to revocation. The Certificate itself shall not be transferred or assigned to any other person or entity without the approval of the Committee. RSA 162-H:5 I.

7. To assure that there are no historic or cultural resources on the site the Applicant shall cause a Phase I archeological investigation be performed prior to any groundbreaking. In the event that any archeological artifact, questionable artifact or unidentified burial is uncovered or discovered during construction the Applicant shall immediately report same to the appropriate state or federal agency.

8. The Applicant shall simultaneously serve copies of all correspondence pertaining to information required to obtain permits, licenses or authority from state agencies to the Public Counsel.

STATE OF NEW HAMPSHIRE
SITE EVALUATION COMMITTEE
SEC 98-02

Application of AES Londonderry, L.L.C. for a Certificate of Site and Facility

Errata Sheet to Attachment B of Certificate of Site and Facility

This Errata Sheet is to correct a typographical error in Conditions 1 & 2 of Attachment B of the Certificate of Site and Facility.

Condition 1 of Attachment B is hereby amended and shall now read as follows:

1. The Facility's generators, transformers and the ISO approved 115 or 230 kV interconnections connecting the Facility with the PSNH and New England Power Station Substations shall be constructed and operated in accordance with the standard of PUC 306 and in accordance with the National Electric Safety Code and the National Electric Code as contained therein.

Condition 2 of Attachment B is hereby amended and shall now read:

2. The transmission lines connecting the Facility with the electric grid shall not be connected to the substations until the Applicant has either: (1) received and filed with the Committee all documentation and approvals required by NEPOOL Agreement Section 18.4, including as necessary, a completed System Impact Study, an Interconnection Agreement approved by ISO-New England, and a Facilities Study if such is deem necessary by the System Impact Study; or (2) if as a result of regulatory changes or changes in the structure of ISO - New England the requirements of NEPOOL Section 18.4 are changed or eliminated, the Applicant shall submit such other documentation as may be required by NEPOOL, ISO - New England or their successors to connect to the regional electric transmission grid.

By Order of the Site Evaluation Committee of New Hampshire this 19th day of December, 2000.

Robert W. Varney, Chairman

ATTACHMENT B

TRANSMISSION CONDITIONS:

1. The Facility's generators, transformers and the 345 KV transmission line connecting the Facility with the PSNH and New England Power Station Substations shall be constructed and operated in accordance with the standards of PUC 306 and in accordance with the National Electric Safety Code and the National Electric Code as contained therein.

2. The transmission line connecting the Facility with the Electric grid shall not be connected to the substations until the Applicant has either: (1) received and filed with the Committee all documentation and approvals required by NEPOOL Agreement Section 18.4, including as necessary, a completed System Impact Study, an Interconnection Agreement approve by ISO-New England, and a Facilities Study if such study is deemed necessary by the System Impact Study; or, (2) if as a result of regulatory changes or changes in the structure of ISO - New England the requirements of NEPOOL Section 18.4 are changed or eliminated, the Applicant shall submit such other documentation as may be required by NEPOOL, ISO - New England or their successors showing that the Facility is approved by NEPOOL, ISO - New England or their successors to connect to the regional electric transmission grid.

ATTACHMENT C

NATURAL GAS CONDITIONS:

1. The natural gas pipe connecting the Facility with the Tennessee Pipeline lateral shall be constructed and maintained in accordance with all applicable federal and state regulations including the federal safety standards for natural gas pipelines in 49 CFR 191 & 192 and the rules applicable to private natural gas lines in the New Hampshire Pipeline Safety Standards (PUC 500) and (PUC 506).

2. The natural gas pipe connecting the Facility with the Tennessee Pipeline Lateral shall not be connected to a tap on said lateral until the Applicant files with the Committee proof that the tap to which the line will be connected has been approved by FERC pursuant to the Natural Gas Act. AES shall notify the Public Utilities Commission in a timely manner of all filings by Tennessee Gas for pipeline service to the facility

3. The connection to the Tennessee Gas Pipelie lateral shall be of such character and materials so the high level of reliability/safety required by the Site Evaluation Committee is not degraded.

4. This Certificate is contingent upon the Public Utilities Commission's approval of all design, material, and construction specifications for the lateral from the Tennessee Gas Pipeline to the AES facility

5. In the event the pipeline company does not own the service to the facility the owner of the facility shall have the responsibility for the operation and maintenance of the service line for the life of the facility. Responsibilities shall include cathodic protection and leakage surveys.

UNITED STATES
Environmental Protection Agency
Region I
Air Permits Program

STATE OF NEW HAMPSHIRE
Department of Environmental Services
Air Resources Division

Temporary Permit
And
Prevention of Significant Deterioration Permit

State Permit No: **FP-T-0037**
EPA PSD Permit No: **045-121NH11**
County: **Rockingham**
Date Issued: **April 26, 1999**

This certifies that:

AES Londonderry, L.L.C.

has been granted a **Joint Federal Prevention of Significant Deterioration (PSD) and a State of New Hampshir Temporary Permit for a 720 MW Combustion Turbine Facility**

The New Hampshire Department of Environmental Services (DES) has an United States Environmental Protectio Agency (EPA) approved nonattainment New Source Review (NSR) permit program and herein issues the LAE and offset provision regarding the nonattainment pollutant NOx. In addition, New Hampshire has EPA-approve procedures to ensure new construction or modification of stationary sources do not violate control strategies o interfere with attainment or maintenance standards. These procedures authorize the DES to regulate non-significan increases for all criteria and regulated pollutants. New Hampshire does not, however, have full authority to issu PSD permits. EPA has partially delegated the PSD program to New Hampshire, allowing the state to do th administrative and technical work on the permit, but has retained the authority for EPA to make the final decisio and issue the final permit. Consequently, EPA herein issues the permit provisions regarding BACT for attainmen pollutants such as carbon monoxide, sulfur dioxide and particulate matter. Rather than issuing to the source tw different permit (PSD and nonattainment NSR), EPA and the New Hampshire DES have arranged the issuance o this joint permit that clearly delineates the EPA and the DES provisions.

The joint PSD/Temporary permit is for a facility which emits air pollutants into the ambient air as set forth i equipment registration forms (ARD 1-6), filed with this Division under the date of July 6, 1998 in accordance wit RSA 125-C of the New Hampshire Laws. The PSD provisions of this permit are effective indefinitely or until suc time that the facility applies and receives a temporary permit or PSD permit that modifies the terms and condition of this permit. The Temporary Permit provisions are valid until **October 31, 2000.** Request for permit renewa prior to the expiration of this Temporary Permit is subject to Division requirements and must be accompanied b the appropriate permit application forms.

SEE ATTACHED SHEETS FOR ADDITIONAL PERMIT CONDITIONS

The owner or operator of the devices covered by this permit shall submit a written request for a permit amendment to the Director at least 90 days prior to the implementation of any proposed change to the physical structure or operation of the devices covered by this permit which increases the amount of a specific air pollutant emitted by such devices or which results in the emission of any additional air pollutant. The change shall not take place until a new permit application is submitted and acted upon by the Director pursuant to Env-A 600.

Any unavoidable malfunction, breakdown, or upset of the devices, which results in emissions greater than those stipulated in this permit, must be reported to the Division within 8 working hours of the occurrence.

New Hampshire Department of Environmental Services Signature Page

Kenneth A. Colburn

Kenneth A. Colburn
Director, Air Resources Division

Authority for Sections I
through IV, Inclusive and
Sections VI through XXIII, Inclusive

U.S. Environmental Protection Agency, Region I Signature Page

John P. DeVillars
Regional Administrator
EPA Region I

For Section I through III, Inclusive and
Section IVB, V, IX through XV, Inclusive,
and XVII through XXIII, Inclusive

This permit is valid provided the facility is operated in accordance with all the legally enforceable conditions specified below:

I. The owner or operator of the facility as specified by this permit shall be subject to the New Hampshire Code of Administrative Rules and Federal rules governing the permitting of major stationary sources of air pollution as codified in 40 CFR 52.21 and 40 CFR Part 124.

II. All equipment, facilities and systems installed and used to achieve compliance with the terms and conditions of this permit shall at all times be maintained in good working order and be operated as efficiently as possible to minimize air pollutant emissions.

III. **General Operating Limitations and Conditions:**

A. The AES Londonderry ("AES") Facility shall consist of the following major components: Westinghouse 501G Combustion Turbine #1, Westinghouse 501G Combustion Turbine #2, Heat Recovery Steam Generators ("HRSGs"), Steam Turbine, Selective Catalytic Reduction Systems ("SCRs"), Cooling Tower and Fuel Oil Storage Tanks.

B. Combustion Turbines #1 and #2 shall each be limited to 2,849 MM BTU/hour gross heat input while firing natural gas or 2,834 MM BTU/hour gross heat input while firing low sulfur distillate fuel oil.

C. The combustion of supplemental fuel in the HRSGs shall be prohibited.

D. Combustion Turbine #1 and #2 shall not fire natural gas and fuel oil simultaneously except during periods of transition from one fuel to the other. Such transition periods shall, to the extent practical, be minimized.

E. The sulfur content of natural gas shall be limited at all times to a maximum sulfur content of 0.8 grains/100 SCF. Monitoring of sulfur content and fuel quality of the natural gas shall be conducted in accordance with the provisions of 40 CFR 60.334 (Subpart GG).

F. The sulfur content of distillate fuel oil shall be limited at all times to a maximum sulfur content of 0.05 percent by weight. Monitoring of sulfur content in the fuel oil shall be conducted in accordance with the provisions of 40 CFR 60.334 (Subpart GG).

G. The combustion of low sulfur distillate fuel oil in Combustion Turbine #1 and #2 combined shall be limited to 29,150,000 gallons during any 12 consecutive month period.

H. The hours of operation for this facility shall be unrestricted.

I. AES shall establish and maintain a program of best management practices for the minimization of fugitive particulate matter during any period of construction, reconstruction, or operation which may result in fugitive dust.

J. AES shall submit upon request by DES a copy of the program required by Condition III.I. above.

K. AES shall develop and submit to DES for review and approval a catalyst management plan for the SCR systems. Such plan shall be submitted to DES no later than 180 days prior to the start-up of the facility. Minimum elements of the plan shall include:

1. Schedule of planned maintenance;

2. Expected minimum catalyst life;

3. Detailed monitoring plans, i.e. pressure drop, ammonia flow, ammonia to fuel flow ratios, temperatures, etc.

L. AES shall at all times operate the SCR systems to reduce NOx emissions from Combustion Turbine #1 and #2, except during periods of start-up or shutdown.

M. AES shall, to the extent practical, minimize emissions from Combustion Turbine #1 and #2 during start-up, shutdown or during initial combustion turbine commissioning.

N. Combustion Turbine start-up shall be defined as the period of time from initiation of turbine firing until steady state load operation is achieved. Each start-up shall be achieved as soon as practical and in no case shall exceed 180 minutes.

O. AES shall maintain records of each Combustion Turbine start-up and shall include a written explanation of each start-up that exceeds 180 minutes in duration.

P. Combustion Turbine shutdown shall be defined as the period from steady state operation to cessation of fuel combustion in the Turbine. Each shutdown period shall be achieved as soon as practical and in no case shall exceed 60 minutes.

Q. AES shall maintain records of each Combustion Turbine shutdown and shall include a written explanation of each shutdown that exceeds 60 minutes in duration.

R. AES shall submit an application for an initial Title V Operating Permit within 12 months of the commencement of operation in accordance with Part Env-A 609.05(e)(3).

S. AES shall provide written notification to DES of the commencement of construction of this facility within 15 days after such date.

T. AES shall provide written notification to DES of the anticipated date of initial start-up of this facility no later than 30 days prior to such date.

U. AES shall provide written notification to DES of the actual start-up date of the facility no later than 15 days after such date.

V. The Cooling Tower shall be equipped with High Efficiency Drift Eliminators to minimize water drift losses and plume visibility.

W. Drift from the Cooling Tower shall be limited to 0.0005% of circulating water.

X. Fuel oil combustion shall be further restricted than the level indicated under condition III.G. if VOC emissions determined by compliance tests demonstrate that VOC emissions exceed the limits of Condition IV. A. or IV. B. Fuel oil and natural gas combustion shall be curtailed, to ensure that VOC emissions are less than 50 tons during any consecutive 12 month period, in accordance with the following equation:

$$\text{VOC emissions} = (X_{gas}Q_{gas} + X_{oil}Q_{oil})(1/2000) < 49 \text{ tons/year}$$

Where:
X_{gas} = VOC emission rate in lb/MMBTU for natural gas combustion
X_{oil} = VOC emission rate in lb/MMBTU for fuel oil combustion
Q_{gas} = Total heat input in MMBTU from natural gas combustion
Q_{oil} = Total heat input in MMBTU from fuel oil combustion
1/2000 = Conversion factor from lb to tons

Y. The ability of DES to take enforcement action on any violation of Condition IV.A or IV.B shall not be superseded any provision of Condition X. Likewise, AES shall not claim as justification or defense any provision of Condition X. for any violation of Condition IV.A or IV.B.

Z. During any period of transition between gas and fuel oil the emission limits for fuel oil firing shall apply.

AA. Within one year of startup of this facility, AES shall propose and DES shall establish emission limits for CO, NOx and opacity during periods of startup and shutdown.

BB. Within one year of startup of this facility, AES shall propose and DES shall establish a maximum fuel change over period. The change over time period shall be based on specific criteria including but not limited to turbine ramp rate, combustor temperature and unit stability.

CC. This permit maybe reissued in accordance with the provisions of Env-A 607.09 *Permit Reissuance.*

DD. Ammonia injection into the catalyst bed shall be initiated only when the bed temperature meets the minimum manufacture's recommendation. This minimum temperature shall be established in accordance with Condition III.M.

IV. State Implementation Plan (SIP) Limitations:

A. Nonattainment Emission Limitations: Emissions of Nonattainment regulated air pollutants from each Combustion Turbine and shall be limited in accordance with Table 1. below:

Table 1. Nonattainment Emission Performance Standards

Pollutant	Emission Limitation	Control Technology BACT/LAER	Averaging Time
Nitrogen Oxides (Gas Firing)	2.5 ppmdv @ 15 % O2	Low NOx Burner with SCR LAER	3 hour block average

Pollutant	Emission Limitation	Control Technology BACT/LAER	Averaging Time
Nitrogen Oxides (Oil Firing)	9.0 ppmdv @ 15 % O2	Low NOx Burner with Water Injection and SCR LAER	1 hour block average

B. Minor Source Limitations: Emissions of minor source regulated air pollutants from each Combustion Turbine shall be limited in accordance with Table 2. below:

Table 2. SIP Performance Standards

Pollutant	Emission Limitation	Control Technology BACT/LAER	Averaging Time
Volatile Organic Compounds (Natural Gas)	0.0013 lb/MM BTU	Good Combustion Practices N/A	1 hour block average
Volatile Organic Compounds (Fuel Oil)	0.0095 lb/MM BTU	Good Combustion Practices N/A	1 hour block average
Opacity	20 %	Good Combustion Practices N/A	6 minute block average
Ammonia (See Condition C. Below)	10 ppmdv @ 15 % O2	N/A	24 hour block average

C. The ammonia limitation of B. above shall be reviewed by DES after one year of commercial operation. After completion of this review, DES may establish a new lower Ammonia Slip limitation for the facility.

V. Prevention of Significant Deterioration (PSD) Emission Limitations:

A. Emissions of PSD regulated air pollutants from each Combustion Turbine and shall be limited in accordance with Table 3. below:

Table 3. PSD Emission Performance Standards

Pollutant	Emission Limitation	Control Technology BACT/LAER	Averaging Time
Sulfur Dioxide (Gas Firing)	0.0023 lb/MM BTU	Low Sulfur Fuels BACT	3 hour rolling
Sulfur Dioxide (Oil Firing)	0.052 lb/MM BTU	Low Sulfur Fuels BACT	3 hour rolling
Carbon Monoxide (Gas Firing) @ All Loads	15 ppmdv @ 15 % O2	Low NOx Burner with Good Combustion Practices BACT	1 hour block average

Pollutant	Emission Limitation	Control Technology BACT/LAER	Averaging Time
Carbon Monoxide (Oil Firing) @ 95 to 100 % Load	50 ppmdv @ 15 % O2	Low NOx Burner with Good Combustion Practices BACT	1 hour block average
TSP/PM-10 (Gas Firing)	0.004 lb/MM BTU	Low Sulfur Fuels BACT	1 hour block average
TSP/PM-10 (Oil Firing)	0.02 lb/MM BTU	Low Sulfur Fuels BACT	1 hour block average
Opacity	20 %	Good Combustion Practices N/A	6 minute block average
Nitrogen Oxides (Gas Firing)	2.5 ppmdv @ 15 % O2	Low NOx Burner with SCR BACT	3 hour block average
Nitrogen Oxides (Oil Firing)	9.0 ppmdv @ 15 % O2	Low NOx Burner with Water Injection and SCR BACT	1 hour block average

VI. Maximum Hourly and 12 Month Rolling Emission Limitations:

A. Maximum hourly emissions of regulated pollutants from each Combustion Turbine shall be limited as specified in Table 4. below:

Table 4. Maximum Hourly Emission Rates

Pollutant	Maximum Rate lb/hr on Natural Gas	Maximum Rate lb/hr on Fuel Oil
Nitrogen Oxides	26.5	99.2
Sulfur Dioxide	6.6	147.9
Carbon Monoxide	95.7	335.2
Particulate Matter (TSP/PM-10)	11.4	56.7
Volatile Organic Compounds	3.7	26.8
Ammonia [2]	38.8	40.8

1 - 3 Hour Average
2 - Subject to Revision in Accordance with Condition IV.C.

B. Maximum 12 month rolling emissions of regulated pollutants from Combustion Turbine #1 and Combustion Turbine #2 combined shall be limited as specified in Table 5. below:

Table 5. Maximum 12 Month Rolling Emissions

Pollutant	Maximum Rate TPY on Natural Gas	Maximum Rate TPY on Fuel Oil	Maximum Rate TPY Combined Fuels
Nitrogen Oxides	189.8	71.4	264.2 [4]
Sulfur Dioxide	47.0	106.5	153.5
Carbon Monoxide	687.4	241.4	928.8
Particulate Matter (TSP/PM-10)	81.8	40.8	128.7 [5]
Volatile Organic Compounds	26.2	19.3	49.0 [6]
Ammonia [3]	277.9	29.4	307.3

1 - Assumes that the facility operates up to 8760 hr/yr on natural gas.

2 - Assume that the facility operates up to 720 hr/yr on fuel oil.

3 - Subject to Revision in Accordance with Condition IV.C.

4 - Includes 3.0 TPY from Miscellaneous Sources

5 - Includes 6.1 TPY from Miscellaneous Sources

6 - Includes 3.5 TPY from Miscellaneous Sources

VII. Emission Offset Requirements:

A. AES shall prior to commencing operation demonstrate that NOx offsets have been obtained in a ratio of 1.2 to 1.0. Such emission offsets shall be real, surplus, quantifiable, permanent and federally enforceable and shall be certified by DES in accordance with all applicable state and federal regulations.

B. NOx Budget Allowances obtained in accordance with Condition VIII. of this permit may be used as Emission Offsets at a 1.0 to 1.0 ratio (i.e. one ton of NOX allowances shall equal one ton of NOx emission offset), however the overall emission offset ratio must remain at 1.2 to 1.0 in accordance with A. above.

VIII. NOx Budget Allowances:

A. AES shall comply with the applicable requirements of Chapter Env-A 3200 *NOx Budget Trading Program.*

B. AES shall obtain sufficient NOx Budget Allowances to cover all ozone season (May 1 through September 30 of each calendar year) NOx emissions.

