NEW YORK STATE BOARD ON ELECTRIC
GENERATION SITING AND THE ENVIRONMENT

RECOMMENDED DECISION BY
PRESIDING EXAMINER ROBERT R. GARLIN and
ASSOCIATE EXAMINER HELENE G. GOLDBERGER

CASE 99-F-1625 - Application by KeySpan Energy for a Certificate of Environmental Compatibility and Public Need to Construct and Operate a 250 Megawatt, Cogeneration, Combustion Turbine Electric Generating Facility to be Developed at the Existing Ravenswood Generating Station in Long Island City, Borough of Queens.

NOTICE OF SCHEDULE FOR FILING EXCEPTIONS

(Issued August 7, 2001)

Attached is the Recommended Decision of Presiding Examiner Robert R. Garlin and Associate Examiner Helene G. Goldberger in this proceeding. Briefs on exceptions will be due in hand to the undersigned, the Examiners, and all active parties by August 17, 2001. Briefs opposing exceptions will not be entertained. Twenty-five copies of each party's brief shall be filed with the Secretary, and a copy shall be served on the Examiners and each active party. Briefs on exceptions shall not exceed 50 pages, including appendices or other attachments.

JANET HAND DEIXLER
Secretary

NEW YORK STATE BOARD ON ELECTRIC
GENERATION SITING AND THE ENVIRONMENT

CASE 99-F-1625 - Application by KeySpan Energy for a Certificate of Environmental Compatibility and Public Need to Construct and Operate an 250 Megawatt, Cogeneration, Combustion Turbine Electric Generating Facility to be Developed at the Existing Ravenswood Generating Station in Long Island City, Borough of Queens.

RECOMMENDED DECISION

BY

PRESIDING EXAMINER ROBERT R. GARLIN

AND

ASSOCIATE EXAMINER HELENE G. GOLDBERGER

TABLE OF CONTENTS

TABLE OF CONTENTS

TABLE OF CONTENTS

NEW YORK STATE BOARD ON ELECTRIC
GENERATION SITING AND THE ENVIRONMENT

CASE 99-F-1625 - Application by KeySpan Energy for a Certificate of Environmental Compatibility and Public Need to Construct and Operate an 250 Megawatt, Cogeneration, Combustion Turbine Electric Generating Facility to be Developed at the Existing Ravenswood Generating Station in Long Island City, Borough of Queens.

APPEARANCES: See Appendix A

ROBERT R. GARLIN, Presiding Examiner and
HELENE G. GOLDBERGER, Associate Examiner:

I. INTRODUCTION

A. Description of the Proposed Facility

On July 28, 2000, KeySpan Energy (KeySpan or the Applicant) filed an application for a Certificate of Environmental Compatibility and Public Need to construct and operate the Ravenswood Cogeneration Facility, a 250 megawatt (MW) electric generating facility on 2.5 acres at its existing Ravenswood generating station located on a 27.6-acre site along the East River in Long Island City, Queens, New York.[1] The proposed facility would consist of a combustion turbine, a heat recovery steam generator (HRSG) with a duct burner for supplemental firing, and a steam turbine. The steam produced by the HRSG would be used to drive the steam turbine generator to produce additional electricity and might also be sold as a supply to the steam distribution system of Consolidated Edison Company of New York, Inc. Selective catalytic reduction will be used to control nitrogen oxide (NO_x) emissions and an oxidation catalyst would be used to control carbon monoxide (CO) and volatile organic compounds (VOCs). A single 400-foot exhaust stack is planned and an air-cooled condenser would be used to cool exhaust

[1] KeySpan Energy has requested that the Certificate be issued to KeySpan-Ravenswood, Inc.

from the steam turbine generator. KeySpan expects to operate at a capacity factor greater than 80% but might operate the combustion turbine at a capacity factor as low as 50%. The turbine will be fueled by natural gas and, for up to 30 days per year, low-sulfur (0.04%) kerosene, while the duct burner will be fueled exclusively by natural gas.

KeySpan proposes to use existing infrastructure at the Ravenswood site, including an adjacent electric substation, a gas transmission line, and East River wastewater discharge structures. KeySpan maintains that following operation of the proposed facility, the combined discharge of wastewater from the newly constructed facility and the existing plant will meet the thermal discharge limits set forth in the State Pollutant Discharge Elimination System (SPDES) permit for the existing Ravenswood station and will not cause the East River to violate water quality standards. The Applicant proposes to use the New York City water distribution system for its water supply requirements, so no intake of East River water will be required.

