

**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.

- (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) operation 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 PARTICIPATION

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<sup>1</sup> 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.<sup>2</sup> 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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<sup>1</sup> 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.

<sup>2</sup> 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 Catalytic 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<sup>3</sup>. 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.

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<sup>3</sup> Although Public Counsel assisted the limited intervenors 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



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 and 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:

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,

### **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 approximately 11 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 is 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 <sup>4</sup>	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:

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<sup>4</sup> Source: NESCAUM Generating Performance Standards Workgroup.

Pollutant	Annual Emissions from AES <sup>5</sup>	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

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<sup>5</sup> 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 proposed 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 referenda 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.

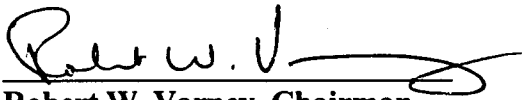
The Site Evaluation Committee finds that the construction and operation of the proposed facility complies with the criteria of RSA 162-H. The Committee will approve the application for a Certificate of Site and Facility for AES Londonderry L.L.C. to construct and operate a 720 megawatt electric production 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.

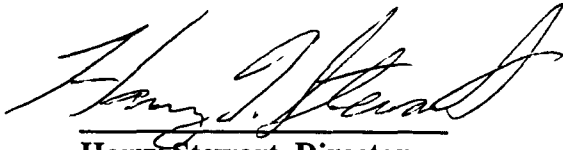
Dated this 25<sup>th</sup> day of May, 1999 at Concord, New Hampshire.



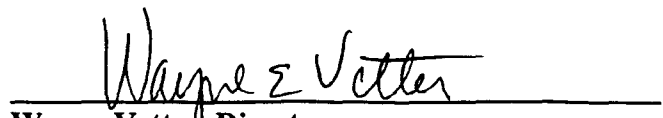
**Robert W. Varney, Chairman  
Commissioner, Dept. of  
Environmental Services**



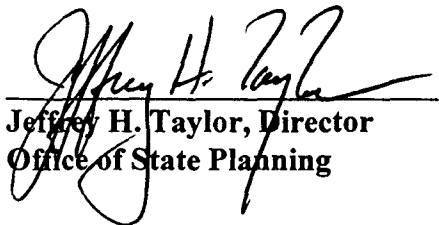
**Douglas L. Patch, Chairman, Vice Chairman  
Chairman, Public Utilities Commission**



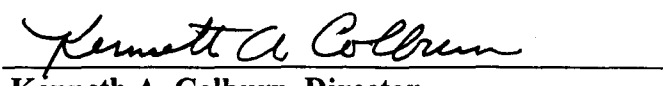
**Harry Stewart, Director  
Water Division, Dept of  
Environmental Services**



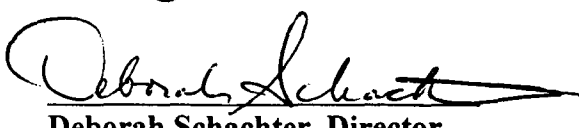
**Wayne Vetter, Director  
Fish and Game Dept.**



**Jeffrey H. Taylor, Director  
Office of State Planning**



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



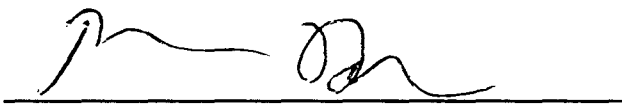
**Deborah Schachter, Director  
Governor's Office of Energy &  
Community Services**



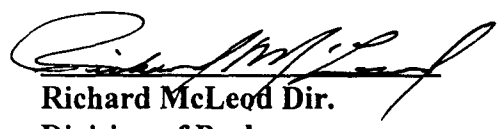
**Philip Bryce, Director  
Division of Forest & Lands**



**Leon S. Kenison, Commissioner  
Dept. of Transportation**



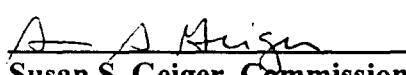
**Brook Dupee, Office of Community &  
Public Health, Dept of Public Health &  
Human Services**



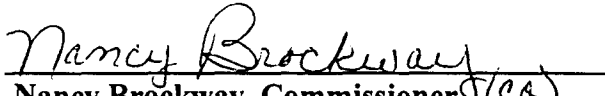
**Richard McLeod Dir.  
Division of Parks,  
Dept. of Resources & Economic  
Development**



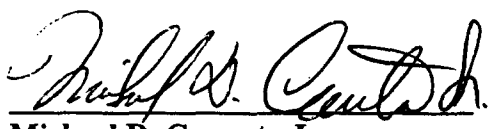
**George Bald, Commissioner  
Dept. of Resources & Economic  
Development**



**Susan S. Geiger, Commissioner  
Public Utilities Commission**



**Nancy Brockway, Commissioner (co)  
Public Utilities Commission**



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

## **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.