C. AES may utilize NOx Budget allowances to satisfy the Emission Offset Requirements of Condition VII. above.

IX. New Source Performance Standards (NSPS):

A. AES shall comply with all applicable requirements of 40 CFR Part 60 Subpart A *General Provisions*.

B. AES shall comply with all applicable requirements of 40 CFR Part 60 Subpart GG *Standards of Performance for Stationary Gas Turbines*.

C. AES shall comply with all applicable requirements of 40 CFR Part 60 Subpart Kb *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984*.

X. **Federal Acid Rain Requirements:**

A. In accordance with 40 CFR Part 72 , *Federal Acid Rain Requirements*, AES shall be designated as a Phase II New Affected Unit, effective January 1, 2000, or within 90 days after commencement of commercial operation, whichever is later.

B. AES shall submit a Phase II Acid Rain Application as soon as practical and in accordance with 40 CFR 72.

C. AES shall acquire SO2 allowances in the amount of one allowance for each ton of SO2 emitted in accordance with 40 CFR Part 72.

D. AES shall install, maintain and operate continuous emission monitoring systems that meet the applicable requirements of 40 CFR Part 75.

E. AES shall comply with all applicable requirements of 40 CFR Part 72, 73, 75, 77 and 78.

XI. **Federal Accidental Release Requirements:**

A. AES shall comply with all applicable requirements of 40 CFR Part 68, including the General Duty Provisions of the Federal Accidental Release Program.

B. If AES is subject to 40 CFR 68, it shall submit, in accordance with 40 CFR 68.10, a Risk Management Plan no later than the latest of the following dates:

1. June 21, 1999;

2. Three years after the date on which a regulated substance is first listed under 40 CFR 68.130; or

3. The date on which a regulated substance is first present above a threshold quantity in a process.

XII. **Continuous Emission and Periodic Monitoring Requirements:**

A. AES shall install and maintain continuous monitoring equipment for the following pollutants or

operational parameters:

Pollutant/Operational Parameter	Averaging Time
Fuel Flow	Continuous
Exhaust Flow	Continuous
Ambient Temperature	Continuous
Opacity	6 minute block
NOx	3 hour block
SO2 *	1 hour block
CO	1 hour block
O2	1 hour block
Ammonia	24 hour block

* If required by 40 CFR Part 75

B. For each required emission or operational monitor AES shall submit to DES for review and approval a plan detailing monitor specifications, monitor location, operation and calibration procedures and quality assurance procedures no later than 180 days prior to the anticipated start-up of the facility. Such plan shall include at a minimum the following:

1. A complete description of the emission monitoring system including, but not limited to :

   a. The CEM system vendor, including the company name, address and phone number;

   b. The manufacturer, model number, measurement method employed, and range of each of the major components or analyzers being used;

   c. A description of the sample gas conditioning system;

   d. A description and diagram showing the location of the monitoring system, including sampling probes, sample lines, conditioning system, analyzers and data acquisition system;

   e. A description of the data acquisition system including sampling frequency, and data averaging methods;

2. The mathematical equation used by the data acquisition system, including the value and derivation of any constants, to calculate the emissions in terms of the applicable emission standards;

3. A description of the instrument calibration methods, including the frequency of calibration checks and manual calibrations, and path of the sample gas through the system;

4. The means used by the data acquisition system of determining and reporting periods of excess emissions, monitor downtime and out-of-control periods;

5. A description of the means used to provide for short-term and long-term data storage; and

6. A description of all quality assurance/control procedures to be followed on the CEM system.

C. AES shall not commence the installation of any emission or operational monitoring system until DES has issued a written approval of the plan submitted in accordance with Condition B. above. AES shall not commence operation of this facility until all approved monitoring systems have been installed.

D. AES shall ensure that all CEMs and recording equipment comply with the monitoring specifications in 40 CFR Part 60.13 and 40 CFR Part 60 Appendices B. And F., all applicable portions of 40 CFR Parts 72 and 75, 40 CFR Part 52.1020(c)(24) and Part Env-A 805 *Continuous Emission Monitoring.*

E. AES shall comply with all applicable monitoring requirements of 40 CFR Part 60 Subpart GG *Standards of Performance for Stationary Gas Turbines.*

F. DES shall establish catalyst management monitoring requirements based upon review of the catalyst management plans submitted in accordance with Condition III.K.

XIII. Stack Criteria:

A. The emission exhaust stacks for the following devices at the AES facility shall meet the following criteria:

Emissions Device	Minimum Stack Height (Feet)	Maximum Stack Diameter (Feet)
Combustion Turbine #1*	132	20.67
Combustion Turbine #2*	132	20.67
Cooling Tower Exhaust Fans	58	36

* Separate Stacks

B. Each of the aforementioned exhaust stacks shall have an unobstructed, vertical discharge to the ambient air.

XIV. Performance Testing:

A. AES shall conduct an initial performance test as specified in this section within 60 days of achieving maximum operation of this facility but no later than 180 days after initial start-up of this facility.

B. Testing shall be conducted and the results reported in accordance with 40 CFR 60, Sections 60.8 (a), (b), (d), (e), and (f), Appendix A, the Division's Policy "Procedures and Minimum Requirements for Stack Tests". The following test methods or Division approved alternatives shall be used:

1. Compliance testing for stack flow, moisture, oxygen and carbon dioxide shall be conducted using EPA Methods 1 through 4;

2. Compliance testing for NOx shall be conducted using EPA Method 20;

3. Compliance testing for CO shall be conducted using EPA Method 10;
4. Compliance testing for VOCs shall be conducted using EPA Method 18 for methane and Method 25A for total gaseous organic concentration;

5. Visual emissions testing for opacity shall be conducted using EPA Method 9;

6. Compliance testing for TSP/PM-10 shall be conducted using EPA Method 201; and

7. Compliance testing for Ammonia shall be conducted using a DES approved method;

8. Compliance testing for Drift rate from the Cooling Tower shall be conducted using a DES approved method.

C. Compliance testing shall be planned and carried out in accordance with the following schedule:

1. At least 30 days prior to the commencement of testing, AES shall submit to the Division a pretest report presenting the following information:
   a. Calibration methods and sample data sheets;
   b. Description of the test methods to be used;
   c. Pre-test preparation procedures;
   d. Sample collection and analysis methods;
   e. Process data to be collected; and
   f. Complete test program description.

2. At least 15 days prior to the test date, AES and any contractor that AES retains for performance of the test, shall participate in a pretest conference with a Division representative.

3. Emission testing shall be carried out under the observation of a Division representative.

4. Within 30 days after completion of testing, AES shall submit a test report to the Division.

D. Any compliance stack test results determined following 40 CFR 60 paragraph 60.8, which show violations of any permit requirement shall be considered violations of this permit.

XV. Recordkeeping and Reporting Requirements:

A. AES shall maintain records of each fuel oil shipment received by the facility. The shipping receipt for each fuel oil delivery to the facility shall certify the type of fuel in the shipment and the weight percent sulfur in the fuel. The shipping receipt shall also include the name of the oil supplier, the sulfur content of the fuel oil and the method used to determine the sulfur content of the oil.

B. AES shall record, maintain and report all information required by 40 CFR Part 60 Subpart GG *Standards of Performance for Stationary Gas Turbines* and 40 CFR Part 60 Subpart Kb *Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984.*

C. AES shall maintain records of all items required to be recorded in accordance with Section XII. of this permit.

D. AES shall maintain records of the following information by device on a 24-hour calendar day basis:

1. Hours of operation, including any startup, shutdown, or malfunction;

2. The total daily fuel consumption by device (in cubic feet for natural gas and in gallons for fuel oil).

3. The total daily amount of ammonia, in gallons, used in the SCR Systems.

4. The running totals of D.2. and D.3. above for the previous thirty-day period.

E. AES shall submit a monthly report containing all information required under Condition D.4. above for the previous calendar month and the previous 11 calendar months. Such monthly reports shall be submitted to DES at the address stated below no later than 30 days following the end of each calendar month.

New Hampshire Department of Environmental Services
Air Resources Division
64 North Main Street
P.O. Box 2033
Concord, NH 03302-2033
ATTN: Compliance Bureau

F. AES shall submit quarterly excess emission reports in accordance with 40 CFR Part 75 and Part Env-A 805. Such reports shall include all excess emissions and daily averages for all monitored pollutants or operational parameters and shall be submitted to the address specified in Condition E. above. All reported daily averages shall be provided in an electronic spreadsheet-compatible

format.

G. Billing tickets from the natural as supplier for each month shall be kept on file in a form suitable for inspection and shall be made available to the Division upon request. Each billing ticket shall indicate the name, address and telephone number of the natural gas supplier and the quantity of natural gas used.

H. AES shall be subject to the NOx recordkeeping and reporting requirements of Chapter Env-A 900.

I. Copies of all records shall be retained by the owner or operator for a minimum of five years and shall be made available to the Director and EPA upon request. However, these records shall not be discarded, removed or destroyed thereafter without the express written approval of the Director in accordance with Env-A 900.

XVI. Emission-Based Fee Requirements:

A. The facility shall pay an emission-based fee annually as calculated each calendar year pursuant to Env-A 704.03 for all devices emitting a regulated air pollutant

B. The facility shall determine the total actual annual emissions from all devices emitting a regulated air pollutant for each calendar year in accordance with the methods specified in Env-A 620.

C. The facility shall calculate the annual emission-based fee for each calendar year in accordance with the procedures specified in Env-A 704.03 and the following equation:

FEE = E * DPT * CPIm * ISF

Where:

FEE =	The annual emission-based fee for each calendar year as specified in Env-A 704.
E =	The emission-based multiplier is based on the calculation of total annual emissions as specified in Env-A 704.02 and the provisions specified in Env-A 704.03(a).
DPT =	The dollar per ton fee the Division has specified in Env-A 704.03(b).
CPIm =	The Consumer Price Index Multiplier as calculated in Env-A 704.03(c).
ISF =	The Inventory Stabilization Factor as specified in Env-A 704.03(d).

D. The facility shall contact the Division each calendar year for the value of the Inventory Stabilization Factor.

E. The facility shall contact the Division each calendar year for the value of the Consumer Price Index Multiplier.

F. The facility shall submit, to the Division, payment of the emission-based fee and a summary of the calculations referenced in Conditions XIV.B. and XIV.C. of this permit for each calendar year by October 15th of the following calendar year in accordance with Env-A 704.04. The emission-based fee and summary of the calculations shall be submitted to the following address:

New Hampshire Department of Environmental Services
Air Resources Division
64 North Main Street
P.O. Box 2033
Concord, NH 03302-2033
ATTN: Emissions Inventory

G. The Division shall notify the facility of any under payments or over payments of the annual emission-based fee in accordance with Env-A 704.05.

XVII. Malfunction:

The Division shall be notified by telephone or FAX within 8 working hours following any failure of air pollution control equipment, process equipment, or of a process to operate in a normal manner, which results in an increase in emissions above any allowable emission limit stated in this permit. In addition, the Division shall be notified in writing within 15 (fifteen) days of any such failure. This notification shall include a description of the malfunctioning equipment or abnormal operation, the date of the initial failure, the period of time over which emissions were increased due to the failure, the cause of the failure, the estimated resultant emissions in excess of those allowed, and the corrective actions taken to restore normal operations. Compliance with this malfunction notification provision shall not excuse, or otherwise constitute a defense to, any violation of this permit or of any laws or regulations, which such a malfunction may cause. All notifications, whether by telephone, FAX or in writing, shall be sent directly to the Air Resources Division, Compliance Bureau at the following:

New Hampshire Department of Environmental Services
Air Resources Division
64 North Main Street
P.O. Box 2033
Concord, NH 03302-2033
ATTN: Compliance Bureau
(603) 271-1370

XVIII. Cooling Water Treatment, Testing and Monitoring Requirements:

A. Cooling Water supplied from the effluent from the Manchester Waste Water Treatment Plant ("WWTP") shall be treated in the following manner:

1. AES shall monitor total residual chlorine continuously at the terminal point of the cooling water pipeline on the AES site.

2. AES shall adjust the chlorination at the WWTP to maintain the total chlorine residual of 1.0 mg/l at the terminal point of the cooling water pipeline.

3. AES shall continuously monitor turbidity at the inlet to the pretreatment clarifier.

4. AES will chlorinate the WWTP effluent at the inlet to the on-site-clarifier. AES shall monitor the free chlorine residual continuously in the cooling tower basin to maintain a free chlorine residual of 0.5 mg/l in the cooling tower basin.

5. AES shall continuously monitor pH of water in the cooling tower basin.

6. AES shall maintain the pH of water in the cooling tower basin within the range of 6.8 to 8.5.

7. AES shall continuously monitor turbidity in the effluent from the multimedia filter.

8. AES shall by-pass the treated effluent to the cooling tower if turbidity exceeds 5 NTU.

B. AES shall perform weekly sampling for fecal coliform bacteria at the multimedia filter discharge.

C. AES shall perform quarterly testing of WWTP effluent at the inlet of the pretreatment clarifier for metals and volatile organic compounds. Analytical tests conducted for the metals shall include the following at a minimum: Antimony, Arsenic, Cadmium, Copper, Chromium, Lead, Mercury, Nickel, Silver and Zinc. Analytical tests for volatile organic compounds shall include the following compounds at a minimum: Benzene, Carbon Disulfide, Chloroform, Tetrachloroethylene, Toluene, 1,1,1 Trichloroethane, Fluorene, Nitrobenzene, Phenol, Bis(2-ethylexyl)phthalate, Xylene, 1,2,4/1,3,5-Trimethylbenzene, Chloromethane, Chloroethane, 1,1 Dichloroethane, Carbon Tetrachloride, Dibutyl Phthalate, Dioctyl Phthalate, and Bromoform. AES may propose alternatives to this testing requirement. Such alternatives shall not be implemented until DES issues a written approval of the proposal.

D. AES shall perform semi-annual testing of the Cooling Tower Blowdown for metals listed in Condition C.

E. Results of the above analytical analyses shall be submitted to DES within 30 days of AES receiving the results.

F. At least 30 days prior to the commencement of conducting the analyses required in Condition C. Above, AES shall submit to DES, for review and approval, the proposed tests methods that AES will utilize.

G. After conducting a minimum of 4 sets of analyses as required by condition C. And 2 sets of analyses as required by condition D., AES may propose an alternative testing schedule. An alternative testing schedule shall not be implemented by AES until DES has issued a written approval of the alternative testing schedule.

H. The initial tests required by condition C. And D. Shall be performed no later than 30 days after the commencement of operation.

I. AES shall maintain records sufficient to determine compliance with each Condition A. Through H. Above. Such records shall be made available for inspection upon request by DES.

XIX. Inspection and Entry:

Pursuant to Env-A 614.01 and Section 114 of the Clean Air Act, EPA and DES personnel shall be granted access to the facility covered by this Permit, in accordance with RSA 125-C:6,VII for the purposes of: inspecting the proposed or permitted site; investigating a complaint; and assuring compliance with any applicable requirement or state requirement found in the NH Rules Governing the Control of Air Pollution and/or conditions of any Permit issued pursuant to Chapter Env-A 600.

XX. Enforcement:

AES shall comply with all terms and conditions of this permit. Any noncompliance with a permit condition constitutes a violation of RSA 125-C:15 and the Clean Air Act, and, as to the conditions in this permit which are federally enforceable, a violation of the Clean Air Act, 42 U.S.C. section 7401 et seq., is grounds for enforcement action, for permit termination or revocation, or for denial of an operating permit renewal application by the Division and/or EPA. Noncompliance may also be grounds for assessment of administrative, civil or criminal penalties in accordance with RSA 125-C:15 and Sections 113 and 120 of the Clean Air Act. This Permit does not relieve the Permittee from the obligation to comply with any other provisions of RSA 125-C, the New Hampshire Rules Governing the Control of Air Pollution, or the Clean Air Act, or to obtain any other necessary authorizations from other governmental agencies, or to comply with all other applicable Federal, State, or Local rules and regulations, not addressed in this Permit.

XXI. Duty To Provide Information

In accordance to RSA 125-C and Section 114 of the Clean Air Act, AES shall upon the DES's or EPA's written request, furnish within a reasonable time, any information necessary for determining whether cause exists for modifying, revoking and reissuing, or terminating the Permit, or to determine compliance with the Permit. Upon request, the Permittee shall furnish to the DES or EPA copies of records that the Permittee is required to retain by this Permit. The Permittee may make a claim of confidentiality as to any information submitted pursuant to this condition in accordance with Part Env-A 103 at the time such information is submitted to the DES. The DES shall evaluate such requests in accordance with the provisions of Part Env-A 103.

XXII. Severability Clause

The provisions of this Permit are severable, and if any provision of this Permit, or the application of any provision of this Permit to any circumstances is held invalid, the application of such provision to other circumstances, and the remainder of this Permit, shall not be affected thereby.

XXIII. Property Rights

This Permit does not convey any property rights of any sort, or any exclusive privilege.

FINAL DETERMINATION

To Grant a

Prevention of Significant Deterioration Permit

and

Non-Attainment Permit

for

AES Londonderry, L.L.C.

To construct a

720 MW Combustion Turbine Facility

in

Londonderry, NH

Prepared by the

United States Environmental Protection Agency
Region I

and

New Hampshire Department of Environmental Services
Air Resources Division

April 26, 1999

I. Applicant's Name:

AES Londonderry, L.L.C.
50 Nashua Road
Suite 202
Londonderry, NH 03053

II. Physical Address of Proposed Facility:

Londonderry Ecological Industrial Park
Londonderry, NH

County: Rockingham
USGS Coordinates: Easting: 301.9 Northing: 4752.8

III. Background:

A new major source of air pollution seeking to locate in an attainment area is subject to review in accordance with the provisions of 40 CFR Section 52.21, *Prevention of Significant Deterioration* ("PSD"). The PSD program in New Hampshire is administered by the New Hampshire Department of Environmental Services, Air Resources Division ("DES"). Under the New Hampshire PSD Operating Plan, DES is responsible for completing the Preliminary Determination and Draft Permit, while EPA Region I ("EPA") issues the PSD permit.

Likewise, a new major source of air pollution seeking to locate in a non-attainment area is subject to review in accordance with the provisions of New Hampshire Rules Governing the Control of Air Pollution Part Env-A 622 *Additional Requirements in Non-Attainment Areas and the New Hampshire Portion of the Northeast Ozone Transport Region*. Unlike the PSD Permit Program, DES is fully delegated by EPA with respect to Non-Attainment Review. Therefore, the Non-Attainment permit is issued by DES.

On July 6, 1998, AES Londonderry, L.L.C. ("AES") submitted an Application for Certificate of Site and Facility to the New Hampshire Energy Facility Site Evaluation Committee ("EFSEC"). Included in the application to EFSEC, AES identified the need to obtain a PSD and Non-Attainment Permit to construct and operate a 720 MW Combined-Cycle Combustion Turbine facility in Londonderry, NH.

DES issued a Public Notice that was published in the Union Leader and Derry News Newspapers indicating that DES hade made a Preliminary Determination to grant a PSD/Non-Attainment Permit to AES. On February 25, 1999 DES held a Public Hearing at the Londonderry High School to receive public comment on the Preliminary Determination for AES. Public comments received during the hearing and subsequent comment period have been reviewed by DES and EPA and have been taking into consideration in making this Final Determination.