B. Procedural History

Prior to filing its application in July 2000, KeySpan followed the pre-application procedures outlined in the then-applicable provisions of Public Service Law (PSL) §163 to encourage public participation and to obtain input from state agencies. Consistent with the public participation requirements, KeySpan held numerous meetings with municipal parties, other local parties, and residents throughout the fall of 1999. KeySpan met with the Staffs of the Department of Environmental Conservation (DEC Staff) and Department of Public Service (DPS Staff) on October 13, 1999. Based on the input obtained during those meetings, KeySpan filed a Pre-Application Report with the Siting Board on November 17, 1999.

Subsequently, KeySpan again met with DEC Staff and DPS Staff (on January 14, 2000) and continued meeting with community

organizations. On February 8, 2000, KeySpan filed responses to comments on its Pre-Application Report, and in March 2000 it distributed draft stipulations for comment. On March 29, 2000, DPS Staff sponsored a process forum at P.S. 112 in Long Island City. A public meeting to discuss the draft stipulations was held at the New York City office of the Public Service Commission on May 12, 2000. The Applicant did not enter into formal written stipulations.

When KeySpan Power filed its application with the Siting Board in July 2000, it also duly filed copies with the parties identified in PSL §164(2)(a) and 16 NYCRR §1000.5. In addition, the Applicant published legal notices, as required by PSL §164(2)(b) and 16 NYCRR §1000.6, in various local newspapers.

By letter dated September 26, 2000, Chairman Helmer informed KeySpan that its application was incomplete when compared with the filing requirements set forth in PSL §164. On November 10, 2000, KeySpan submitted additional materials to supplement its application.[2] By letter dated January 24, 2001, Chairman Helmer found, pursuant to PSL §165(1), that the application as supplemented complied with the PSL §164 requirements. The Chairman also fixed February 28, 2001 as the date for the commencement of public hearings.

Pursuant to notices issued by the Secretary to the Siting Board and the DEC Office of Hearings and Mediation Services, a joint legislative/public statement hearing was convened at 7:00 p.m. on February 28, 2001 at P.S. 112 in Long Island City. Over the course of the evening, between 50 and 70 people were in attendance.[3] Out of the 21 speakers, four of the

[2] Supplemental direct testimony conforming the prepared testimony in the July 2000 application with the November 2000 supplement was filed on February 12, 2001.

[3] Several of the speakers claimed that more people from the Queensbridge Houses (which are near to the existing Ravenswood facility) would have attended had the hearing been located nearer to their neighborhood. Responding to this concern, the

commenters spoke in favor of the project based upon projected needs for electricity in areas of the Borough of Queens and New York City that were undergoing revitalization.

The other speakers, including representatives of elected officials such as Assemblyman Michael Gianaris and New York City Council Speaker Peter Vallone, raised concerns about air pollution and the addition of emissions, the need to repower old power plants in lieu of building new facilities, and health impacts such as respiratory disease. In addition, concerns were raised by those individuals about noise, loss of recreational opportunities, and odors. A number of the speakers who opposed the project did state that KeySpan had done a good job in meeting with the community and modifying the project to address certain concerns, but argued that those efforts were not sufficient to overcome potential negative impacts. In addition to the oral comments received at this hearing, there were additional written statements that were provided and distributed subsequently to those participating in these proceedings.

On the following day, March 1, pursuant to the public notices, a joint conference concerning DEC air and water permitting issues, PSL Article X issues, and the schedule for this proceeding was held at the Public Service Commission's New York office. An additional conference concerning air permit issues was held on April 5, 2001 at the same location. The Examiners issued an order specifying Article X issues[4] on March 26, 2001, and the Associate Examiner issued a ruling holding that there were no adjudicable air and water permit issues[5] on April 18, 2001.

Applicant, DEC Staff, and DPS Staff held an informational meeting at Jacob Riis House on April 17.

[4] PSL §165(2).

[5] 6 NYCRR §624.4(b)(5).

Consistent with the requirements outlined in 16 NYCRR §3.9, KeySpan duly published a notice of settlement meeting on May 9, 2001. Meetings among representatives of KeySpan, DEC Staff, DPS Staff, the Staff of the Department of Health (DOH Staff), the City of New York (the City), and the Queens Borough President were held on May 17, May 23, May 31, June 6, and June 13. Draft joint stipulations, topic agreements, and certificate conditions were developed and circulated among the participants for review and comment. Following the settlement meetings, KeySpan, DEC Staff, DPS Staff, and DOH Staff developed comprehensive joint stipulations that addressed and resolved all but one issue.

Pursuant to a notice of evidentiary hearing dated June 8, 2001, a hearing was convened at the Public Service Commission's New York office on June 14, 2001. The purpose of the hearing was to receive into the record the negotiated joint stipulations, the application and supplements, and certain additional exhibits. A record consisting of 34 exhibits (prepared testimonies were marked as exhibits) was compiled at the hearing. The parties were authorized to file post-hearing briefs and reply briefs on the sole contested issue, with the due dates to be determined by the date of issuance of the decision on interlocutory review by the Case 99-F-1314 Siting Board.[6] Briefs were filed by KeySpan, DEC Staff, DPS Staff, and the City; the foregoing parties and DOH Staff filed replies.

C. Summary of the Joint Stipulations

The joint stipulations consist of 11 separate topic agreements: air quality; surface water and aquatic resources;

[6] Case 99-G-1314, East River Generating Station, Order Concerning Interlocutory Appeals (issued June 22, 2001). The due date for initial briefs was five business days following the issuance of the order (i.e., June 29, 2001), and replies were due seven days later (July 6, 2001).

terrestrial ecology; soils, geology, seismology and agricultural lands; visual and cultural resources and aesthetics; traffic; noise; land use and local laws; electric transmission interconnection; gas transmission interconnection; and public interest. Each topic agreement identifies the nature of the probable environmental impacts of the proposed facility, provides proposed certificate conditions related to the topic, and discusses how the proposed certificate conditions will minimize adverse impacts as required by PSL §168. The topic agreements include stipulated facts with references to exhibits that provide the evidentiary basis for the agreements.

The discussion that follows reviews the topic agreements and, where pertinent, the briefs of the parties addressing the one remaining contested issue, and the motion of KeySpan, filed with its initial application, seeking a determination that the proposed facility has been selected pursuant to an approved procurement process. In general, the joint stipulations thoroughly address all topic areas identified in PSL §168. The evidentiary record compiled in this proceeding is comprehensive, supports the terms of the joint stipulations, and provides a factual basis sufficient for the Siting Board to determine whether the proposed facility should be certificated.

D. Required Findings of the Siting Board

Article X allows the Siting Board either to grant or deny the application as filed, or to certificate a facility "upon such terms, conditions, limitations or modifications of the construction or operation of the facility as [it] may deem appropriate."[7] In order to grant a certificate, the Siting Board must find:

[7] PSL §168(2).

- That the facility is reasonably consistent with the policies and long-range planning objectives and strategies of the most recent state energy plan, or that "the facility was selected pursuant to an approved procurement process."[8]

- The nature of the probable environmental impact, specifying predictable adverse and beneficial effects on (a) the normal environment and ecology, (b) public health and safety, (c) aesthetics, scenic, historic, and recreational values, (d) forest and parks, (e) air and water quality, and (f) fish and other marine life and wildlife.[9]

- That the facility minimizes adverse environmental impacts, considering (a) the state of available technology, (b) the nature and economics of reasonable alternatives required to be considered under PSL §164(1)(b), and (c) the interest of the state respecting aesthetics, preservation of historic sites, forest and parks, fish and wildlife, viable agricultural lands, and other pertinent considerations.[10]

- That the facility is compatible with public health and safety.[11]

- That the facility will not discharge any effluent in contravention of DEC standards or, where no classification has been made of the receiving waters, that it will not discharge effluent unduly injurious to fish and wildlife, the industrial development of the state, and the public health and public enjoyment of the receiving waters.[12]

- That the facility will not emit any air pollutants in contravention of applicable air emission control requirements or air quality standards.[13]

---

[8] PSL §168(2)(a).

[9] PSL §168(2)(b).

[10] PSL §168(2)(c)(i).

[11] PSL §168(2)(c)(ii).

[12] PSL §168(2)(c)(iii).

[13] PSL §168(2)(c)(iv).