The issuance of this Final Determination is done jointly and concurrently by DES and EPA. The New Hampshire DES has an EPA-approved nonattainment New Source Review (NSR) permit program and will issue the LAER and offset permit provisions regarding the nonattainment pollutant NOx. In addition, New Hampshire has EPA approved procedures to ensure new construction or modifications of stationary sources do not violate control strategies or interfere with attainment of maintenance standards. These procedures authorize the DES to regulate non-significant increases for all criteria and regulated pollutants. New Hampshire does not, however, have full authority to issue PSD permits. EPA has partially delegated the PSD program to New Hampshire, authorizing the state to do the administrative and technical work on the permit, but has retained the authority for EPA to make the final decision and issue the final PSD permit. Consequently, EPA is issuing the permit provisions requiring BACT for such attainment pollutants as carbon monoxide, sulfur dioxide and particulate matter. Rather than issuing to the source two different permits (PSD and nonattainment NSR), EPA and New Hampshire DES have arranged the issuance of a joint permit that clearly delineates the EPA and DES provisions.

Since EPA is the issuing authority for the PSD provisions of the permit, any petitions to the PSD provisions should be made to EPA in accordance with 40 CFR Part 124. Since DES is the issuing authority for the nonattainment NSR provisions and the non-significant emissions provisions, any petitions related to these provisions should be made to the Air Resource Council in accordance with Env-A 205.10 *Appeals*.

As mentioned, EPA has final authority for the issuance of the PSD provisions of the permit. However, the DES is authorized to administer the PSD program and as the PSD administrator is responsible for the following actions: 1) receiving PSD applications, 2) developing preliminary technical findings including air impact analysis and BACT limit findings, 3) drafting preliminary determinations and PSD permit and 4) providing public notice and opportunity for public comment on draft determinations and permits. As the final PSD authority, EPA provided comments and recommendations during the public comment period and adopted the final PSD determination and permit provisions based upon those comments. The following final determination and permit contain both EPA's recommendations and findings.

IV. Project Description:

AES is proposing to construct and operate a 720 MW combined cycle power facility in Londonderry, NH. The AES facility will consist of two identical combustion turbine trains. The major components of each combustion turbine train includes a combustion turbine generator, an un-fired exhaust heat recovery steam generator ("HRSG"), a combined steam turbine generator, a combined wet mechanical draft cooling tower, a water treatment system and auxiliary equipment.

AES will operate two identical Westinghouse Model 501 G combustion turbines, each with a capacity of approximately 243 MW. The exhaust gas from each turbine will pass through the HRSGs which will generate steam. This steam will be used to drive a combined steam turbine which will produce an additional 248 MW of electric power. AES has proposed that no supplemental fuel firing will occur in the HRSGs. Plant electrical usage will be approximately 14 MW, which brings the nominal rating of the plant to 720 MW. Air pollution controls at the facility will include a NO_x reduction system, a CO control system and Continuous Emission Monitors ("CEMs") for CO, NO_x, opacity and other operational parameters.

Cooling water for the proposed AES facility will supplied by piping effluent from the Manchester Waste Water Treatment facility. Approximately 97% of the water used by the facility will be used for cooling purposes, the majority of which will leave the facility as evaporative losses from the cooling tower. AES has estimated that on average 3.62 million gallons of water per day will be used by the facility.

V. General Information:

A. PSD/Non-Attainment Applicability Determination & Attainment Status:

AES is proposing to construct and operate a 720 MW Combined Cycle Combustion Turbine facility in Londonderry, NH. The proposed facility will be located in Rockingham County which is classified as an attainment area for Carbon Monoxide ("CO"), Sulfur Dioxide ("SO_2"), Nitrogen Oxides ("NO_x") and Particulate Matter ("PM"), including Particulate less than 10 microns in diameter ("PM-10"), and therefore, a PSD area for these pollutants. Rockingham county is also classified as a non-attainment area for Ozone, and therefore, a non-attainment area for Ozone precursors, namely, NO_x and Volatile Organic Compounds ("VOCs"). In addition, the entire state is part of the Northeast Ozone Transport Region ("OTR") and is required to implement at a minimum ozone nonattainment NSR requirements equivalent to the moderate ozone nonattainment NSR requirements for all parts of the state. The Region has proposed to remove the ozone nonattainment designation based on the last three years of data meeting the one-hour standard National Ambient Air Quality Standard. When EPA finalizes this action, the nonattainment requirements of OTR would still apply.

The proposed AES facility will have emissions of regulated attainment pollutants above the major source PSD thresholds and therefore is subject to PSD review and will require a PSD Permit. As noted in Section III, PSD permit issued in New Hampshire are issued by EPA. In addition, the proposed facility will have emissions of regulated nonattainment pollutants above the major source nonattainment thresholds and therefore is

subject to non-attainment review and will require a Nonattainment Permit. Nonattainment Permits issued in New Hampshire are issued by DES as noted in Section III.

B. Site Information:

The proposed facility will be located on 47.7 acres within the 100- acre Londonderry Ecological Industrial Park in Londonderry, NH. The town of Londonderry is located in Rockingham County in the south east portion of New Hampshire. The site is approximately 1.4 miles south of Manchester Airport and 1.2 miles east of the Merrimack River. The topography surrounding the proposed project site is somewhat hilly, characterized in general by elevated terrain to both the east and west of the Merrimack River valley. There are a number of hills within 2 miles of the site which extend to above 400 feet, the closest being about one half mile to the east at an elevation of 420 feet. Beyond this hill the terrain descends into a marshy plain bisected by Cohas Brook. A number of smaller creeks are also present in the area. The highest elevation in the general area is 490 feet, which is located in the hills just east of Manchester Airport. The proposed facility is to be located at an elevation of approximately 300 feet above mean sea level, which is 200 feet above the floor of the river valley.

AES has identified several residential subdivisions within ½ mile of the proposed project site. Approximately, 101 dwellings are located within ½ mile from the nearest project structures and an additional 43 dwellings are located within ½ mile of the proposed site property line. The residential dwellings are concentrated around the Yellowstone Drive loop and nearby streets, along Woodside Drive, Sandy Brook Lane, Maureen Circle and Litchfield Road.

C. Operation Information:

The proposed AES facility will provide approximately 720 MW of electricity to the regional electric transmission grid. The proposed project will consist of two identical combustion turbine trains, each consisting of a combustion turbine generator rated at 243 MW, an unfired HRSG, and a combined steam turbine generator rated at 248 MW. AES has proposed operating the facility on a base loaded basis, i.e. 100 % of rated output for up to 24 hours per day, 365 days per year. The only periods of downtime are expected to be for periods of maintenance and repair services.

Primary fuel for the proposed facility will be natural gas piped from the Tennessee Gas Pipeline Company's "Concord Lateral". The direct gas line interconnect, or Project Lateral pipeline, is expected to be built, owned and operated by a third party. Backup fuel

for the proposed facility will be low sulfur distillate fuel oil with a sulfur content of 0.05 % by weight. AES has proposed limiting fuel oil combustion to 720 hours per twelve month rolling period, which is equivalent to 30 days per year or approximately 29,150,000 gallons.

D. Quantification of Emissions:

AES is classified as a new major source of air emissions. Emissions of regulated pollutants will be limited to the following levels:

Table 1. Emission Limitations for AES

Pollutant	Maximum Emissions (TPY)	PSD Threshold (TPY)	PSD Significance Threshold (TPY)	Non-Attainment Threshold (TPY)
Nitrogen Oxides (NOx)	264.2	100	40	50
Carbon Monoxide (CO)	928.9	100	100	N/A
Volatile Organic Compounds (VOCs)	49.9	N/A	N/A	50
Total Particulate (PM)	128.7	100	25	N/A
PM-10	128.7	100	15	N/A
Sulfur Dioxide (SO_2)	153.5	100	40	N/A
Total HAPs	3.96	N/A	N/A	N/A
Ammonia	307.3	N/A	N/A	N/A
Lead	0.12	100	0.6	N/A

The above emissions were estimated based on the following assumptions:

1). The plant is operated at a load that would produce the worst case emissions, i.e. for natural gas firing at an ambient temperature of 50 °F and for distillate firing at an ambient temperature of 0 °F.

2) Annual emissions are based on a maximum of 720 hours per year of distillate fuel oil firing.

3) The sulfur content of distillate fuel oil is 0.05 % by weight.

Based on the above emission rates the proposed AES facility is subject to PSD review for Sulfur Dioxide, Nitrogen Oxides, Particulate Matter (including PM-10), Carbon Monoxide and Sulfur Acid Mist. The proposed facility is also subject to Non-attainment review for Nitrogen Oxides.

VI. Additional Regulatory Air Pollution Requirements

A. Federal NSPS Standards for Stationary Gas Turbines:

The combustion turbines at the proposed AES facility will be subject to the New Source Performance Standard ("NSPS"), 40 CFR 60 Subpart GG, *Standards of Performance for Stationary Gas Turbines* ("Subpart GG") which establishes performance standards for NO_x and SO_2. In addition, Subpart GG also specifies certain monitoring, recordkeeping and reporting requirements. The proposed facility will have emissions rates that are below the NO_x and SO_2 performance standards and the permit for the facility will contain the applicable monitoring, recordkeeping and reporting requirements of the Subpart GG. DES is delegated by EPA to enforce Subpart GG as it pertains to stationary gas turbines.

B. Federal NSPS Standards for Volatile Organic Liquid Storage Vessels:

Fuel oil for the proposed AES Facility will be stored on-site in fuel oil storage vessels which are subject to the NSPS, 40 CFR 60 Subpart Kb *Standards of Performance for Volatile Organic Liquid Storage Vessels (including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction or Modification Commenced after July 23, 1984* ("Subpart Kb"). Due to the low vapor pressure of distillate fuel oil, the facility is only required to maintain records of the tank dimensions and the maximum capacity of the tanks. DES is delegated by EPA to enforce Subpart Kb as it pertains to volatile organic liquid storage vessels.

C. Federal Acid Rain Program:

In accordance with 40 CFR Part 72, *Federal Acid Rain Requirements*, AES will be designated as a Phase II New Affected Unit, effective January 1, 2000, or within 90 days after commencement of commercial operation, whichever is later. AES will need to submit a Phase II Acid Rain Application in accordance with the requirements of 40 CFR Part 72. As required by the Federal Acid Rain Program, AES will be required to acquire SO_2 allowances in the amount of one allowance for each ton of SO_2 emitted in accordance with 40 CFR Part 72. In addition, AES may be required to install CEMs that meet the applicable requirements of 40 CFR Part 75.

D. Federal Accidental Release Requirements - Clean Air Act Section 112(r):

AES has indicated that the proposed facility will not be subject to the provisions of 40 CFR Part 68 *Chemical Accident Prevention Provisions* or the Federal Accidental Release Program. In the application AES stated that the concentration of aqueous ammonia stored on site will be below the applicability threshold (20 % or greater) of 40 CFR Part 68. However, if AES later decides to store aqueous ammonia or any other chemical in concentrations or quantities above the applicability threshold of 40 CFR Part 68, a Risk Management Plan must be prepared and submitted no later than the latest of the following dates:

1. June 21, 1999;

2. Three years after the date on which a regulated substance is first listed under 40 CFR 68.130; or

3. The date on which a regulated substance is first present above a threshold quantity in a process.

E. Maximum Achievable Control Technology Requirements for New Sources - Clean Air Act Section 112(g):

AES is not subject to Section 112(g) requirements since electric utility steam generating facilities are exempt in accordance with 40 CFR Part 63.40 (c) unless and until such time as these units are added to the source category list pursuant to section 112(c)(5) of the Act. In addition, potential Hazardous Air Pollutant ("HAP") emissions from the proposed facility are below the applicability thresholds (10 tons of any single HAP or 25 tons of all HAPs combined) of Section 112(g).

F. State Standards:

DES has a number of air pollution regulations that would be applicable to the proposed AES facility. These applicable regulations are adopted under authority of RSA 125-C, 125-I and 125-J and are codified in the New Hampshire Code of Administrative Rules. The substantive portions of these state requirements include, but are not limited to, the sections listed below:

1. Chapter Env-A 200 - *Procedural Requirements*.

2. Chapter Env-A 600 - *Statewide Permit System.*

3. Part Env-A 622 - *Additional Requirements in Non-Attainment Areas and the New Hampshire Portion of the Northeast Ozone Transport Region.*

4. Chapter Env-A 700 - *Permit Fee System*

5. Chapter Env-A 800 - *Testing and Monitoring Procedures*

6. Chapter Env-A 900 - *Recordkeeping and Reporting Requirements*

7. Chapter Env-A 1400 - *Toxic Air Pollutants Standards*

8. Chapter Env-A 3200 - *Special Temporary Rule on NO_x Budget Trading Program*

VII. PSD Control Technology Review:

This portion of the Final Determination has been prepared by EPA as noted in Section III.

The proposed AES facility is subject to Best Available Control Technology ("BACT") for Particulate Matter, Sulfur Dioxide, Sulfuric Acid Mist, Carbon Monoxide and Nitrogen Oxides. In addition, the proposed AES facility is also subject to Lowest Achievable Emission Rate ("LAER") for Nitrogen Oxides. Both State and Federal regulations and policies define BACT as an emission limitation based on the maximum degree of reduction for each regulated pollutant taking into consideration technical, economic and environmental factors. In no case shall the BACT emission limitation result in emissions of any pollutant in excess of any applicable standard under 40 CFR Part 60 *Standards of Performance for New Stationary Sources of Air Pollution* and 40 CFR Part 61 *National Emission Standards for Hazardous Air Pollutants.*

In its application, AES conducted their BACT analysis by first identifying technically feasible control options, which included a search of the EPA RACT/BACT/LAER Clearinghouse ("RBLC"). Secondly, AES took into consideration any environmental and energy impacts of a particular control option. Thirdly, AES performed an economic analysis where appropriate. Finally, AES made a proposal of BACT for each pollutant taking into consideration the factors above. AES also conducted a search of the RBLC in order to propose the LAER limits for NO_x. In addition, AES reviewed recently issued construction permits for similar facilities in the Northeast.

In conducting the Preliminary Determination for BACT, the New Hampshire DES went through the same process for proposing BACT. In the Final Determination, EPA has also used this methodology in arriving at the final BACT determination.

A. Availability of SCONOx Technology

In determining BACT for several pollutants, EPA and DES carefully considered whether SCONOx is an available technology for purposes of the BACT determination. While SCONOx is primarily aimed at controlling NO_x emissions, the manufacturer of SCONOx has also cited its ability to reduce carbon monoxide, sulfur dioxide, and particulate matter, among other pollutants. Consequently, the availability of this technology is an important threshold question for the following BACT determinations.

A commentor did request that the DES and EPA evaluate SCONOx technology as a control for CO based on the technology's ability to limit CO emissions while achieving LAER for NO_x. The commentor asserted that SCONOx does not use ammonia and, consequently, will have less secondary environmental impact as compared with other controls. In comments to the Preliminary Determination prepared by DES, EPA also urged that the DES verify the current availability of SCONOX before determining LAER for the non-attainment pollutant and developing BACT terms for EPA's PSD portion of the permit.

EPA's procedures for performing a top-down BACT analysis are set forth in EPA's Draft New Source Review Workshop Manual (Manual), dated October 1990. One critical step in the BACT analysis is to determine if a control option is technically feasible. If a control is determined to be infeasible, it is eliminated from further consideration. The Manual applies several criteria for determining technical feasibility. The first is straightforward. If the control has been installed and operated by the type of source under review, it is demonstrated and technically feasible.

For controls not demonstrated using this straightforward approach, the manual applies a more complex approach that involves two concepts for determining technical feasibility: availability and applicability. A technology is considered available if can be obtained through commercial channels. An available control is applicable if it can be reasonably be installed and operated on the source type under consideration. A technology that is available and applicable is technically feasible.

The manual provides some guidance for determining availability. For example, a control is generally considered available if it has reached the licensing and permitting stages of development. However, the manual further provides that a source would not be required

to experience extended time delays or resource penalties to allow research to be conducted on new techniques. In addition, the applicant is not expected to experience extended trials learning how to apply a technology on a dissimilar source type. Consequently, technologies in the pilot scale testing stages of development are not considered available for BACT.

In addition, as mentioned before, the manual also requires available technologies to be applicable to the source type under consideration before a control is considered technically feasible. For example, deployment of the control technology on the existing source with similar gas stream characteristics is generally sufficient basis for concluding technical feasibility. However, even in this instance, the manual would allow an applicant to make a demonstration to the contrary. For example, the applicant could show that unresolved technical difficulties with applying a control to the source under consideration (e.g., size of the unit, location of the proposed site and operating problems related to the specific circumstances of the source) make a control technical infeasible.

EPA believes that SCONOx holds substantial promise for the reduction of pollutants from power plants. However, at this time, after considering the information received from the applicant and from other sources including the manufacturer and licensee of the SCONOx technology, EPA concludes that SCONOx is not yet technically feasible for large combined cycle plants today.

In reaching this conclusion, EPA relies upon technical uncertainties about the application of this control technology to the large combined cycle turbines proposed by the applicant. While SCONOx has been successfully utilized on a 32-megawatt gas turbine at the Federal Cogeneration facility in Vernon, California, the applicant will use a 283-megawatt turbine. Given the very substantial difference in scale (more than 8 times) and the resulting need to modify the equipment in order to "scale up" the equipment, EPA is not able to determine that the equipment has been installed and operated on the type of source under review. EPA has consequently considered whether the equipment is both "available" and "applicable" in order to determine whether it is technically feasible. The applicant has pointed to a number of unresolved technical issues in applying SCONOx to its larger 283-megawatt turbine, related to both the scale up of the technology and other differences between the demonstrated SCONOx equipment and the equipment which would be installed on the applicant's plant. While minor technical issues about application of control technology equipment to a different or larger facility should not result in a conclusion of lack of availability or applicability, EPA has concluded that several of the technical issues raised by the applicant are sufficiently serious as to warrant such a conclusion. As noted in the Manual, an applicant is not expected to experience substantial commercial risk or extended trials to work out how to apply technology on a dissimilar source type.

In the following paragraphs, EPA notes certain significant unresolved technical issues about application of SCONOx to the larger turbine proposed by the applicant. EPA is optimistic that these issues can and will be worked out, and before long SCONOx should be considered available technology for BACT determinations. However, at this moment, these issues raised by the applicant, are legitimate. While any one concern may not be conclusive, combined they lead EPA to conclude that it cannot deem SCONOx technically feasible yet.

Increased Gas Flow: Based upon the application and EPA and DES investigation, EPA believes that SCONOx has only been demonstrated on a 32-MW gas turbine. The applicant's proposed Westinghouse 501G gas turbine would have a nominal rating of 243 MW. The exhaust gas flow for the applicant's turbine will be about nine times greater than the turbine on which SCONOx has been demonstrated. The applicant has argued that this substantially increased gas flow raises significant scale up issues, including possible adverse impacts from gas flow distribution and disturbances from the SCONOx system. The SCONOx technology relies upon periodic blockage of the gas flow in order to allow for regeneration of the catalyst modules. The applicant notes that gas flow distribution and blockage may impact the operation and performance of the heat recovery steam generator. Goal Line, on the other hand, believes that SCONOx can accommodate this scale up. EPA believes that the use of the equipment in a turbine with nearly eight times the gas flow do raise legitimate concerns about the effect of the equipment on the performance of the turbine.

Louver System Scale-Up: SCONOx technology uses a louver system to alternately close off sections of the catalyst to allow for the regeneration of the catalyst. The applicant indicates that proper louver operation is critical to successful operation of the system. As mentioned, SCONOx has been installed on a significantly smaller unit then the Westinghouse unit. In addition, the Federal facility's SCONOx system was designed and installed for the "cold end" (300-350F) portion of the flue.

For larger turbine application, Goal Line is designing a larger louver system that can accommodate the larger flue stream. Goal Line also envisions installing the system and louvers in the hot end of the flue (500-700 F). The applicant does not believe Goal Line's federal facility has sufficiently demonstrated the long term reliability or performance of Goal Line's new louver design and location. In conversations with Goal Line, Goal Line indicated the new louver design has been completed and evaluated and that no significant issues exist. EPA also notes that Goal Line's licensee, ABB, is currently testing the scaled-up louver design. However, the fact

that the results from ABB is currently testing the design and the results of these tests are not yet final or available, and that the system has not been installed and operated on larger units, does raise legitimate questions about whether the new louver design is available for large turbine projects today.

Sulfur Removal: The applicant indicates that Goal Line intends to use a different sulfur scrubbing technology from the technology operating at the Federal Cogeneration facility. The applicant indicates the use of the new and untried technology raises reliability issues. Goal Line has indicated that SCOSOx has been demonstrated on smaller oil firing engines and that scale up should be feasible. In addition, Goal Line notes sulfur removal only improves the systems performance but is not a prerequisite for its use.

Most of Goal Line's experience is with the Federal Cogeneration facility that combusts natural gas only. The New Hampshire project would allow for the combustion of distillate oil up to thirty days per year. Goal Line indicated that for large turbines burning distillate, sulfur removal would be needed for commercial operation. For these projects, EPA believes the lack of operating experience with SCOSOx on larger distillate burning turbines does raise legitimate concerns about its availability.

Methane Use for Regeneration: The Federal Cogeneration facility currently employs diluted hydrogen gas for catalyst regeneration. Goal Line currently recommends a dilute methane for regeneration. The applicant indicates the new design has not been demonstrated. Goal Line indicates the new design is an improvement over the current design but in any case the old design could be used for larger units. Again, EPA is concerned about the lack of operational experience that Goal Line has on its current design.

The validity of these concerns about the technical feasibility of SCONOx on larger facilities is supported by the actions and statements of Goal Line's SCONOx licensee, ABB, a world leader in turbine design and pollution control technologies. Goal Line has entered into a licensing agreement with ABB for commercial marketing rights for SCONOx for gas turbine plants over 100 megawatts. ABB has made clear that it does not believe that the technology is sufficiently demonstrated on larger facilities yet. Vendor and licensee statements should not determine the availability or lack thereof of a particular technology. However, the concerns of the licensee of equipment, which has a financial stake in its use, about the readiness of the product for use on larger combined cycle turbines do provide additional support for the validity of the technical concerns raised by the applicant.

Specifically, ABB has stated in letters to state regulators that a large scale SCONOx design confirmed suitable for integration into ABB's large combined cycle plants does not exist at this time. ABB confirms its intent to eventually commercialize a SCONOx design for large scale combined cycle plants with reliability, availability and maintainability profiles comparable to existing SCR-based plants. To that end, ABB states that it is designing and testing a prototype system to ensure SCONOx is compatible with large combined cycle plant operations. ABB anticipates the testing program will be completed shortly. Until testing is completed, ABB has indicated that it will not guarantee the performance of the system, including shouldering liquidated damages (i.e., lost revenue) in the event the equipment fails to obtain a promise level of availability. ABB's conclusion that SCONOx does require testing on larger facilities before it can be offered as part of its package for such plants supports the applicant's concerns about unresolved technical issues in the application of SCONOx to its facility.

In conclusion, EPA believes the operational uncertainties with regard to the scale up of the technology and the lack of demonstrated experience with the proposed design show that SCONOx is not yet an available technology. Nevertheless, EPA believes that SCONOx, as a non-ammonia control system, does have great potential and any future BACT determinations on combined-cycle gas turbines will need to consider whether, at that time, the current technical issues have been adequately resolved.

B. Particulate Matter (PM and PM-10)

As noted above, the proposed AES facility is subject to BACT requirements for PM emissions. The primary source of PM emissions from the proposed AES facility is the combustion of fuel in the turbines. Small quantities of PM emissions are also emitted from the cooling tower. In general, there are several types of add-on control technologies that can be utilized to control PM emissions. Such add-on PM control technologies include; fabric filters, wet scrubbers and electrostatic precipitators. PM emissions may also be controlled by combusting clean fuels. AES has proposed that the combustion of natural gas, as the primary fuel, and low sulfur distillate fuel, as the backup fuel, be regarded as BACT for PM. Specifically, AES proposed PM emission limits of 0.004 lb/MMBTU on natural gas and 0.02 lb/MMBTU on fuel oil. The proposed PM emission levels are significantly below the performance requirements of Part Env-A 2003.08 *Particulate Emission Standards for Fuel Burning Devices Installed on or After January 1, 1985*, which would limit PM emissions to 0.1 lb/MM BTU.

It has been concluded that the combustion of natural gas, as the primary fuel, and

low sulfur diesel fuel, as the backup fuel, is considered BACT for the combustion turbines. It was concluded that add-on controls would not be feasible due to high exhaust flows and very low concentrations of PM in the exhaust stream. EPA is not aware of any combustion turbine facility that has installed add-on PM controls, such as a fabric filter, wet scrubber or electrostatic precipitator. This determination is consistent with recent determinations made for the following plants listed in Table 2:

Table 2. Recently Proposed Combined Cycle Plants In New England

Facility	Location	Permit Status	Date
Gorham Energy	Gorham, ME	Issued	Dec. 1998
Westbrook Energy	Westbrook, ME	Issued	Dec. 1998
Blackstone Energy	Blackstone, MA	Proposed	March 1999
Milford El-Paso	Milford, CT	Proposed	Dec. 1998

PM emissions from the cooling tower are generated by the presence of small solid particles within the circulating water of the cooling tower. A small percentage of the circulating water exists the cooling tower and is commonly referred to as "drift". AES proposed and EPA has concluded that the use of high efficiency drift eliminators would be considered BACT for the proposed cooling tower. High efficiency drift eliminators consist of baffles that remove water droplets from the exhaust stream of the cooling tower. The removal of the water droplets from the exhaust stream will minimize PM emissions from the cooling tower. Drift from the cooling towers will be limited to 0.0005% of the circulating water.

C. Sulfur Dioxide and H_2SO_4

As noted above, the proposed AES facility is subject to BACT requirements for SO_2 and H_2SO_4. SO_2 emissions from the proposed AES facility is the result of oxidation (combustion) of sulfur contained in the fuel. A percentage of sulfur in the fuel is further oxidized to SO_3, which in turn reacts with moisture to form H_2SO_4 or sulfuric acid mist. The most practical and effective way to limit SO_2 and H_2SO_4 emissions is by minimizing the sulfur content of fuel. Subpart GG limits the sulfur content of the fuels combusted in new combustion turbines to a maximum sulfur content of 0.8 percent by weight. While natural gas is inherently low in sulfur content, fuel oil in New Hampshire may contain up to 2 percent by weight of sulfur. AES has proposed limiting the sulfur content of natural gas and

fuel oil to 0.8 grain/100 SCF (less than 0.01 percent by weight) and 0.05 percent sulfur by weight, respectively. The sulfur levels proposed by AES are well below sulfur content limits of Subpart GG.

EPA has concluded that the combustion of natural gas, as the primary fuel, and low sulfur distillate fuel, as the backup fuel, is considered BACT for the AES facility. This determination is consistent with recent BACT determinations made for similar facilities.

D. Carbon Monoxide (CO)

As noted above, the proposed AES facility is subject to BACT requirements for CO. Emissions of CO from the proposed AES facility is the result of incomplete combustion of fuel in the turbines. Emissions of CO can be minimized by ensuring adequate fuel residence time and high combustion temperatures within the combustion zone. However, controlling CO in this manner will have the negative impact of increasing NO_x formation. Water and steam injection into the combustion zone or the use of Dry-Low NO_x combustors can be utilized to minimize NO_x formation while maintaining low levels of CO formation. Other than minimizing CO formation from the combustion process, the only other option is to reduce CO emissions by means of an add-on CO Oxidation Catalyst control system.

EPA would note that a comment was received that indicated that the use of SCONOx technology could also reduce CO and other emissions from the facility.

In accordance with PSD regulations, other considerations sch as energy, economic, and environmental impacts of a particular control option may be considered in determining BACT for a particular source. As part of the application, AES reviewed the economic impact of installing either an 80% or 90% CO Catalyst Reduction system. An economic analysis of air pollution control equipment is generally measured in terms of dollars per ton of pollutant removed, thus providing a consistent means of determining the cost of a control option. The economic analysis performed by AES estimated that the cost of the 80% CO Catalyst Reduction System would be $1,956/ton CO removed and the cost of the 90% CO Catalyst Reduction System would be $2,207/ton CO removed. AES has stated that the cost associated with either CO Reduction System would be cost prohibitive and therefore should not be considered BACT for this project. In addition, AES has identified several energy and environmental impacts associated with the installation of a CO catalyst system that should be considered in determining whether such a CO Catalyst System should be considered BACT.

The installation of a CO oxidation catalyst could increase PM and H_2SO_4 emissions

oil. Further information about this limit can be found in Section VIII.A of this determination.

VIII. Nonattainment Control Technology Review:

This portion of this Final Determination has been prepared by DES as noted in Section III.

A. Nitrogen Oxides (NOx)

State and Federal regulations and policies define LAER as the most stringent emission limitation contained in the implementation plan of any State for a particular source category or the most stringent emission limitation which is achieved in practice by a particular source category, whichever is more stringent. As a new source seeking to locate in a Nonattainment area AES is required to install LAER for NOx.

As noted above, the proposed AES facility must meet LAER requirements for emissions of NO_x. Emissions of NO_x from the combustion process is the result of the oxidation of nitrogen contained either in the fuel ("fuel NO_x") or combustion air ("thermal NO_x"). Since fuel bound nitrogen in natural gas (the primary fuel for the AES facility) is negligible, reducing NO_x from the combustion process must primarily focus on limiting the formation of thermal NO_x. The utilization of dry Low NO_x combustors ("LNBs") eliminates high flame temperatures and minimizes thermal NO_x formation and is considered state-of-art combustion technology for combustion turbines. AES has proposed the installation of dry LNBs as an initial step towards meeting the LAER requirement for NO_x. AES has also proposed using water injection to limit NO_x formation during oil firing. AES has estimated that NO_x levels prior to the SCR system would be 25 ppmvd on natural gas and 42 ppmvd on fuel oil. In addition to using the above technology, AES has also evaluated several add-on control technologies to further reduce NO_x emissions. The add-on control technologies analyzed by AES included Selective Catalytic Reduction (SCR) and SCONOx, a relatively new NO_x control technology.

SCR systems have been commercially available for a number of years and have been widely used in most recent NO_x LAER determinations for combustion turbines. SCR systems require the injection of ammonia in the turbine exhaust which in turn reacts with nitrogen oxides, in the presence of a catalyst, to form nitrogen and water. Early LAER determinations for combustion turbines using SCR systems where typically 9 ppm or higher. More recent LAER determinations have been in the 3.5 ppm range with various averaging times (most determinations in the Northeast have been based on a one-hour averaging time). AES has proposed the installation of an SCR system in conjunction with dry LNBs during

gas firing and SCR with water injection during oil firing as LAER for this project. Specifically, AES has proposed a NO_x limit of 3.5 ppmvd (at 15 % O_2) on natural gas and 9.0 ppm (at 15 % O_2) on fuel oil as LAER for this project.

As stated above, AES also considered the use of SCONOx technology as part of the NO_x LAER analysis. SCONOx is an oxidation catalyst technology marketed by Goal Line Technologies. SCONOX oxidizes NO to NO_2 and CO to CO_2. The NO_2 is subsequently absorbed onto a potassium carbonate absorber. The absorber must periodically be regenerated by taking a portion of the system offline and utilizing a regeneration process. The use of the SCONOX technology has two potential benefits over traditional SCR systems. First, the SCONOX technology requires no ammonia to achieve NO_x reductions, thereby eliminating ammonia emissions. Secondly, there exists the potential for lower NO_x emissions, as NO_x emissions as low as 2.5 ppm have reportedly been achieved. AES has presented a number of reasons why it believes that the SCONOX technology should not be considered LAER for this project. The reasons noted by AES included: 1) lack of independent demonstration; 2) lack of demonstration during distillate oil firing; 3) scale-up concerns; 4) concerns over reliability of moving parts, such a louvers; 5) concerns with potential catalyst degradation; 6) concerns over sulfur removal requirements; and 7) concerns over catalyst regeneration methods.

DES notes that there has been conflicting opinions about the commercial availability of SCONOx technology for plants of the size and nature of AES. In a January 18, 1999 letter to Connecticut DEP, ABB Power Generation, the licensee of the SCONOx technology, concluded that the SCONOx technology was not commercially available for this type of application at this time. However, Goal Line Technologies, the proprietor of the SCONOx technology, has disputed this claim. In making this determination, DES is not excluding the use of SCONOx technology as a mechanism to achieving the LAER determination. In fact, DES would encourage the use of a non-ammonia based NOx control system, such as SCONOx.

DES received comments that DES failed to consider two other NOx control technologies, namely, XONON and Ozone Injection in making its NOx LAER determination. The XONON technology is under development by General Electric and Catalytica, Inc. The technology consists of combusting fuel in the presence of a catalyst, thus allowing for a lower flame temperature. This lower flame temperature minimizes thermal NOx formation. Similar to SCONOX, the XONON technology achieves low NOx emissions without the need for ammonia injection, thereby eliminating ammonia emissions. At the time DES made its Preliminary Determination, DES was aware of this technology, however the technology was dismissed based upon information DES had obtained at the

NECA conference in September 1998. Based on statements made at the conference by a representative of XONON, DES concluded that the technology was not commercially available at this time for plants similar in size and nature of AES. DES recognizes that this finding should have been noted in the Preliminary Determination.

In response to comments, DES has conducted a follow up review of the XONON technology. Based on this review DES still concludes that this technology is not commercially available at this time for facilities of the size and nature of AES. This conclusion is based on discussions DES had with a representative of Catalytica, Inc. DES was informed that there only exists a single small turbine (1.5MW) in Monterey, CA that is currently operating with the XONON technology. The system has operated approximately 1200 hours and routinely operates at less than 3 ppm during "normal operations". Commercial operation of the Monterey Turbine is expected to begin by June 1, 1999. Although it appears that the technology is promising, the technology is not demonstrated in practice nor is it commercially available for turbine projects the size and nature of AES.

DES has also conducted further research on the Ozone Injection technology. The Ozone Injection system is a joint program by Cannon Technology, Inc ("Cannon") and BOC Gases ("BOC"). This technology is being developed and commercialized as the LTO System for NOx Control by Cannon for industrial applications and by BOC as LoTOX System for NOx Reductions in larger industrial and utility applications. This technology uses oxygen or air to produce ozone in an ozone generator. The ozone is injected into the flue gases where a chemical reaction with the flue gas NOx takes place. The NOx is converted to N_2O_5, which is highly soluble in water. The N_2O_5 is removed from the flue where it is neutralized in a wet scrubber. It is the understanding of DES that this technology has undergone several demonstration projects including: A slip stream test conducted on flue gas stream from a coal-fired boiler at Duquesne Light's Elrama Power Station and a 400 HP Cleaver Brooks natural gas-fired boiler at Alt Dena Dairy in Industry, CA. Based on discussions with representatives of Cannon and BOC, DES has concluded that although the Ozone Injection Technology is theoretically practical and demonstrated on a limited scale, the technology is not demonstrated in practice on a plant the size and nature of AES.

Recently there has been increased focus on whether SCR systems can achieve ultra-low NO_x emission levels (less than 3.5 ppmvd). It has been generally indicated that NO_x emission levels lower than 3.5 ppmvd can be achieved with SCR technology. In order to achieve these lower NO_x levels, additional catalyst may be need and an enhanced ammonia injection system may be required to ensure proper NO_x/NH_3 molar ratios.

In the Preliminary Determination for AES, DES had concluded that LAER for this project will be a NO_x limit of 2.5 ppmvd @ 15 % O_2 (3 hour rolling basis) on natural gas and 9.0 ppmvd @ 15 % O_2 (1 hour rolling basis) on fuel oil. In making this determination DES took into consideration that several other similar combustion turbine facilities had been proposed in the Northeast at this NO_x emission level. In addition, the Maine Department of Environmental Protection had recently issued permits for the Gorham Energy and the Westbrook Power facilities at a NO_x limit of 2.5 ppmvd @ 15 % O_2 (3 hour rolling average) on natural gas.

During the public comment period, DES received comments from EPA and others on the above 2.5 ppmvd NOx limitation. In summary, DES received comments suggesting that the NOx LAER limit should be lowered to 2 ppmvd for natural gas firing. The comments were in part based on the pending issuance of a permit to the PDC-El Paso Milford ("Milford") facility in Connecticut. In the proposed permit to Milford, a NOx limit of 2.0 ppmvd @ 15 % O2 (3 hour basis) has been proposed. As of the writing of this Final Determination, the permit to Milford facility has not been issued. In addition, on March 3, 1999, the Massachusetts Department of Environmental Protection ("Mass DEP") issued its preliminary findings on the ANP Blackstone Energy Company. The Blackstone plant is similar in size and nature to the AES Facility. The Mass DEP concluded that LAER in this case would be an emission limit of 2.0 ppmvd @ 15 % O2. DES would note that the proposed Blackstone permit has not gone through public review and the permit has not been issued. DES further notes that the proposed 2.5 ppmvd limit is as stringent as any NOx permit limitation in a permit issued to a facility similar to AES.

B. Ammonia

AES has proposed the use of a SCR system to control NO_x emissions. The SCR system will utilize ammonia as a reagent to reduce NO_x emission from the turbines to nitrogen (N_2), which is the major component of ambient air. In order to maximize NO_x reductions, the molar ratio of ammonia to NO_x must exceed the stoichiometric ratio needed to fully consume the ammonia. The unreacted ammonia is commonly referred to as "ammonia slip" and would be emitted through the exhaust stacks for the turbines. Ammonia slip is generally very low for new units, however the slip rate will generally increase over time. This increase of slip overtime occurs as portions of the catalyst become deactivated due to chemical and physical poisoning. In order to compensate for the deactivation of portions of the catalyst, the amount on ammonia needed to maintain high levels of NO_x reductions must be increased.

In the Preliminary Determination for AES, DES proposed an ammonia slip rate of

10 ppm. DES noted that it expected that ammonia slip levels would be significantly below the proposed limit of 10 ppm during the initial period of operation. Based on discussions DES had with a representative of Peerless Mfg (a supplier of SCR equipment), DES would expect that ammonia slip rates would be in the 2 to 3 ppm range for at least the first three years of operation of this facility. DES has further concluded that the 10 ppm limitation was acceptable for the first year of commercial operation. At the conclusion of one year of operation DES proposed that it would review the ammonia slip data and re-evaluate this limitation. DES further noted that the 10 ppm limit is consistent with permits recently issued for similar combined cycle gas plants.

DES received a number of comments regarding the proposed ammonia slip level of 10 ppm. One comment received on the Preliminary Determination questioned whether DES had undertaken an adequate study of whether the proposed 10 ppm limit was protective of public health. The comment compared the 10 ppm slip limit to several Health Effect Data Thresholds as noted in the Table 3 below:

Table 3. Ammonia Standards

Health Effect Data Thresholds	Threshold in Parts Per Million (PPM)
EPA Chronic RfC	0.14 ppm
CAPCOA Acute REL	3.00 ppm
CAPCOA Chronic REL	0.14 ppm
NIOSH	50 ppm for 5 minutes
OSHA	35 ppm of 15 minutes

DES notes that comparing the 10 ppm slip rate to the above thresholds is inappropriate as air dispersion effects are not considered in such a comparison. The ambient air impacts of ammonia slip have were evaluated by DES and it was determined that the worst case impact for ammonia was 25 ug/m3 on a 24 hour basis, which is equivalent to 0.035 ppm, and 0.6 ug/m3 on an annual basis, which is equivalent to 0.0008 ppm. DES again concludes that the 10 ppm slip rate is in compliance with the Ambient Air Limits ("AAL") established under Env-A 1400, *Regulated Toxic Air Pollutants*. As noted in Section XX the AALs for ammonia are 100 ug/m3, which is equivalent to 0.14 ppm, on both a 24 hour and annual basis.