- That the facility will control the runoff and leachate from any solid waste disposal facility.[14]

- That the facility will control the disposal of any hazardous waste.[15]
- That the facility will operate in compliance with all applicable state and local laws and associated regulations, except that the Board may refuse to apply specific local laws, ordinances, regulations, or requirements it regards as unduly restrictive.[16]

- That the construction and operation of the facility is in the public interest, considering its environmental impact and the reasonable alternatives considered [under PSL §164(1)(b)].[17]

As noted above, the Siting Board must find that the proposed facility will not discharge any effluent that will be in contravention of the standards adopted by the department of environmental conservation,[18] and will not emit any pollutants to the air that will be in contravention of applicable air emission control requirements or air quality standards.[19] Certain of the effluent standards and air quality standards, with which Article X charges the Siting Board to find an applicant would be in compliance, find their genesis in the federal laws referred to in PSL §168(3).

PSL Article X and relevant sections of the Environmental Conservation Law (ECL) recognize that DEC has been delegated the authority to issue the requisite air quality and water quality permits. DEC is expected to issue those

---

[14] PSL §168(2)(c)(v).

[15] PSL §168(2)(c)(vi).

[16] PSL §168(2)(d).

[17] PSL §168(2)(e).

[18] PSL §168(2)(c)(iii).

[19] PSL §168(2)(c)(iv).

environmental permits in the near future. Therefore, as required by PSL §172(1), the DEC Commissioner should be able to "provide these permits to the Siting Board prior to its determination whether or not to issue a certificate."[20] Once the DEC Commissioner's requirement is fulfilled, the Board will be able to make the findings required by PSL §§168(2)(c)(iii) and (iv), and render a final decision.[21]

PSL §168(2)(d) and §172(1) provide the Board with preemptive authority over other necessary state and local approvals. The Board may refuse to apply any local ordinance that would otherwise be applicable if the Board finds that the ordinance, as applied to a proposed facility, would be unreasonably restrictive. Before the Board decides not to require compliance with a local ordinance, however, the affected municipality must be given an opportunity to present evidence in support of the ordinance. And even if the Board requires compliance with the substantive provisions of a local ordinance, the municipality may not require an applicant to obtain a permit or other approval under that ordinance without the Board's authorization.

II. THE REQUIRED FINDINGS

A. Air Quality

Under PSL Article X, the Board must make findings specifically with regard to the impact of construction and operation of the facility on air resources.[22] These findings are

---

[20] PSL §172(1).

[21] The Siting Board's decision is final irrespective of whether the Applicant still needs to obtain related permits. Indeed, in the air quality area, the Siting Board's certificate is part of the preconstruction review under the Clean Air Act; and yet the Siting Board must determine in advance of issuing a certificate that the facility will be able to comply with Title V requirements.

[22] Applicable here are the required findings on the nature of the

based upon compliance with the federal Clean Air Act (CAA or the Act) and ECL Article 19, as well as their respective implementing regulations.

The CAA and ECL Article 19 establish the criteria air pollutants that are governed by the health-based National Ambient Air Quality Standards (NAAQS).[23] These pollutants are: oxides of nitrogen (NO_x), ozone (O_3),[24] carbon monoxide (CO), sulfur dioxide (SO_2), lead (Pb), and particulates that are 10 microns in diameter or less (PM_{10}). New York's ambient air quality standards are similar and also include beryllium, hydrogen sulfide (H_2S) and fluorides.[25] The main responsibility for implementation of the CAA resides with the states.[26] This is accomplished through each state's development of a state implementation plan (SIP) that provides for control measures and strategies. Through air quality monitoring, development of emission inventories, regulation of sources, and permitting of new sources, the states work to achieve the NAAQS and/or to prevent attainment areas from losing that status.

For new sources of air pollution, the principal means by which the states, including New York, pursue this goal is through the prevention of significant deterioration (PSD) program to maintain attainment and new source review for those pollutants

---

probable adverse and beneficial effects on air quality (§168(2)(b)); that the facility is compatible with public health and safety (§168(2)(c)(ii)); and that the facility would not emit any pollutants to the air that will be in contravention of applicable air emission control requirements or air quality standards (§168(2)(c)(iv)).

[23] CAA §109; 40 CFR Part 50.

[24] Ozone is created by the interaction of volatile organic compounds (VOCs) and NO_x in combination with sunlight and is commonly known as smog.