C. Volatile Organic Compounds (VOCs)

The proposed AES facility will not be a major source of VOCs, therefore the facility is not subject to LAER or offset requirements for VOC emissions. AES anticipates that the proposed combustion turbines will meet a VOC emission rate of 1 ppmvd (0.0013 lb/MM BTU) during natural gas firing and 7 ppmvd (0.0095 lb/MM BTU) during fuel oil firing. DES will require that AES perform EPA Method stack tests to verify VOC emissions from the turbines.

IX. Summary Table of Proposed BACT/LAER Limitations

Table 4. below provides a summary of proposed BACT/LAER limitations:

Table 4. Summary of Proposed BACT/LAER Limitations

Pollutant	Limitation	Technology BACT/LAER	Averaging Time
Nitrogen Oxides (Gas Firing)	2.5 ppmvd @ 15 % O_2	Low NOx Burner with SCR LAER	3 hour block average
Nitrogen Oxides (Oil Firing)	9.0 ppmvd @ 15 % O_2	Low NOx Burner with Water Injection and SCR LAER	1 hour block average
Sulfur Dioxide (Gas Firing)	0.0023 lb/MM BTU	Low Sulfur Fuels BACT	3 hour rolling
Sulfur Dioxide (Oil Firing)	0.052 lb/MM BTU	Low Sulfur Fuels BACT	3 hour rolling
Carbon Monoxide (Gas Firing) @ All Loads	15 ppmvd @ 15 % O_2	Low NOx Burner with Good Combustion Practices BACT	1 hour block average
Carbon Monoxide (Oil Firing) @ All Loads	50 ppmvd @ 15 % O_2	Low NOx Burner with Good Combustion Practices BACT	1 hour block average

Pollutant	Limitation	Technology BACT/LAER	Averaging Time
TSP/PM-10 (Gas Firing)	0.004 lb/MM BTU	Low Sulfur Fuels BACT	1 hour block average
TSP/PM-10 (Oil Firing)	0.020 lb/MM BTU	Low Sulfur Fuels BACT	1 hour block average
Volatile Organic Compounds (Natural Gas Firing)	0.0013 lb/MM BTU	Good Combustion Practices N/A	1 hour block average
Volatile Organic Compounds (Fuel Oil Firing)	0.0095 lb/MM BTU	Good Combustion Practices N/A	1 hour block average
Opacity	20 %	Good Combustion Practices N/A	6 minute block average
Ammonia	10 ppmvd @ 15 % O_2	N/A	24 hour block average

X. AIR QUALITY IMPACT ANALYSIS

A. Modeling Overview

An ambient air quality impact analysis was performed to assess predicted air quality concentrations from the AES facility against applicable state and federal standards and guidelines. Standard modeling procedures were followed in the evaluation, using EPA-approved models and procedures. First, modeling was performed in all three terrain regimes (simple, intermediate and complex) to determine the worst-case operating load condition. This worst-case load, along with all other load conditions, were considered in the modeling to determine whether the source is expected to produce significant impacts. For those pollutants shown to be significant, namely SO_2 and PM10, refined modeling incorporating impacts from additional sources in the area was performed using the worst-case load from the significant impact area analysis. The proposed AES facility was shown not to cause or contribute to violations of Ambient Air Quality Standards (AAQS) or PSD increments. Other analyses as required by state and federal regulations were also done, including a cavity analysis, evaluation of Class I area impacts, a toxic air pollutant impact

assessment and additional PSD analyses. All dispersion modeling was performed assuming 720 hours per year on oil backup and 8040 hours per year on natural gas (worst-case condition).

B. Model Input Data

Modeling for simple/intermediate terrain was performed using the ISCST3 dispersion model, version 98356. The model was run with regulatory defaults for over 2300 receptors located in both the nearfield to address downwash and local impacts and at distances further downwind. Rural dispersion coefficients were used based on EPA guidance. For complex/intermediate terrain as well as for the cavity analysis, the SCREEN3 model (version 96043) was run, again using regulatory default options. In performing modeling above stack top, the COMPLEX I VALLEY mode option was utilized to give worst-case impacts. All modeling was performed in accordance with all applicable DES and EPA guidelines.

A valid 5-year hourly meteorological database was used in the ISCST3 refined modeling. The surface wind data were collected at a height of 20 feet at the National Weather Service (NWS) office in Concord, New Hampshire during the period 1986-1990. The upper air data were taken from the nearest NWS upper air station at Portland, Maine for the same time period.

Stack parameters and emission rates for the various combustion turbine load conditions are listed in Table 5 for natural gas and in Table 6 for distillate oil (0.05% sulfur). Since the two stacks are below GEP height, the modeling analysis accounted for the potential for building downwash wake effects on emissions from the stacks. The BPIP program was used in the determination of GEP stack height and direction specific building dimensions.

The input data used in the modeling of the cooling tower are presented in Table 7. For the criteria pollutant analysis, the cooling tower drift was treated as PM10 and was modeled in conjunction with the PM10 emissions from the turbine stacks. The cooling tower was also modeled for its potential effects on local visibility and for emissions of toxic air pollutants regulated by New Hampshire under Env-A 1400 of the *Rules Governing the Control of Air Pollution*.

Table 5
Combustion Turbine Emissions and Stack Parameters (for each turbine)
Natural Gas

Turbine Load	%	100			85			75		
Ambient Temp	°F	0	50	100	0	50	100	0	50	100
Stack Height	ft	132	132	132	132	132	132	132	132	132
Stack Diam.	ft	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7	20.7
Base Elevation	ft	300	300	300	300	300	300	300	300	300
Exit Temp	°K	361	361	361	361	361	361	361	361	361
Gas Velocity	m/s	20.6	18.8	17.0	18.4	16.9	15.3	16.6	15.3	14.4
NOx	g/s	4.7	4.2	3.7	4.2	3.6	3.4	3.8	3.4	3.1
CO	g/s	12.2	10.9	9.7	10.9	9.5	8.8	9.9	8.9	8.0
PM10	g/s	1.4	1.3	1.1	1.3	1.1	1.0	1.2	1.1	1.0
SO_2	g/s	0.8	0.7	0.7	0.7	0.6	0.6	0.7	0.6	0.5

Table 6
Combustion Turbine Emissions and Stack Parameters (for each turbine)
Distillate Oil

Turbine Load	%	100		95	
Ambient Temp	°F	0	32	0	32
Stack Height	ft	132	132	132	132
Stack Diam.	ft	20.7	20.7	20.7	20.7
Base Elevation	ft	300	300	300	300
Exit Temp	°K	389	389	389	389
Gas Velocity	m/s	23.0	21.7	22.9	21.6

NOx	g/s	12.5	11.6	11.9	11.1
CO	g/s	42.1	39.2	40.2	37.4
PM10	g/s	7.1	6.6	6.8	6.3
SO_2	g/s	18.6	17.3	17.8	16.5
Pb	g/s	0.02	0.02	0.02	0.02

Table 7
Cooling Tower Exhaust Characteristics (per cell)

Stack Height	61 ft
Cell Diameter	32 ft
Base Elevation	291 ft
Exit Temp	284 °K
Exit Velocity	8.7 m/s
Number of Cells	12
PM10	0.014 g/s

C. Single-Source Criteria Pollutant Impact Analysis

Using the input parameters and modeling procedures described above, the dispersion modeling analysis predicted significant impacts for SO_2 for the 3-hour and 24-hour averaging periods and for PM10 for the 24-hour and annual averaging periods (see Table 8 below). These impacts were predicted for the facility when burning oil as a backup fuel. Both NO_2 and CO were shown to have insignificant impacts while maximum lead impacts were predicted to be several times below the AAQS. The worst-case load condition was determined to be 100% at an ambient temperature of 32° F and this condition was used to determine significant impact areas as well as compliance with AAQS and increments.

Table 9 presents the facility's impacts in comparison to PSD Class II increment levels and AAQS for the significant pollutants. The impacts for the proposed source alone are predicted to be in compliance with all AAQS and Class II increments.

Table 8
Single-Source Maximum Impacts
Compared to Significant Impact Levels

Pollutant	Avg. Time	Maximum Conc. (ug/m^3)	Significant Impact Level (ug/m^3)
SO_2	Annual	0.4	1
	24-Hour	36.0	5
	3-Hour	122.8	25
PM10	Annual	4.9	1
	24-Hour	19.4	5
NO_2	Annual	0.6	1
CO	8-Hour	182.4	500
	1-Hour	734.3	2000

Table 9
Single-Source Maximum Impacts
Compared to Ambient Air Quality Standards

Pollutant	Avg. Time	Maximum Conc. (ug/m^3)	Class II Increm. (ug/m^3)	AAQS (ug/m^3)
SO_2	Annual	0.4	20	80
	24-Hour	36.0	91	365
	3-Hour	122.8	512	1300
PM10	Annual	4.9	17	50
	24-Hour	19.4	30	150

The maximum short-term impacts (with the exception of PM10) were predicted in simple terrain using the ISCST3 model and were associated with building downwash. The maximum PM10 impacts were predicted to occur in the cavity region (see below section for explanation). The

maximum annual impacts were predicted to occur in complex and intermediate terrain using the SCREEN3 model (VALLEY screening mode), again with the exception of PM10.

1. *Cavity Analysis*

An analysis was performed to determine the potential for impacts within the cavity region of the buildings on-site. The analysis determined that the main buildings (the generation building and the heat recovery steam generator building) did not cause any impacts in the cavity region with regard to the combustion turbine stacks, though these structures, as well as the cooling tower structure, did produce cavity impacts for the cooling tower PM10 plume. These impacts, when added to the impacts from the combustion turbines and to the contributions from other sources, were higher than those predicted in the other terrain regimes but did not produce any exceedences of air quality standards. The cavity analysis was performed using the SCREEN3 model with the regulatory Brode default cavity algorithm. The cavity length corresponding to the maximum predicted PM10 concentration was 69 feet.

C. Class I Area Analysis

Under the Prevention of Significant Deterioration provisions of the Clean Air Act, certain national parks and wilderness areas have been given special protection against adverse air quality impacts. To assess these impacts, DES, in conjunction with the National Forest Service (NFS), has developed a procedure which applies to all applicants for PSD permits. This procedure looks at the source's impacts on Class I area increment, visibility, sulfur deposition, nitrogen deposition, acid neutralizing capacity and ozone formation, using criteria established by the NFS. The modeling requirements follow recommendations made in the *Interagency Workgroup on Air Quality Modeling (IWAQM) Phase I Report: Interim Recommendation for Modeling Long Range Transport and Impacts on Regional Visibility*. For this project, impacts were evaluated at receptors located in the Great Gulf and Dry River Wilderness Class I areas in New Hampshire (located more than 130 km to the north) and the Lye Brook Class I area in Vermont (located approximately 130 km to the west-northwest).

Initial modeling by the applicant using ISCST3 showed impacts well below the Class I increments, though above the significant impact level for short-term SO_2 when the facility is operating on distillate oil backup. To address this issue, AES performed a more refined, single-source modeling analysis using the CALPUFF model to better simulate the long distance transport of the plume to the Class I areas.

The CALPUFF modeling system used in this analysis consisted of the CALPUFF transport and dispersion model (Version 5.0, Level 990130), the CALMET diagnostic meteorological model

(Version 5.0, Level 990130) and the CALPOST post-processor (Version 5.0, Level 981230). Since that time, a minor revision to the CALPUFF programs was made and the current version is now Version 5, Level 990228. The modification involved a refinement of the algorithm which deals with dispersion in convergent flows such as occurs in terrain channeling and seabreeze circulations. This modification was not expected to result in a significant change to the results from the earlier version of CALPUFF. To verify this, comparative model runs were made with the two CALPUFF versions for the period when the maximum SO_2 impacts were predicted. The modeling with the current model version showed essentially identical results.

An "initial guess" CALMET wind field was developed using the MM4 EPA database from 1990. Since 1990 meteorological data were available, the CALMET and CALPUFF models were run for that year. Additional meteorological data were used to derive the final CALMET wind fields, which included 12 surface stations, 42 precipitation stations, 3 upper air stations and 1 buoy. Ozone measurements made at 11 monitoring locations in northern New England were used to provide hourly background ozone concentrations during the ozone season. This information is used in CALPUFF to compute chemical transformation rates of NOx to HNO_3 and NO_3.

The CALPUFF computational domain included southern and central parts of New Hampshire and Vermont and extended into the states of Maine, New York and Massachusetts. The northern boundary of the domain is about 35 km north of the Great Gulf Wilderness area and about the same distance west of the Lye Brook Wilderness area, with the southwest corner of the domain lying near Albany, New York. The domain extends 250 km by 220 km in the east-west and north-south directions, respectively. A horizontal grid resolution of 2 km was used. Ten vertical layers were modeled at heights of 0-20 m, 20-40 m, 40-80 m, 80-160 m, 160-300 m, 300-600 m, 600-1000 m, 1000-1500 m, 1500-2200 m and 2200-3000 m.

USGS land use data at a resolution of 200 m was used to determine the fractional land use category information for each 1 km grid cell. For each cell, the albedo, Bowen ratio, roughness length and leaf area index were computed as a weighted average based on fractional land use. The grid cell elevations were taken from USGS digital elevation models (DEMs).

The maximum impacts of the proposed AES facility on the Class I areas are shown below in Table 10. All impacts using the CALPUFF model are shown to be below the significant impact levels.

Table 10
Maximum Increment Impacts in Class I Areas

Pollutant	Avg. Time	Contrib.	Increment	Significant Impact Level (ug/m^3)
SO_2	Annual	0.005	2	0.08
	24-Hour	0.17	5	0.2
	3-Hour	0.61	25	1.0
PM10	Annual	0.003	4	0.16
	24-Hour	0.07	8	0.32
NO_2	Annual	0.004	2.5	0.1

For the other impact criteria established by the NFS, known collectively as Air Quality Related Values (AQRVs), the proposed facility has demonstrated impacts well below the minimum threshold levels and is predicted to have little probable effect on these values. One important part of the AQRV analysis is the assessment of the degradation of visibility in the Class I areas due to the proposed facility. To determine the effects of the AES facility on visibility, the EPA VISCREEN model was used (Version 1.01). A Level-I assessment was performed and it was found that impacts were well below the thresholds of plume contrast and perceptibility.

D. Interactive-Source Criteria Pollutant Impact Analysis

In accordance with DES guidance, an interactive modeling analysis must be performed and include existing, nearby major sources for all pollutants and averaging periods which have been shown to be significant. The results of this analysis are compared to AAQS, once ambient background is considered, as well as Class II increment levels which apply to all new and modified permitted sources. Based on the applicant's significant impact area analysis, the following sources were included in the interactive modeling.

- Anheuser Busch - Merrimack
- Continental Paving - Londonderry/Hudson
- Elliott Hospital - Manchester
- Nyltech - Manchester
- Velcro USA - Manchester

These sources were modeled in conjunction with the proposed AES facility at their permitted SO_2 and PM10 emission rates. No gas pipeline compressor stations were modeled since none are anticipated for the project. As in the single-source analysis, the same 5-year meteorological data set was used for the interactive ISCST3 modeling. To calculate plume interaction in complex terrain, ISCST3 was run for complex terrain in an equivalent VALLEY screening mode using F stability with a wind speed of 2.5 m/sec. A total of 36 wind directions at 10° intervals were used.

The maximum impacts for the pollutants and averaging periods for which the AES facility is significant are shown below in Table 11 and Table 12. The total impacts presented are at receptors within AES' significant impact area. The tables reflect the total air quality impacts in the area, assuming the AES facility is operating under worst-case conditions. All impacts are predicted to be below the allowable state and federal limits and show that the proposed source does not cause or contribute to any air quality violations.

Table 11
Interactive Source Maximum
Impacts Compared to AAQS

Pollutant	Avg. Time	Contrib.	Bckg.	Impact	AAQS	Pass/Fail
SO_2	24-Hour	169.5	96	265.5	365	PASS
	3-Hour	695.7	207	902.7	1300	PASS
PM10	Annual	5.1 (a)	18	23.1	50	PASS
	24-Hour	22.3 (a)	34	56.3	150	PASS

(a) maximum PM10 impacts were predicted in the cavity region.

Table 12
Interactive Source Maximum Impacts
Compared to Class II Increment

Pollutant	Avg. Time	Contrib.	Increment	Pass/Fail
SO_2	24-Hour	47.4	91	PASS
	3-Hour	120.4	512	PASS
PM10	Annual	4.9 (a)	17	PASS
	24-Hour	19.5 (a)	30	PASS

(a) maximum PM10 impacts were predicted in the cavity region.

The background (Bckg.) air quality data shown in Table 11 was taken from Manchester from 1996-1998 and has been updated since the application submittal. The Manchester monitoring site was determined to be representative of the air quality in the project area and the actual concentrations are believed to be conservative compared to the project site.

E. Additional PSD Impact Analyses

1. *Local Visibility Impairment*

The potential effects of the proposed project on visibility in the immediate area surrounding the site were assessed through a detailed modeling analysis. Initially the SACTI model was used to estimate parameters such as amount of fogging and icing, plume height, plume length and radius of the plume. The model was run for a saturated plume and only addressed the effects of the cooling tower. A further analysis was performed with the CALPUFF model using a fogging algorithm developed by the consultant in order to evaluate the potential impacts of an abated plume. The technology that produces this type of plume combines evaporative cooling with tube heat exchangers which reduce the relative humidity of the air leaving the tower. This plume abatement system greatly reduces the visible plume and will be employed during the cooler weather when the potential for a visible plume is greatest. The modeling incorporating plume abatement technology was done for both the cooling tower and stack plumes and showed minimal hours of fogging and a limited plume length.

The surface meteorological data used in the SACTI modeling were taken from Manchester, New Hampshire in 1986, with nighttime hours supplemented by Concord. Portland upper air data were used for the same time period. A different data set was used compared to the ISCST3 modeling since humidity variables were required for SACTI.

2. *Impacts Due to Growth and Construction*

There are not expected to be significant impacts from the construction phase of this project due to use of best management practices on site and also due to the fact that construction will be temporary and short-lived. The plant expects to hire approximately 35 new employees which will largely come from the available local work force, therefore residential growth is not expected to be significant. Once constructed, the proposed facility will consume little in terms of raw materials and supplies so construction of new industries and businesses will not likely be needed.

It is possible that the facility, once in operation, will attract other businesses and industrial

facilities to the Londonderry Ecological Park, which is where the AES plant will be located. Any new facility which emits air pollutants is subject to DES' *Rules Governing the Control of Air Pollution* and, depending on which sections of the Rules are applicable, may need to be modeled to demonstrate compliance with the appropriate standards. This modeling may include AES and other nearby sources, again depending on the applicable regulations, so any future growth will be accounted for.

3. *Soils and Vegetation*

A quantitative analysis was performed to evaluate the effects of the proposed facility on soils and sensitive vegetation, using criteria established by EPA as contained in *A Screening Procedure for the Impacts of Air Pollution Sources on Plants, Soils and Animals*. As stated in the EPA guidance document, AAQS are protective against vegetative damage, except possibly for the 3-hour and annual SO_2 standards. Since AAQS, and the lower Class II increment levels, are not exceeded by the proposed AES facility, there are not expected to be any adverse effects on vegetation due to the plant's impacts.

For the 3-hour and annual SO_2 screening criteria, the modeled single-source impacts are seen to be well below the screening levels, though one of the values appears elevated due to the relatively large contribution of interactive sources (3-hour SO_2). At the highest impact receptor, modeling shows the AES facility to have only a minor overall contribution.