[25] 6 NYCRR Part 257.

[26] CAA §§101, 116.

for which the relevant area is in non-attainment.[27] The Ravenswood project site is located in Queens County, which is in severe non-attainment for ozone and moderate non-attainment for CO (although the process to reclassify this area to attainment status for CO is in progress). New York County, located west of the proposed facility's site across the East River, is designated as a moderate non-attainment area for PM_{10}.[28] These classifications are based upon monitoring data obtained by DEC's Bureau of Air Surveillance, which operates air quality monitors for SO_2, NO_x, CO, PM_{10}, total suspended particulates (PM), ozone, lead, sulfates, and nitrates.[29] A table indicating the background concentrations for the NAAQS is provided in the application.[30] Table 5.2 provides a comparison of the NAAQS and the New York State Ambient Air Quality Standards.[31] In addition to this regulatory framework, the proposed facility is also subject to federal New Source Performance Standards (NSPS) (CAA §111), DEC's Regulations and Policy (Part 201 et seq. of 6 NYCRR), Air Quality Impacts Analysis Requirements, the Federal Acid Rain Program (Title IV of the Act), and the NO_x Budget Program Requirements (6 NYCRR Part 204).[32]

1. Prevention of Significant Deterioration and New Source Review

Because the Ravenswood Cogeneration Facility will be a major new source based upon the potential emission of criteria pollutants that exceed U.S. Environmental Protection Agency (EPA)

[27] 6 NYCRR Part 231 and 40 CFR 51.166.

[28] 40 CFR Part 81.33 (July 1, 2000).

[29] Exhibit 1, Volume I, p. 5-6.

[30] Exhibit 1, Volume I, p. 5-7.

[31] Exhibit 1, Volume I, p. 5-7.

[32] Exhibit 1, Volume I, pp. 5-10 - 5-121.

thresholds, the project is subject to PSD review. KeySpan performed the required analyses for NO_x, SO_2, PM/PM_{10}, and sulfuric acid mist.[33] PSD requirements mandate that the facility control these pollutants with the best available control technology (BACT). For the proposed facility, the use of natural gas with up to 30 days' use per year of low-sulfur kerosene for the combustion turbine and natural gas firing in the duct burner is BACT for control of particulates, SO_2 and sulfuric acid mist.[34]

Because the facility is in a severe non-attainment area for ozone, the ozone precursors, VOCs and NO_x, are subject to the lowest achievable emission rate (LAER) requirements in the New Source Review criteria.[35] Because the GE Frame 7FA turbine is a low emitter of CO and, when combined with an oxidation catalyst, will meet the non-attainment review threshold for insignificant CO impacts, control of CO will not be subject to the NSR requirements.[36] To meet LAER for control of NO_x, the Applicant will use a dry low NO_x technology combustion turbine and a selective catalytic reduction system that will further reduce NO_x emissions. In addition to meeting LAER for the control of VOCs and NO_x, KeySpan had to provide offsetting emission reduction credits (ERCs) from other sources whose emissions could affect ozone levels in this area. Accordingly, KeySpan has purchased ERCs for emissions of 185 tons per year of NO_x and 129 tons per year of VOCs, removing these pollutants from the air at a ratio of 1.3 tons removed for every 1 ton emitted from the proposed facility.[37] The ERCs for the proposed facility are from

---

[33] Exhibit 1, Volume I, pp. 5-15 - 5-18.

[34] Exhibit 1, Volume IV, p. 1-3; Proposed Certificate Conditions, p. 9.

[35] Exhibit 1, Volume I, p. 5-19.

[36] Exhibit 1, Volume I, p. 5-15; Volume IV, p. 1-3; Proposed Certificate Conditions, p. 9.

[37] Exhibit 1, Volume IV, p. 1-4, Proposed Certificate Conditions,

KeySpan's Glenwood Power Station in Glenwood Landing, New York (NO_x) and 3M Corporation in Bristol, Pennsylvania (VOCs).[38]

2. New Source Performance Standards

Federal New Source Performance Standards (NSPS) are technology-based and are applicable to new and modified stationary sources. Two subparts of these standards are applicable: Standards of Performance for Stationary Gas Turbines (40 CFR Part 60, Subpart GG) and Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978 (Subpart Da). Subpart GG limits flue gas concentrations of NO_x to 75 ppm and SO_2 to 150 ppm (or 0.8% sulfur in fuel). The proposed facility's emissions are below these thresholds. Monitoring of fuel sulfur and nitrogen content is also part of these regulatory requirements.[39]

The heat recovery steam generator (HRSG) duct burners are subject to an emissions limit of 0.03 lb/mmBtu for particulate matter, 0.20 lb/mmBtu for SO_2 and 0.15 lb/mmBtu for NO_x. The Applicant's proposed emissions are below these thresholds.[40] Subpart Da also limits opacity and contains monitoring requirements.[41]

3. NYSDEC Regulations and Policy

Part 202-1 of 6 NYCRR provides that DEC may require stack testing by a permittee, and DEC is likely to require this action. Part 202-2 requires permittees to submit annual emission

---

p. 9; Exhibits 12 and 13.

[38] 6 NYCRR § 231-2.6.

[39] Exhibit 1, Volume IV, p. 3-1; 40 CFR Part 60, Subpart GG.

[40] Exhibit 1, Volume IV, pp. 3-1 - 3-2; 40 CFR Part 60.42a, Part 60.43a, Part 60.44a(1).

[41] Exhibit 1, Volume IV, p. 3-2; 40 CFR Part 60.42a, 40 CFR Part 60.47a, 40 CFR Part 60.11(c) and 40 CFR Part 60.46a.

statements for VOCs and NO_x, and KeySpan will make those reports as required. Part 211.3 provides opacity limits for sources of air pollution; however, Part 227-1.3 sets more stringent limits for stationary combustion units, and it is the latter limits that will apply to the proposed facility.[42] The Applicant has agreed to install a continuous opacity monitor.[43] Part 225-1 regulates sulfur content of fossil fuels. The proposed facility is subject

[42] Exhibit 1, Volume IV, p. 3-3.

[43] Part 624 Issues Ruling (April 18, 2001); Proposed Certificate Conditions, p. 9.

to a 0.04 percent sulfur distillate requirement.[44] Part 227-1.2 sets a 0.10 lb/mmBtu particulate limit for oil-fired stationary combustion installations with a maximum heat input capacity exceeding 250 mmBtu/hr.[45] Part 227-2 sets reasonably available control technology (RACT) requirements for NO_x, but because the NO_x emissions limits under LAER are more restrictive, these are not applicable except for the record keeping and reporting requirements.[46]

New York State is part of the Ozone Transport Commission (OTC) that, among other things, adopted an agreement requiring signatory states to develop region-wide NO_x emissions reductions in 1999 and 2003. This program sets a cap for emissions during the "ozone season," allocates emissions among sources and allows trading. New York's program is contained in 6 NYCRR Part 204. The Ravenswood facility will be part of the Phase 3 budget pool and will have allowances allocated to it according to a formula applied to other sources. In addition, the facility will identify a Designated Representative who will maintain a NO_x Allowance Trading Account. Additionally, KeySpan will be subject to monitoring requirements, and, because the facility is also subject to such requirements for compliance with 40 CFR Part 75 under the Acid Rain program, the same technology will be utilized.[47]

4. Acid Rain Permit; Title V Requirements; CAA §112 Requirements

KeySpan has applied for a Clean Air Act Title IV Acid

[44] Exhibit 1, Volume IV, p. 2-2; Proposed Certificate Conditions, p. 9; Permit Condition 51.

[45] Exhibit 1, Volume IV, p. 3-3.

[46] Exhibit 1, Volume IV, p. 3-3.

[47] Exhibit 1, Volume I, p. 5-20.

Rain and a Title V Operating Permit and has agreed to operate the proposed facility pursuant to the requirements associated with those permits. In addition, the Applicant will utilize aqueous ammonia at a concentration of less than 20%, which is below the threshold that would subject it to CAA §112 requirements for a risk management plan.[48]

5. Environmental Justice Analysis

As part of its application for PSD conditions, the Applicant performed an environmental justice analysis. KeySpan determined that there exists a Community of Concern adjacent to the facility. However, the results of the cumulative impact assessment performed by the Applicant, which added emissions from the existing Ravenswood plant and the proposed facility to background concentrations and then compared the resulting emissions with the NAAQS, indicated no contravention of those standards. Accordingly, the Applicant concluded that there would be no disproportionate or adverse impacts associated with the construction and operation of the facility on the residents of the Community of Concern.[49]