F. Toxic Air Pollutant Evaluation

Chapter Env-A 1400 of the Rules requires an evaluation of the potential impacts of toxic air pollutants. For this facility, it was determined that air toxics emissions are possible due to ammonia slip from the SCR system on the combustion turbine stacks and from the dissolved solids and volatile compounds in the recirculating water of the cooling tower due to the use of treated wastewater effluent. All impacts were compared against New Hampshire Ambient Air Limits (AALs) for both 24-hour and annual averaging periods.

1. *Ammonia Slip*

The maximum impacts due to ammonia slip from the combustion turbine are shown below in Table 13. These values are based on an assumed slip rate of 10 ppm and may result from ammonia which does not completely react with NOx in the catalytic reduction process. Emissions of ammonia nitrate and ammonia sulfate are possible as by-products of this process but these compounds are not regulated by DES under Chapter Env-A 1400.

Table 13
Maximum Impacts Due to Ammonia Slip

Pollutant	24-Hour Impact	24-Hour AAL	Annual Impact	Annual AAL
Ammonia	25.0	100	0.6	100

2. *Cooling Tower Toxic Air Pollutant Impacts*

Minor impacts of toxic air pollutants are anticipated due to drift from the cooling tower system. Emission rates of both metals and volatile compounds were determined from test data, water treatment plant effluent limits and reported values from a study performed for a similar facility in Maryland. These impacts are shown below in Tables 14, 15 and 16 for metals and volatiles respectively. The maximum predicted impacts are no more than 25% of the AAL for any compound.

Table 14
Maximum Metals Impacts From Cooling Tower

Pollutant	24-Hour Impact	24-Hour AAL	Annual Impact	Annual AAL
Ammonia	0.234	100	0.059	100
Aluminum	0.008	50	0.002	34
Chromium	< 0.001	0.179	< 0.001	0.119
Copper	< 0.001	0.714	< 0.001	0.476
Cyanide (total)	< 0.001	18	< 0.001	12
Iron	0.010	25	0.002	17
Lead	< 0.001	0.179	< 0.001	0.119
Mercury	< 0.001	0.30	< 0.001	0.30
Silver	< 0.001	0.05	< 0.001	0.034
Zinc	0.003	25	< 0.001	17

Table 15
Maximum Volatile Compounds Impacts From Cooling Tower

Pollutant	24-Hour Impact	24-Hour AAL	Annual Impact	Annual AAL
Benzene	1.4	5.714	0.3	3.81
Carbon Disulfide	0.6	700	0.2	700
Chloroform	4.3	175	1.1	117
Dibutyl Phthalate	0.6	25	0.2	17
Dioctyl Phthalate	0.7	18	0.2	12
Tetrachloroethylene	5.7	607	1.4	405
Toluene	15.0	671	3.7	400
1,1,1Trichloroethane	16.1	277	4.0	184
Trichloroethylene	7.6	961	1.9	640
Trimethylbenzene	3.3	619	0.8	412

Table 16
Maximum Volatile Compounds Impacts From Cooling Tower

Pollutant	24-Hour Impact	24-Hour AAL	Annual Impact	Annual AAL
Benzene	1.4	5.714	0.3	3.81
Carbon Disulfide	0.6	700	0.2	700
Chloroform	4.3	175	1.1	117
Dibutyl Phthalate	0.6	25	0.2	17
Dioctyl Phthalate	0.7	18	0.2	12
Tetrachloroethylene	5.7	607	1.4	405

Toluene	15.0	671	3.7	400
1,1,1Trichloroethane	16.1	277	4.0	184
Trichloroethylene	7.6	961	1.9	640
Trimethylbenzene	3.3	619	0.8	412

G. Fine Particulate Matter Analysis:

DES received several comments on potential impacts of fine particulate matter ($PM_{2.5}$) impacts from the AES Londonderry facility. DES has determined that an meaningful analysis of impacts of fine particulate matter ($PM_{2.5}$) was not possible for this project for a number of reasons. First, though $PM_{2.5}$ ambient air quality standards are in place, there is currently no EPA guidance on how to model this pollutant from individual point sources. Since much of $PM_{2.5}$ production is expected to come from secondary particle formation, it cannot be modeled as a non-reactive pollutant using traditional continuous release or puff models. It is expected that compliance determinations using the new $PM_{2.5}$ standard will be done on a regional modeling basis, similar to current efforts on ozone. Second, since $PM_{2.5}$ monitoring programs are in their infancy there is no way to establish a background for comparison to these standards. Significant impact levels have also not yet been established. Third, $PM_{2.5}$ emission factors are not yet available and little testing has been done on this pollutant, making establishing an accurate emission rate very difficult. For these reasons, we believe that a modeling analysis for this pollutant is not warranted or even possible at this time.

XI. Emissions Offset Requirements:

The AES Facility is subject to the NO_x emission offset requirement of non-attainment review. Since the proposed facility will be located in a serious non-attainment area for ozone, the emissions of NO_x must be offset at a ratio of 1.2 to 1.0. As such, AES must obtain 317 tons (264 tons multiplied by 1.2) of NO_x offsets. DES has determined that NO_x Budget Allowances held by AES may be utilized on a 1.0 to 1.0 ratio towards the offset requirements, however the overall offset ratio must remain at 1.2 to 1.0. DES has estimated that AES will be assigned approximately 110 tons of NO_x Budget Allowances from the NO_x budget set aside account established by the NO_x Budget Program. Therefore, the balance of the NO_x offset requirement is estimated to be approximately 207 tons (317 tons of offsets less 110 tons of allowances).

At this time, the balance of offsets will be obtained by AES from State-owned Discrete Emission Reductions ("DERs"). The State of New Hampshire obtained approximately 1,000 tons

of DERs as part of an agreement signed between DES and Public Service Company of New Hampshire ("PSNH"). The DERs were generated at PSNH's Schiller Station in Portsmouth, New Hampshire and PSNH's Newington Station in Newington, New Hampshire. Both Schiller and Newington Stations are regulated by Env-A 1211, NOx RACT. In accordance with Env-A 1211 these facilities must meet certain NOx emission reduction standards. By achieving greater than required NOx emission reductions, these two facilities were able to generate the above referenced DERs.

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

VOLATILE ORGANICS, METHOD 8260B
MODIFIED LIST OF ANALYTES

Compound	Quantitation Limit (ug/L)	Compound	Quantitation Limit (ug/L)
Dichlorodifluoromethane	5	2-Hexanone	10
Chloromethane	5	1,3-Dichloropropane	5
Vinyl chloride	2	Tetrachloroethene	5
Bromomethane	5	Dibromochloromethane	5
Chloroethane	5	1,2-Dibromoethane	5
Trichlorofluoromethane	5	Chlorobenzene	5
Diethyl ether	5	1,1,1,2-Tetrachloroethane	5
Acetone	10	Ethylbenzene	5
1,1-Dichloroethene	5	m/p-Xylene	5
Methylene chloride	5	o-Xylene	5
Carbon disulfide	5	Styrene	5
Methyl-t-butylether (MTBE)	5	Bromoform	5
trans-1,2-Dichloroethene	5	Isopropylbenzene	5
1,1-Dichloroethane	5	1,1,2,2-Tetrachloroethane	5
2-Butanone	10	1,2,3-Trichloropropane	5
2,2-Dichloropropane	5	n-Propylbenzene	5
cis-1,2-Dichloroethene	5	Bromobenzene	5
Chloroform	5	1,3,5-Trimethylbenzene	5
Bromochloromethane	5	2-Chlorotoluene	5
Tetrahydrofuran (THF)	10	4-Chlorotoluene	5
1,1,1-Trichloroethane	5	tert-Butylbenzene	5
1,1-Dichloropropene	5	1,2,4-Trimethylbenzene	5
Carbon tetrachloride	5	sec-Butylbenzene	5
1,2-Dichloroethane	5	p-Isopropyltoluene	5
Benzene	5	1,3-Dichlorobenzene	5
Trichloroethene	5	1,4-Dichlorobenzene	5
1,2-Dichloropropane	5	n-Butylbenzene	5
Dichlorobromomethane	5	1,2-Dichlorobenzene	5
Dibromomethane	5	1,2-Dibromo-3-chloropropane	5
4-Methyl-2-pentanone	10	1,2,4-Trichlorobenzene	5
cis-1,3-Dichloropropene	5	Hexachlorobutadiene	5
Toluene	5	Naphthalene	5
trans-1,3-Dichloropropene	5	1,2,3-Trichlorobenzene	5
1,1,2-Trichloroethane	5		

Note: For chromatograms which exhibit non-target analytes, the top ten tentatively identified compounds (TICs) must be qualified and, if possible, quantitated. If there are no non-target analytes present in the chromatogram, this should be noted in the report narrative.

ATTACHMENT D-1

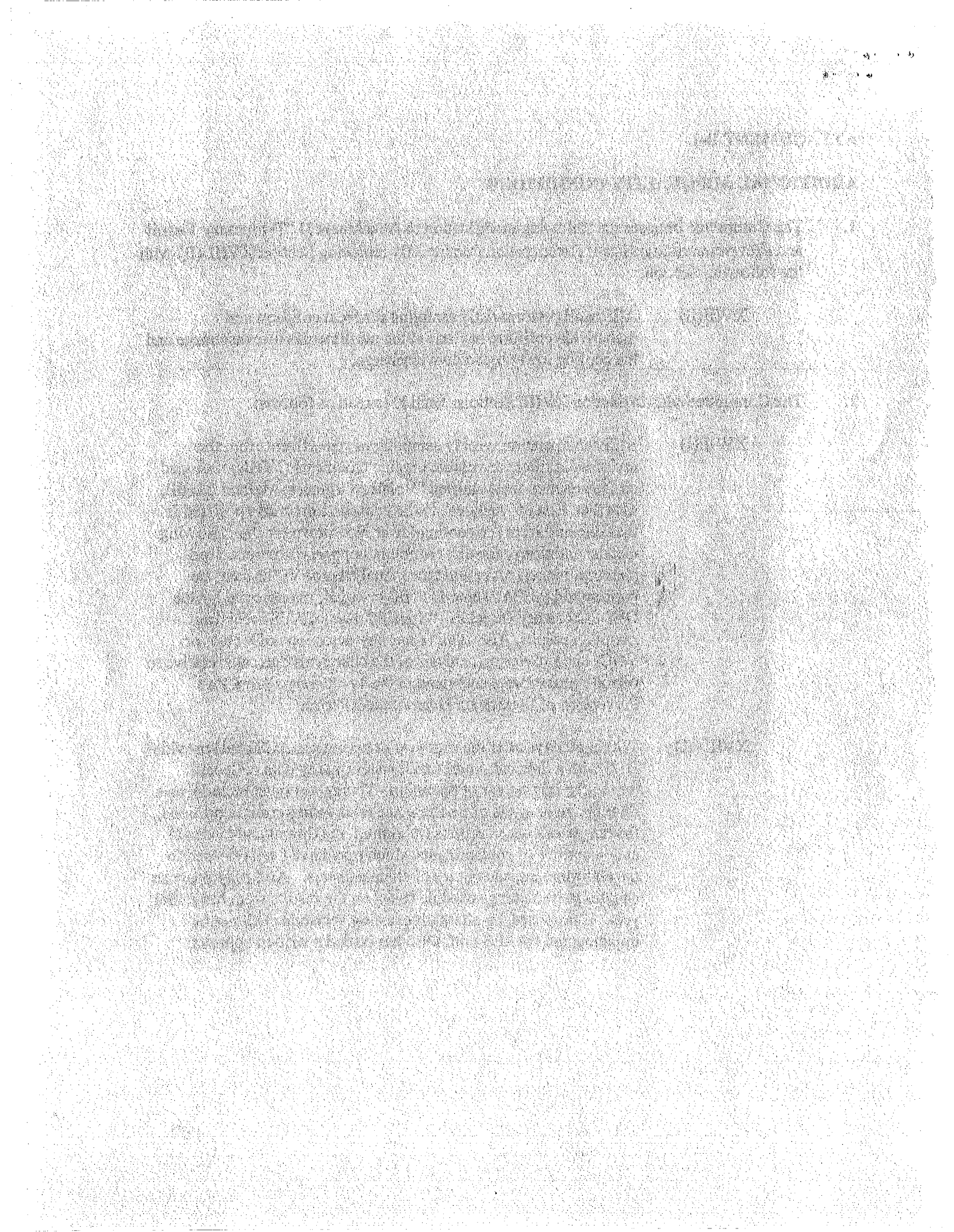
ADDITIONAL AIR QUALITY CONDITIONS

1. The Committee imposes the following modification to Attachment D "Temporary Permit and Prevention of Significant Deterioration Permit". By replacing Section XVIII (B) with the following Section:

XVIII(B)	AES shall perform daily sampling for fecal coliform and escherichia coliform bacteria at the multimedia filter discharge and the cooling tower blowdown discharge.

2. The Committee adds to Section XVIII, Sections J and K to read as follows:

XVIII (J)	AES shall perform weekly sampling of the effluent from the multimedia filter for volatile organic chemicals (VOCs) included on the attached table entitled "Volatile Organics, Method 8260B, Modified List of Analytes" to the quantitation limits specified in the table and from the cooling tower blowdown for the following metals: antimony, arsenic, cadmium, copper, chromium, lead, mercury, nickel, silver and zinc. Analysis for VOCs shall be performed by EPA Method 8260B or equal, as approved by the DES Laboratory Director. Within 30 days of AES receiving sampling results, AES shall report any detections of metals or VOCs and provide an analysis of the chemicals detected relative to permit requirements contained in the Temporary Permit and Prevention of Significant Deterioration Permit.
XVIII (K)	Within 60 days after the first year of operation, AES shall provide DES with a detailed report on all water quality data collected during the initial year of operation. This report must include, as a minimum, an analysis of performance relative to permit conditions, the ranges of concentrations (minimum, maximum and average) and quantities of contaminants which may have been released to the environment, and copies of all data sheets. AES may propose an alternative testing schedule based on the results from the initial year. If proposed, an alternative testing schedule shall not be implemented by AES until DES has issued a written approval.



AES Londonderry, LLC
4/26/99

WATER QUALITY, WASTEWATER AND WETLANDS CONDITIONS ATTACHMENT "E"

I. Wastewater Design Review and Discharge Permit Conditions

1. Applicant shall submit application, appropriate fees, construction drawings, specifications, and supporting documention in compliance with Env-Ws 700 to the Department for review and approval prior to commencing construction for theconnection to the Londonderry wastewater collection system.

2. Applicant shall submit application, appropriate fees, and supporting documentation in compliance with Env-Ws 904 to the Department for review and approval prior to commencing construction on any portion of this project.

3. Applicant shall submit all plans and specifications for installations of systems and devices for handling, treating, or disposing of sewage, industrial and other wastes to DES at least 30 days prior to the beginning of construction as required in RSA 485-A:4.

4. Applicant shall construct the cooling water line in accordance with the plans and specifications approved by the Department on April 22, 1999.

5. Applicant shall treat discharges to the Manchester wastewater treatment facility as necessary to ensure that the local Sewer Use Ordinance, local discharge limitations, local industrial discharge permit conditions, and state pretreatment statutes (RSA 485-A)and regulations (Env-Ws 904), and the federal Clean Water Act and federal pretreatment regulations (40 CFR 403) are met.

6. Applicant shall file federal applications for all discharges of stormwater associated with industrial activity and prepare all required stormwater pollution prevention plans such that they will be implemented prior to the beginning of construction and the start-up of the operation of the facility. The construction and the operation of the facility shall not result in water quality standards violations due to contaminants contained in stormwater.

7. Additional permit conditions and data requests may be necessary based on final plan review.

II. Site Specific Permit Conditions

1. Applicant shall not degrade water quality as a result of the project.

2. Applicant shall submit revised plans for permit amendment prior to any changes in construction details or sequences.

3. Applicant shall notify the Department in writing prior to the start of construction.

4. The approved plans and supporting documentation in the project file are a part of this approval.

5. Applicant shall notify the Department in writing within ten days of a change in ownership.
6. Applicant shall address to the satisfaction of the Department all issues raised in the letter of April 9, 1999, from James T. Spaulding, PE of the Wastewater Engineering Bureau, Water Division, DES to Gregory H. Smith, Esq, counsel for the applicant.

7. Final approval by the Department is not assured, since all required information and data has not yet been received by the Department.

8. Additional permit conditions and data requests may be necessary based on final plan review.

III. Wetlands Permit Conditions

1. Wetlands Conditions Applicable to the AES On-site Facilities

(A) Contingent on approval by the DES Site Specific Program.

(B) Any dredged material shall be placed out of the DES Wetlands Bureau jurisdiction.

(C) Orange construction fencing shall be placed at the limits of construction; siltation/erosion controls shall be installed prior to construction, shall be maintained during construction, and shall remain until the area is stabilized.

(D) Detailed construction plans shall be submitted before construction begins.

(E) Appropriate siltation/erosion/turbidity controls shall be in place prior to construction, shall be maintained during construction, and shall remain until the area is stabilized.

(F) Within three days of final grading in an area that is in or adjacent to wetlands or surface waters, all exposed soil areas shall be stabilized by seeding and mulching during the growing season, or if not within the growing season, by mulching with tack or netting and pinning on slopes steeper than 3:1.

(G) Where construction activities have been temporarily suspended within the growing season, all exposed soil areas shall be stabilized within 14 days by seeding and mulching.

(H) Where construction activities have been temporarily suspended outside the growing season, all exposed soil areas shall be stabilized within 14 days by mulching and tack. Slopes steeper than 3:1 shall be stabilized by matting and pinning.

(I) Work shall be done during low flow.

(J) The Department must be notified in writing within ten days of a change in ownership. The Department must be notified in writing before construction begins.

(K) The previous Standard Dredge and Fill Permit issued for this site on 6/12/1998 (#98-493) is superseded by the authorization this project.

(L) There shall be no wetlands impacts for the upgrade or construction of the electrical transmission lines.

2. Wetlands Mitigation

(A) This permit is contingent upon the creation of wetlands in accordance with plans received 04/12/1999.

(B) The schedule for mitigation construction shall coincide with site development unless otherwise considered and authorized by the DES Wetlands Bureau to occur subsequent to site construction.

(C) The areal extent of wetland creation shall be consistent with that described in the approved mitigation report dated 4/12/99.

(D) The wetland compensatory mitigation area shall be properly constructed, monitored, managed and the entire mitigation area preserved from future development.

(E) Wetland soils from areas vegetated with purple loosestrife shall not be used in the wetland creation site. In other areas the Department considers spreading the spoils, the potential for the establishment of the invasive species should be considered to limit its further establishment.

(F) Wetland creation and enhancement areas shall have at least 75% successful establishment of wetlands vegetation after two (2) growing seasons, or it shall be replanted and re-established until a functional wetland is replicated in a manner satisfactory to the DES Wetlands Bureau.

(G) Wetland creation and enhancement areas shall be properly constructed, landscaped, monitored and remedial actions taken that may be necessary to create functioning wetland areas similar to those of the wetlands destroyed by the project. Remedial measures may include replanting, relocating plantings, removal of invasive species, changing soil composition and depth, changing the elevation of the wetland surface, and changing the hydraulic regime.

(H) The applicant shall designate a qualified professional who will have the responsibility to assure that the mitigation area is constructed in accordance with the mitigation plan, that monitoring is accomplished in a timely fashion, and remedial measures are taken if necessary. The Wetlands Bureau shall be notified of the designated professional prior to the start of work and if there is a change of status during the project.

(I) The applicant shall monitor the initial construction of the mitigation area to assure the work is accomplished in accordance with the plan, and that the necessary soil, water and vegetation is present upon completion of work. Site monitoring include implementation of nuisance plant control as described in the wetland compensation/creation plan dated 04/12/99.

(J) The applicant shall conduct a follow-up inspection after the first growing season, to review the success of the mitigation area and schedule remedial actions if necessary. A report outlining these follow-up measures and a schedule for completing the remedial work shall be submitted by December 1 of that year. Similar inspections, reports and remedial actions shall be undertaken in at least the second and third years following the initial completion of each mitigation site. After at least three full growing seasons, the applicant shall delineate the wetlands within the mitigation site and document the delineation with data forms and depict the delineation as an overlay of the final as-built plans.

(K) The applicant shall attempt to control invasive, weedy species such as purple loosestrife (*Lythrum salicaria*) and common reed (*Phragmites australis*) by measures noted in the nuisance control plan and any additional means agreed upon by the DES Wetlands Bureau if control of invasive species has been unsuccessful.

3. Wetlands Conditions Applicable to the Construction of Utility Lines

(A) No temporary or permanent wetland impacts are authorized for the construction of overhead electrical transmission lines or for hydrostatic testing of utility lines without further review and approval by the Department.

(B) The conditions below are intended to apply to construction of buried utility lines associated with the proposed AES Londonderry facility including sewer line, cooling water line and natural gas lateral interconnect.

(C) The applicant shall submit final design plans identifying impacts to jurisdictional wetlands and watercourses associated with utility line construction for review and approval by the Department prior to construction.

(D) Payment of the balance due on wetlands application fees for wetlands impacts associated with proposed utility lines shall be made prior to construction.

(E) Construction of utility lines shall not commence until the applicant submits an environmental construction plan to the Wetlands Bureau for review and approval. This plan should detail proposed construction procedures, construction sequence, and proposed structural and procedural erosion control measures. The plan must also identify proposed wetland and stream bank restoration measures.

(F) The applicant shall notify the DES Wetlands Bureau of their intention to commence construction no less than five (5) business days prior to the commencement of construction of utility lines. Additionally, a schedule of anticipated work dates for utility line construction shall be submitted to the DES Wetlands Bureau at least five (5) business days prior to commencing work on any spread.

(G) Construction of the natural gas lateral within Wetlands 68 or 69 shall not begin until the certificate holder submits documentation to the DES Water Division that adequately demonstrates that alignment within the existing abandoned railroad grade is not feasible.

(H) If construction of the natural gas lateral within Wetland 68 or 69 is authorized pursuant to condition 29 above, then construction shall not begin until the certificate holder submits a site-specific drawing showing proposed construction procedures in this area.

(I) Construction of utility lines shall be inspected by a qualified wetland scientist or erosion control specialist to insure that appropriate protective measures are properly implemented, including those outlined in the plans and documents supporting this permit application and the conditions of this authorization.

(J) Wetlands shall be restored to their pre-construction conditions within rights-of-way including restoration of original grades.

(K) Any clearing required in utility line rights-of-way shall be in accordance with the "Best Management Practices for Erosion Control on Timber Harvesting Operations in New Hampshire."

(L) Topsoil in wetlands shall be stripped and segregated from subsoil during construction. Wetland topsoils shall be restored following backfill of utility lines.

(M) Construction across all watercourses shall be in the dry or shall utilize an appropriate dry crossing method such as a dam and flume, dam and pump, or directional drilling.

(N) All construction activities associated with watercourse crossings, including bank restoration, shall be conducted within a single 24 hour period. This condition shall not apply to directional drill crossings.

(O) Rip-rap bank stabilization shall not be installed without the prior, written approval of DES.

(P) Stumping in wetlands or on the banks adjacent to water bodies shall be limited to the pipe trench line. Stumps outside the trench line which pose a hazard to the safe passage of equipment shall be ground down.

(Q) Timber or natural fiber mats or corduroy shall be used for access to and for crossing all wetlands with very poorly drained or hydric A soils and those wetlands that are saturated at or above the surface of the ground.

(R) Within three days of the last activity in an area, all exposed soil areas, where construction activities are complete or have been temporarily suspended, shall be stabilized by seeding and mulching during the growing season, or if not within the growing season, by mulching with tack or netting and pinning on slopes steeper than 3:1.

(S) The crossing of the Little Cohas Brook shall be by directional drilling. The certificate holder shall submit a site specific plan outlining the directional drill to DES for review and approval prior to construction.

(T) Additional temporary workspace areas outside of the construction rights-of-way shall be setback a minimum of 20 ft. from any wetland or surface water.

(U) The certificate holder shall notify NHDES within twelve (12) hours of an erosion event resulting in sediment entering a wetland or surface water.

(V) There shall be no impact to any wetlands where the Natural Heritage Inventory ("NHI"), New Hampshire Department of Fish & Game ("F&G"), or the certificate holders identifies threatened, rare, or endangered species, or exemplary communities unless mitigation plans are submitted to NHI, F&G, and NHDES for review and approval prior to commencing

(W) A post-construction report documenting status of wetlands and stream restoration shall be submitted to the Wetlands Bureau within six weeks of the completion of construction.

(X) The rights-of-way shall be monitored and a written report documenting its condition shall be submitted to the Wetlands Bureau by July 15 of the year following construction. Construction reports shall include photographic documentation. The Wetlands Bureau shall require subsequent monitoring and may require corrective measures if the right-of-way is not adequately stabilized and restored.

(Y) Wetland restoration shall not be considered successful if sites are newly invaded by nuisance species such as common reed or purple loosetrife during the first full growing season following the completion of construction. The certificate holders shall work with DES to attempt to eradicate nuisance species newly found along the pipeline right-of-way during this same period.

State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES
6 Hazen Drive, P.O. Box 95, Concord, NH 03302-0095
(603) 271-3503 FAX (603) 271-2982

April 22, 1999

Garry Tendler, Superintendent
Water and Sewer Department
50 Nashua Road, Suite 100
Londonderry, New Hampshire 03053

Re: Londonderry, NH - AES Cogeneration Facility Cooling Water Line
DES Project No. D1998-0809

SEWERAGE PLAN APPROVAL

Dear Mr. Tendler:

The Department of Environmental Services (DES) has reviewed the sewerage plans and technical specifications for the subject project, and conditionally approves same. An approved set of documents is enclosed for your files. This approval applies to the cooling water line for the subject project only, and expires two (2) years from the date of this letter if construction has not yet begun.

This project is approved with one condition. Adequate provision must be made to drain the line for service in accordance with Env-Ws 707.07(d).

Please be advised that project construction may NOT commence until applicable site specific plans for the project have been approved by DES under RSA 485-A:17. Other DES permits, such as wetlands, may be required as well.

Please contact me at the Water Division, at the address above , if you need clarification or additional information regarding this matter.

Sincerely,

Franz K. Vail, P.E.
Wastewater Engineering Bureau

Enc: Approved Plans/Specs

cc: Michael A. Trainque, P.E. - Hoyle, Tanner and Associates
Harry T. Stewart, P.E. - Director, Water Division, DES
Timothy W. Dew - DES/CO

State of New Hampshire
DEPARTMENT OF ENVIRONMENTAL SERVICES
6 Hazen Drive, P.O. Box 95, Concord, NH 03302-0095
(603) 271-3503 FAX (603) 271-2982

April 9, 1999

Gregory H. Smith, Esq.
McLane, Graf, Raulerson & Middleton, PA
Fifteen North Main Street
Concord, NH 03301-4945

Subject: Site Specific Permit Application AES
Londonderry, NH

Dear Attorney Smith:

We have reviewed the information submitted for the cooling water line and the natural gas pipeline interconnect and as a result of this review we have the following comments:

I. Cooling Water Line

1. The plans must contain a construction sequence which relates the various construction elements to the implementation of the appropriate erosion control measures.
2. The plans must contain a note limiting the length of time an area can be disturbed and left unstabilized.
3. The plans must contain a note limiting the amount of area allowed to be disturbed and unstabilized at one time.
4. Indicate how temporary and permanent stabilization of the disturbed soils will be accomplished.
5. Indicate suggested/typical locations of erosion control measures.
6. Include re-vegetation specifications on the plans.
7. Identify the soil types in the project area.
8. The gully at station 4+50 had standing water during my April 9, 1999, inspection. Provide a dry crossing method. This area requires additional stabilization such as erosion control matting. Has this area been evaluated to determine if it is a jurisdictional wetland?
9. The 24 inch culvert at station 143+00 was flowing during my April 9, 1999, inspection. Provide a crossing method at this location. This area requires additional stabilization such as erosion control matting.
10. Provide the updated wetlands delineation for the wetlands on sheet 16.
11. Sheet 19

a) Experience has shown that the hay bale barriers at catch basins are not effective, it is suggest one of the methods utilizing a geosynthetic be employed.

b) The hay bales shown in the hay bale/silt fence detail should be rotated 90 degrees so that the strings are not in contact with the ground, the note requiring nylon or wire should be deleted (string bound bales are preferred), and the preferred method of staking should be

wooden stakes (steel rebar can present a safety issue and should only be used were the ground is very hard or frozen).

12. There are numerous utilities crossing and potential utility structure conflicts not shown in the profile.
13. The area in the vicinity of stations 98+00 to 102+00 has been excavated sense your survey was performed. Revise the plans accordingly.
14. There is a drafting error in the plan view on sheet 16.

II. Natural Gas Interconnect

1. Final complete plans must be submitted for review and approval prior to final action on the application by DES.
2. The plans must contain a construction sequence which relates the various construction elements to the implementation of the appropriate erosion control measures.
3. The plans must contain a note limiting the length of time an area can be disturbed and left unstabilized.
4. The plans must contain a note limiting the amount of area allowed to be disturbed and unstabilized at one time.
5. Indicate how temporary and permanent stabilization of the disturbed soils will be accomplished.
6. Indicate suggested/typical locations of erosion control measures.
7. Include re-vegetation specifications on the plans.
8. Plans must include erosion control details and standards.
9. Include a typical right of way cross section showing: spoil storage, trench, working side, etc.
10. Provide a narrative which at the least addresses the following:
Clearing, grading, stump disposal, waterbar spacing, ditching, including ditch plugs, de-watering, lowering in & backfilling, hydrotesting, restoration and re-vegetation, temporary erosion and sediment control, seeding and mulching, matting, two tone construction, access roads.
11. A site inspection of the proposed route of the natural gas pipeline indicated the following areas requiring additional information or revisions to the plans:

a) There are two crossings of a large tributary to Little Cohas brook in the vicinity of the interconnect with the Tennessee Gas line which are not indicated on the plans. Show these as crossings and provide a detailed description of the crossing and stabilization methods.

b) The line is proposed to go through a large depression on the east side of Route 28. At the time of our inspection there was a substantial amount of flowing water in this depression. Provide a detailed description of the crossing and stabilization methods.

c) A substantial amount of the right of way has only about 15 feet width of upland area, how does AES plan to construct the pipeline in these areas.

d) In the vicinity of the proposed HDD of Little Cohas Brook the right of way has open water on the south and a wetland on the north with only about 15 feet of available

working width. Provide a detailed description of the method proposed to be used and workspace requirements. Include temporary erosion and sediment control, restoration and method of handling drilling mud.

e) Numerous culvert crossings, several of them containing small brooks were observed that are not shown on the plans.

12. The position of DES regarding brook crossing is that they shall all be performed as dry crossings.

III Other Issues

1. Our records indicate that we have received $1300.00 in fees for this application. The Site Specific fee is based upon the area of soil disturbance. The file indicates that the total area of disturbance could be in excess of 1,700,000 which would require a fee of $1700.00. Please supply a copy of your calculations for the establishment of the fee and any required additional fee.
2. Provide a contact list of persons responsible for the various aspects of the project construction including environmental compliance.
3. Provide a routing of the cooling water and natural gas pipelines on the site.
4. DES is required to supply permit conditions to the EFSEC by April 26, 1999. To meet this deadline, the Site Specific permit conditions will be submitted by April 21, 1999, and unresolved issues will generate permit conditions. Because of the very preliminary nature of portions of the submittal, ultimate approval of the Site Specific application can not be guaranteed.

If you have any questions feel free to contact me at (603)271-2973 or E-mail at J_Spaulding@des.state.nh.us.

Yours truly,

James T. Spaulding, P.E.
Wastewater Engineering Bureau

FILE: AES.WPD
cc: Helen Vezina, NH DES
Russell A. Nylander, PE, WD/DES
Peter Walker, WB/WD/DES
Timothy W. Drew DES
Michael J. Walls, Esq., NH DoJ, Via Facsimile Only 2110
Justin C. Richardson, Esq., NH DoJ, Via Facsimile Only 2110
Vincent J. Iacopino, Esq.
AES Enterprises, Inc.
Michael A. Trainque, PE, HTA

"ATTACHMENT F"

STATE OF NEW HAMPSHIRE

ENERGY FACILITY SITE EVALUATION COMMITTEE

Where these conditions refer to the applicant or AES Londonderry, the conditions shall also apply to its employees, contractors or other agents unless otherwise specified.

I. Construction

1. AES Londonderry shall maintain a telephone hotline service and respond to individual noise complaints from community residents. AES Londonderry shall retain records of such complaints and the manner in which the complaint was evaluated or resolved.

2. AES Londonderry shall limit construction to the weekday and Saturday work hours of 7:00 AM to 7:00 PM. Construction at other hours shall occur only if activities produce noise levels consistent with conditions II, 1, (A), (B), and (C) below and do not produce unreasonable impulsive sounds or upon prior written approval by the Town of Londonderry.

3. AES Londonderry shall utilize mufflers on all engine driven equipment.

4. AES Londonderry shall utilize mufflers for all steam blow activity.

5. AES shall notify residents at least 24 hours in advance of pile driving and blasting activities by posting a readily visible sign at the intersection of Litchfield and High Range Roads.

II. Design & Operation

1. AES Londonderry shall develop a final design to demonstrate that the facility will produce noise levels no greater than those identified below when measured at any residences existing as of July 1, 1998:

(A) The facility shall produce noise levels no greater than 45 dBA;

(B) The facility shall produce noise levels no greater than 70 dBC;

(C) The facility shall not produce any prominent pure tones as defined in Appendix A.

2. AES Londonderry shall develop a final design which shall include information on the steam vent systems, including the sound power levels from each vent, the vent mufflers, including the attenuation provided by each muffler, and the estimated sound levels for each vent at the community locations (1 through 4) identified in the application.

3. AES Londonderry shall develop the final design required by Section II in cooperation and consultation with the Town of Londonderry. AES Londonderry shall provide funding for a qualified consultant. Both the funding and the consultant shall be mutually agreed upon by AES Londonderry and the Town of Londonderry, to assist the Town with its review of the final design required by Section II.

4. After consultation with the Town of Londonderry, AES Londonderry shall submit to the EFSEC its final design, which shall clearly demonstrate compliance with the conditions of Section II.

5. After construction and initial plant operation, AES Londonderry shall measure facility noise at the locations (1 through 4) identified in its application in consultation with the Town of Londonderry. AES shall provide funding for a qualified consultant to review the results of said tests for the benefit of the Town. AES Londonderry shall demonstrate to the Site Evaluation Committee that compliance with the conditions of Section II has been achieved. In the event the facility does not comply with the conditions of Section II, as indicated by any measurements taken by AES Londonderry and the Town, AES shall be provided a reasonable period of time to verify any measurements and shall be provided a reasonable period of time to remedy any exceedance.

6. AES Londonderry agrees to perform an additional two week survey of continuous hourly A-weighted sound level statistics, L_{10}, L_{50}, L_{90}, L_{max}, L_{eq} with acoustical residual octave band sound level measurements in order to more accurately determine noise levels at location #3. The purpose of this survey shall be to obtain additional data to establish an accurate representation of the ambient noise environment.

7. AES agrees to purchase residential properties for fair market value, if the noise level at the residence exceeds any of the noise levels detailed in II.1(A), (B), (C), solely from noise specifically attributable to the AES facility. When there is a reasonable basis to believe that the facility has exceeded the above-identified standards at a particular property, and that property owner requests that AES measure the noise levels at his or her residence, AES shall conduct measurements to determine whether the above-stated standards are exceeded. These measurements will be conducted at representative times and in a representative manner. If such measurements are confirmed, AES shall have a reasonable period of time to correct any such exceedance. If there is an exceedance which is not corrected within a reasonable period of time, the property owner then qualifies for the voluntary buyout. If the property owner elects to sell the qualifying property, the request for a buyout shall be made in writing directly by the residential property owner to AES. Upon receipt of said written request, AES shall notify the Town. Such buyout program will be available for the first year following the commercial operation date of the facility. In the event of a qualifying residential property purchase, fair market value shall be determined by a certified appraiser mutually agreed upon between the property owner and AES. If an appraiser cannot be mutually agreed upon, the appraisers selected by AES and the property owner shall both select a third certified appraiser to determine the fair market value of the property through performance of a full appraisal report. If a third appraiser cannot be mutually agreed upon, then the fair market value will be the assessed value of the property as established in accordance with published Londonderry property tax records, as adjusted by the equalization rate as determined by the State.

Said fair market value, as determined above, shall be the final buyout price. The property owner shall have 90 days from the date that fair market value is determined, or such time as is mutually agreed upon, to accept this buyout price. If the property owner does not elect to accept this buyout price all rights afforded to the property owner under this buyout provision shall cease

APPENDIX A

The facility will not produce any prominent pure tones that are noticeable in the community.

As used herein, prominent pure tones means the presence of acoustic energy concentrated in a narrow frequency range, including, but not limited to, an audible tone, which produces a one-third octave sound pressure level greater than that of either adjacent one-third octave and which exceeds the arithmetic average of the two adjacent one-third octave band levels by an amount greater than shown below opposite the center of frequency for the one third octave band containing the concentration of acoustical energy.

One third Octave Band Center Frequency (Hz)	dB
25	15
32.5	15
40	15
50	15
63	15
80	15
100	15
125	14
160	12
200	11
250	9
315	8
400	7
500	6
630	6
800	5
1000	4
1250	4
1600	4
2000	3
2500	3
3150	3
4000	3
5000	4
6300	4
8000	5
10000	6

"ATTACHMENT G"

Conditions Agreed with the Town of Londonderry

I. Safety Planning

A. AES will comply with National Fire Protection Association (NFPA) Standard 850 as it pertains to electric generation facilities. Any disagreement regarding enforcement of the NFPA Standard 850 requirements shall be resolved by the State Fire Marshall, subject to Section XIV below.

A. AES shall design and construct fire protection systems in accordance with local and state requirements and NFPA Standard 850, as applicable. In so doing AES shall comply with the State of New Hampshire Fire Code with recognition of the authority granted to state and local officials under State law.

A. AES shall comply with the codes adopted by reference in the State Fire Code, including but not limited to:

1. NFPA 1, Fire Prevention Code (1992 ed.) (replaces the BOCA Fire prevention Code (1990 ed.), SAF-C6008.1
2. NFPA 10, Portable Fire Extinguishers (1994 ed.) SAF-C6016.01
3. NFPA 13, Installation of Sprinkler Systems (1994 ed.) SAF-C6017.1
4. NFPA 25, Maintenance of Water Based Fire Protection Systems (1995 ed.) SAF-C6017.04
5. NFPA 30, Flammable and Combustible Liquids (1993 ed.) SAF-C6009.1
6. NFPA 70, National Electrical Code (1996 ed.) SAF-C6010.02
7. NFPA 72, National Alarm Code (1993 ed.) SAF-C6018.02
8. NFPA 101, Life Safety Code (1994 ed.) SAF-C6008.03
9. BOCA National Building Code (1996 ed.) sections relative to fire protection and structural integrity, SAF-C6008.04

A. AES shall develop letters of understanding and/or agreement with the local Emergency Service Providers to define the emergency response obligations of each.

A. AES will involve the Town in the development of all emergency plans and agrees to give the Town approval over such plans. Disputes will be resolved by the Fire Marshall, subject to the ultimate authority of the EFSEC. Such plans shall include, but not be limited to the following:

1. A gas leakage detection system will be installed at appropriate locations;
2. A fire hazard risk assessment plan;
3. Training of AES personnel in emergency first aid and fire protection;
4. Spill containment and safety procedures for all hazardous chemicals;
5. Assurance that personnel responsible for responding to spills or other related emergencies will receive at least 24 hours Hazardous Waste Operations and Emergency Response Training (HAZWOPER Training);
6. Maintenance of personal protective equipment on site, including Tyvek suits, safety goggles, gloves, boots and fuel cartridges air purifying respirators, air monitoring equipment and Self-Contained Breathing Apparatus (SCBA);
7. Material Safety Data Sheets (MSDS) for all chemicals used and stored on site.

A. AES shall install the plume abatement technology which is the same type of technology used at the Chicago O'Hare Airport with the understanding that the design basis for the AES Londonderry cooling tower will include a dry exchange portion that is approximately 10% of the total heat exchange capability of the cooling tower.

A. There shall be no ground level icing and no ground level fogging as a result of operation of the AES plant. Failure by AES to meet this condition shall subject the company to RSA 162-H enforcement provisions.

A. AES will participate in the preparation of a Comprehensive Industrial/Commercial Emergency Plan for the Eco-Industrial Park area.

A. AES commits to the following conditions regarding the circulating cooling water system. The Town of Londonderry did not undertake an expert analysis regarding the imposition of special conditions for the cooling water system. The Town relies on the expertise of the Department of Environmental Services to mandate appropriate treatment practices to assure that cooling tower discharge meets all public health requirements. The AES proposed conditions are as follows:

1. AES shall chlorinate the Manchester WWTP effluent at the discharge of the pumps at the treatment plant, which supply the treated effluent to the Londonderry Cogeneration Facility via the 3.5 mile cooling water line to maintain a total chlorine residual of 1.0 mg/l at the project boundary. AES shall monitor the total chlorine residual continuously at the project's boundary;

2. AES shall chlorinate the Manchester WWTP effluent at the inlet to the clarifier on site to maintain a free chlorine residual of 0.5 mg/l in the cooling tower basin. AES shall monitor the free chlorine residual continuously in the cooling tower basin;
3. AES shall monitor pH continuously in the cooling tower basin;
4. AES shall monitor pH continuously in the pretreatment clarifiers;
5. AES shall monitor turbidity continuously in the effluent from the multi-media filter. AES shall bypass the cooling tower if turbidity exceeds 5 NTU;
6. AES shall perform weekly sampling for fecal coliform bacteria at the multi-media filter discharge.

A. AES shall provide financial support for any technical assistance, training and equipment required by the Town as a direct result of the AES facility. Any disagreements regarding the need for or level of financial support for such assistance shall be resolved by the State Fire Marshall, subject to Section XIV below.

A. AES shall equip gates at the entrance and exits of the plant with an opti-com system for emergency access by the Fire Department.

I. Environment

A. AES shall discharge into the Londonderry sewer system only when in compliance with the industrial discharge permit issued by the Town of Londonderry, City of Manchester, and State of New Hampshire.

A. AES shall use portable demineralizers during backup fuel use.

A. The standard operating procedure of the AES facility shall include a procedure whereby AES personnel will be required to confirm the absence of any leaks from facility transformers following periods of rainfall, prior to the manual opening of isolation valves for the release of rain water to the sewer system.

A. AES shall remove all chemicals and hazardous materials from any vessels, containers, machinery or equipment on the site if the facility shuts down permanently for any reason. AES will comply with State and federal laws regarding cleanup of any contaminated materials on the site.

A. AES shall enter into an agreement with an oil spill response company for any service necessary in the event of an oil spill.

A. AES shall manage boiler cleaning chemicals consistent with all applicable local, state, and federal requirements.

A. AES shall maintain on-site a sufficient number of booms and filter pads to provide initial control of any oil or chemical spill.

A. AES shall have spill prevention control and contingency plans established for all materials used on site.

A. AES shall not use distillate fuel during the ozone season from May 1 to September 30 except for any necessary testing consistent with commitments made in Data Response PC-II-42.

A. AES shall prepare a vulnerability analysis of sensitive environmental resources to identify any special procedures required for the area's protection. Such an analysis shall include a special oil spill contingency plan for the protection of sensitive environmental areas and shall be included as part of the final development plan.

A. AES shall locate the transmission lines within a forested buffer so that there is only moderate visibility in a few locations as provided in the AES Supplemental Filing of 15 October 1998.

I. Engineering/Facility Design

A. Ground fault protection shall be provided for the generator, AC distribution load centers, power transformers, and large motors.

A. AES shall perform and/or manage any post-operation design changes by on-site plant personnel.

A. AES shall construct the proposed sewer line to the Town's and New Hampshire DES standards.

A. AES shall provide documentation to the Town demonstrating that the proposed sewer line shall be placed within the Town's right-of-way, or that appropriate easements from the property owners have been obtained. Once constructed, AES shall transfer ownership of the easements to the Town.

A. AES shall provide final and complete drawings of the proposed sewer line for review and approval by the Town of Londonderry Sewer Division as part of its application for a Sewer Discharge Permit and prior to construction.

A. Each oil filled transformer shall have its own containment sump and surface membrane.

I. Financial

A. AES shall offer low-cost steam to other Eco-Park members.

A. AES shall post a bond for all utility work in North Wentworth Avenue, Pettingill Road, and any other affected roads as determined by the Public Works Department consistent with prior practice.

I. Land Use/Off-Site Improvements

A. AES shall dedicate 110 acres of permanent conservation land to the Town as an easement to be managed by the Town of Londonderry Conservation Commission. Said land to be that identified in Exhibit L-1.

A. AES shall commit to the Eco-Park Vision Statement and Performance Requirements.

A. AES shall not receive backup fuel deliveries between 7:00 a.m. and 9:00 a.m. and 4:30 p.m. and 6:30 p.m.

A. Backup fuel deliveries shall access the site by using only the following two routes:

1. Route 293 to South Willow Street at Exit 1 to Harvey Road; and
2. Route 93 to Route 28 at Exit 5, to Page Road to Grenier Field Road to Webster Road to Harvey Road.

A. AES shall participate in the Manchester Airport's Area Transportation Management Association (TMA).

A. AES shall provide a permanent cul-de-sac to the Town for the Cooper Subdivision with a radius located 75 feet from the center of the proposed cul-de-sac.

A. AES shall provide a permanent cul-de-sac, which may be offset, for Burton Drive, the final design of which is subject to approval of the Public Works Department. If additional easements are required,for an offset cul-de-sac, AES will provide the Town the additional easements from Map Lot 44-14, or Lot 44-37.

A. AES shall plant screening trees on the south side of Litchfield Road. Tree location is subject to approval by the Public Works Department.

A. AES shall file proper documents with the Town for the consolidation of lots 44-37 and 44-14.

A. AES shall construct the proposed gasline pursuant to RSA 289:3.

I. Construction

A. AES shall restrict large vehicles operating under its control including contract and subcontract vehicles during the construction period to the use of the following roads: South Willow Street; Route 28; Mammoth Road (Route 128); Route 102; Page Road; Grenier Field Road; Webster Road; and Harvey Road. Litchfield Road, west of Harvey Road, may be used by construction vehicles delivering materials, supplies and equipment that are sourced along Route 3A. In addition, Route 128 and Route 102 shall be used only for locally sourced materials, supplies and equipment. Any large trucks delivering construction materials, equipment and supplies using Interstate 93 shall not use Exit 4.

A. AES shall, as a first option, stage construction delivery vehicles on-site. AES shall not stage said vehicles in front of developed properties on Burton Drive and North Wentworth Avenue. If the side of the road becomes damaged due to staging on the side and shoulder, AES shall repair the damage to the Town of Londonderry's Public Works Director's satisfaction.

A. Only to the extent required by a State temporary air permit shall AES be required to begin construction within 18 months of receiving all required approvals, including ISO interconnection approval and gas line upgrade approvals, and provided such timeframe shall be extended for a time equal to any project delays caused by third parties or otherwise beyond the control of AES. Consistent with its EFSEC permit, AES shall build to full capacity.

I. Conditions pursuant to Planning Board Site Plan Review

A. AES shall provide a final, full and complete set of site plan drawings for the Town's file for this project, stamped by a licensed land surveyor and/or professional engineer that indicate and incorporate all the proposed utilities intended to serve the site. The plan set shall include the coordinated location of all off-site utilities and correctly identify the location of each utility on the site plans for the project. Each utility should be labeled whether it is public or private and reference the additional plan sets pertaining to design and construction of the utility. Utility plans referenced in the plan set shall be those as approved by the appropriate utility.

A. AES shall post a bond with the Department of Public Works prior to starting work within the ROW of Burton Drive, North Wentworth Avenue, or other such public ROW as identified by the Public Works Director.

AES shall post a bond for the Cooper Subdivision Road, to the extent it is not previously posted.

A. AES shall provide a letter from the Town of Londonderry Fire Department indicating approval of the number and location of fire hydrants. Other fire protection systems, e.g. deluge, etc., shall also be approved by the Londonderry Fire Department.

A. AES shall reconcile the proposed sewer design shown on the site plan with the off-site sewer extension drawings.

A. AES shall provide the owner's signature on the plans.

A. The applicant shall list all applicable permit approval numbers (such as the NH DES Site Specific Permit, NH DES Wetlands Permit, NH DES Sewer Discharge Permit, etc.) on the Vicinity Plan – Sheet 1. In addition, copies of the approval shall be provided to the Town.

A. AES shall correct the plans details as follows:

1. Revise all drainage and sewer details to provide ¾ in. crushed stone bedding instead of screened gravel. (Note: 6 inch minimum in earth and 12 inch minimum in ledge.)
2. Label all drainage structures including frames and grates to be H-20 loading.
3. Verify and revise as necessary design for all stone fill to 25 year design storm (see comment #2 under Drainage Issues).

A. AES shall show the area subject to the Manchester Airport approach zone as requested in the Building Inspector's Design Review Committee, DRC, comments on the site plan.

A. AES shall clarify the status of the ownership of lots 44-37 and 44-14 and correct the title block on all sheets in accordance with the Planning Department's DRC comments.

I. Drainage Issues

A. Provide calculations for rip-rap aprons to demonstrate a 25 year design storm as required in section 4.07e of the Town's site plan regulations.

A. AES shall supply additional information to the Department of Public Works regarding the installation and use of the "gravity differential flowstop valve" proposed in DMH#4 (sheet 11 of 13).

A. The following drainage structures shall be verified and labeled correctly on the plans:

1. DMH #@ located at the in-let of the large wetland in the center of the site should be labeled as DMH#1.
2. OS#2 and FES#12 located at the proposed detention basin adjacent to the cooling towers should be labeled as OS#3 and FES#10, respectively;
3. The rim elevation for CB#9 is 310.5 but the invert out is shown as 370.0.

A. AES shall clarify and revise as necessary the following relative to drainage design;

1. Pipe lengths and slope values provided in the calculations for Reach #6, #10, #16, and #18 do not correspond to the information shown on the "Closed Drainage Summary" table provided on sheet 5 of 13.
2. The pipe for Reach #20 (DMH#4 to HT#2) is shown as 12 inch in the calculations and 8 inch DI on the "Closed Drainage Summary" table provided on sheet 5 of 13. (Based upon the calculations for the 25 year storm, it would appear that at least a 12 inch pipe is necessary.)

I. Off-site Utilities

AES shall provide final and complete design drawings of each utility located within the Town for review by the Town. The drawing shall incorporate all the proposed design information (including all buildings, grading, utilities, etc.) indicated on the site plan for the project. The plan shall indicate all property lines, right-of-way lines, existing and proposed easements (including widths, bearings, and distances), buildings, utilities, lot numbers (by Tax Map and lot number). Abutter's names, etc., along the entire length (within the Town of Londonderry) and within 75 feet of the proposed utility routes. AES shall substantiate the location of the ROW of Pettingill Road. The location of all wetlands, including impact areas, shall be indicated. The required permit approvals, (wetlands, site specific, NH DOT, etc.) for these utilities shall be noted on the plans and copies provided to the Town -(The utility plans shall be incorporated into and become part of the site plan review process of the project.)

I. Gas Line

A. AES shall indicate the location, by dimension, of the gas main, cooling water line and sanitary sewer lines to be located within the proposed combined easement located between Pettingill Road and North Wentworth Avenue that

serves the site. The utility location shall be properly separated to prevent undermining during and after construction. Please provide the appropriate typical trench sections in the details.

B. AES shall indicate on the plans if the gas line is to be publicly or privately owned. Locating the gas line, public or private, within the public rights-of-way, including Mammoth Road, Harvey Road, Pettingill Road and Sanborn Road, is generally acceptable to the Town, pursuant to the terms stated in the Letter of Intent to Enter into Option Agreement Between Town of Londonderry (Optionor) and AES Londonderry, LLC (Optionee), attached herein, or otherwise necessary. The precise location within the right-of-way is subject to approval by the Town. The applicant shall secure all easements necessary for construction outside the public ROWs. The plans shall be revised accordingly to show all the required information including easements.

I. Sanitary Sewer

A. AES shall provide final and complete drawings for review and approval by the Town of Londonderry Sewer Division. The general route of the line within the Town's ROW is acceptable to the Town.

A. AES shall indicate the location, by dimension of the sanitary sewer line, cooling water line and gas main to be located within the proposed easement located between Pettingill Road and North Wentworth Avenue that serves the site. The utility location shall be properly separated to prevent undermining during construction. AES shall revise the typical trench section to address all Town concerns regarding potential undermining of other utilities during construction.

A. AES shall indicate the location of all utility crossings in the plan and profile views.

A. AES shall identify the location and elevation of the existing sewer line and manholes located in North Wentworth Avenue. Please provide complete existing conditions for North Wentworth Avenue and reconcile the proposed off-site sewer plans with the sewer designs shown on the site plans.

B. AES shall secure all the required easements for construction (show the sewer easements on the drawings) and provide copies to the Town. The interceptor shall be constructed by AES to the Londonderry Sewer Division and NH DES standards. AES shall transfer ownership of the proposed sewer to the Town for a municipal interceptor.

A. AES shall show subsurface information such as probes, borings, etc. as may be required to address subsurface conditions. The plans shall also note the Town's requirements relative to blasting and ledge removal.

A. AES shall correct the plan details as follows:

1. Revise all details to provide ¾ inch crushed stone bedding instead of screened gravel;
2. Label all sewer structures including frames and covers to be H-20 loading;
3. Pipe trench detail shall indicate a minimum of 12 inch excavation depth below pipe in ledge.

I. Cooling Water Supply

A. AES shall provide final and complete construction drawings for review and approval by the Town of Londonderry Department of Public Works. The location of the line is acceptable to the Town pursuant to the terms stated in the Letter of Intent to Enter into Option Agreement Between Town of Londonderry (Optionor) and AES Londonderry, LLC (Optionee), attached herein. The precise location within the rights-of-way is subject to approval by the Town. Please note the location of the connection to yard piping indicated on Sheet 18 appears to be in the cooling towers and not as indicated in the site plans for the project. In addition, the profile information indicated for the proposed cooling water line appears to be at or above the proposed finished grade based on the information indicated in the site plan. AES shall revise the drawings to the proper location and elevations necessary to serve the site.

A. AES shall indicate the location, by dimension, of cooling water line, sanitary sewer line and gas main to be located within the proposed combined easement located between Pettingill Road and North Wentworth Avenue that serves the site. The utility location shall be properly separated to prevent undermining during and after construction since each utility may be built and maintained at different times. Please provide the appropriate typical trench sections in the details.

A. AES shall indicate the location of all utility crossings in the plan and profile view.

B. AES shall identify the location and elevation of the existing sewer line located in North Wentworth Avenue and Pettingill Road in the plan and profile. The proposed sanitary sewer line crossing for this project shall also be indicated in the plans and profile.

C. AES shall indicate on the plans if the water line is to be publicly or privately owned. AES shall procure all easements required to build outside the public rights-of-way. The plans shall be revised accordingly to show all the required information including easements.

A. AES shall correct the plan details as follows:

1. Label all structures including frames and covers to be H-20 loading;
2. Pipe trench detail shall indicate a minimum of 12 inch excavation depth below pipe in ledge and correctly show the proper pipe size.

A. AES shall clarify where the detail of the proposed gravel road shown on sheet 19 will be used in the design.

A. AES shall maintain high water quality within the cooling tower assuring that there will be no adverse impact to air quality from cooling tower emissions as provided in the NH DES air permit. Nothing in this section is intended to impose any requirements beyond the NH DES air permit.

I. Town of Londonderry's Enforcement of Site Plan Conditions

A. For the site plan review conditions identified above,:

1. The Town of Londonderry shall provide a written notice of any non-emergency default conditions to AES specifically stating the nature of the default;
2. Response to emergency conditions shall take place as statutorily authorized;
3. AES shall have 30 days or other mutually agreed upon time to cure the default or provide information regarding its position on the status of the alleged default;
4. After failure to cure the default within 30 days or other mutually agreed upon time of original notice, the Town may petition EFSEC for relief seeking enforcement of such EFSEC permit conditions.

XIV. Nothing in these proposed conditions with the Town of Londonderry shall be construed to alter in any way whatsoever the authority conferred by law on any State, federal or local agencies, including the authority and responsibility conferred by RSA 162-H.

XI. All references to AES in this document mean AES Londonderry, L.L.C., the Applicant.

Attachment H

CONDITIONS REGARDING TOWN OF LITCHFIELD

AES Londonderry, LLC hereby agrees to the following conditions relative to the Town of Litchfield:

1. AES Londonderry will communicate and coordinate with the Fire Chief of the Town of Litchfield, any issues involving fire prevention and/or specialized training that may be required by the Litchfield Fire Department. In the event that there is any specialized training required by the Litchfield Fire Department in order to respond to AES Londonderry, the expense for that training will be borne by AES Londonderry.

2. As regard to the switching station, AES agrees that lighting will be designed to provide for directional lighting of the facility itself so as to minimize light spillage onto surrounding property.

3. AES agrees to provide an appropriate vegetative screen of the switching station which is compatible with other uses within the power line right-of-way and security of the switching station.

4. AES agrees to construct an 8 foot high fence around the switching station as requested by the Town of Litchfield Planning Board.

5. AES agrees that the access way serving the switching station shall have a locked gate.

APPEAL PROCESS

Any person or party aggrieved by this decision or order may appeal this decision or order to the New Hampshire Supreme Court by complying with the following provisions of RSA 541:1.

541:3 Motion for Rehearing: Within 30 days after any order or decision has been made by the commission, any party to the action or proceeding before the commission, or any person directly affected thereby; may apply for a hearing in respect to any matter determined in the action or proceeding; or covered or included in the order; specifying in the motion all grounds for rehearing; and the commission may grant such rehearing if in its opinion good reason for the rehearing is stated in the motion.

541:4 Specifications: Such motion shall set forth fully every ground upon which it is claimed that the decision or order complained of is unlawful or unreasonable. No appeal from any order or decision of the commission shall be taken unless the appellant shall have made application for rehearing as herein provided, and when such application shall have been made, no ground not set forth therein shall be urged, relied on, or given any consideration by the court, unless the court for good cause shown shall allow the appellant to specify additional grounds.

541:5 Action on Motion. Upon the filing of such motion for rehearing, the commission shall within ten days either grant or deny the same, or suspend the order or decision complained of pending further consideration, and any order of suspension may be upon such terms and conditions as the commission may prescribe.

541:6 Appeal. Within thirty days after the application for a rehearing is denied, or, if the application is granted, then within thirty days after the decision on such rehearing, the applicant may appeal by petition to the supreme court.