6. DEC's Permitting Process

As part of the proceedings in this case, DEC conducted a legislative hearing jointly with the Article X public statement hearing, and an issues conference jointly with the Article X prehearing conference. In her Issues Ruling of April 18, 2001, Associate Examiner Goldberger described those proceedings and discussed DEC Staff's remaining concerns regarding the facility and the petition of the Borough of Queens for party status and an adjudicatory hearing. All of the differences between DEC Staff and the Applicant have been resolved, as set forth in the letters

[48] Joint Stipulations, pp. 7-8.

[49] Exhibit 1, Volume IV, Appendix 5F.

of the Applicant and DEC Staff to Associate Examiner Goldberger dated April 27, 2001, and as indicated in the Joint Stipulations. With respect to the Borough of Queens, as set forth in the April 18, 2001 ruling, DEC found no adjudicable issues. Rather, DEC found that the Applicant had properly evaluated all air quality impacts and had committed to the appropriate controls.

7. Construction Emissions

KeySpan examined the potential impact of air emissions from construction activities. Because there will be no road closures or detours resulting from this work, no analysis was required for this aspect. Construction vehicles will emit criteria pollutants but impacts are expected to be minimal because there will be no demolition and relatively little clearing required. In addition, the site is largely paved, thereby minimizing dust.[50]

8. Non-Criteria Pollutants

The Applicant performed an analysis of impacts of non-criteria pollutants with guidance from the Department of Health. Tables 5.22 and 5.23 of Exhibit 1 present the results of the non-criteria pollutant modeling with comparisons to DEC's short-term and annual guideline concentrations. The analysis shows that none of the potentially emitted non-criteria pollutants from the proposed facility are near or above those concentrations.[51]

9. Recommended Findings

With respect to air quality, the record demonstrates that the proposed facility would minimize adverse environmental impacts considering the interest of the state, as required by PSL §168(2)(c)(i), and that the proposed facility is compatible with

[50] Exhibit 1, Volume I, pp. 5-56 - 5-57.

[51] Exhibit 1, Volume I, §5.5.

the public health and safety pursuant to PSL §168(2)(c)(ii). The record further demonstrates that the proposed facility would not emit any pollutants in contravention of applicable air emission control requirements or air quality standards, as required by PSL §168(2)(c)(iv). Finally, as required by PSL §168(2)(d), the proposed facility is designed to operate in compliance with applicable state and local laws and regulations concerning the environment, and public health and safety.

B. Water Resources

1. The Federal Clean Water Act and ECL Article 17

Under Article X, the Siting Board must make findings specifically with regard to the impact of construction and operation of the proposed facility on water resources and aquatic wildlife.[52] Generally, these findings subsume compliance with the federal Clean Water Act and the ECL.

The purpose of the Clean Water Act (CWA)[53] is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters."[54] To accomplish this goal, the CWA authorizes the development of national water quality standards and establishes a permit program referred to as the

[52] Applicable here are the required findings on the nature of the probable adverse and beneficial effects on water quality, fish, and other marine life, (PSL §168(2)(b)); and the required finding that the facility minimizes adverse environmental impacts, considering the state of available technology with respect to fish and wildlife and other pertinent considerations (PSL §168(2)(c)(i)), and will not discharge any effluent that will be in contravention of the standards adopted by DEC, or in case no classification has been made of the receiving waters associated with the facility, will not discharge any effluent that will be unduly injurious to the propagation and protection of fish and wildlife (PSL §168(2)(c)(iii)).

[53] 33 USC §§1251 to 1387, formally known as the Federal Water Pollution Control Act (FWPCA).

[54] 33 USC §1251(a).

National Pollutant Discharge Elimination System (NPDES) program. The U.S. Environmental Protection Agency (EPA) administers the NPDES permit program. This program regulates the daily wastewater discharges from a facility.

The CWA also provides for the delegation of the national permit program to the states.[55] Under the delegation, EPA suspends its issuance of permits, but retains residual enforcement authority and may oppose the decision by a state to grant a permit. Since 1975, New York has had a federally approved permit program, established pursuant to ECL Article 17, Title 8,[56] to control wastewater and storm water discharges to the state's surface and ground waters. DEC administers the SPDES program, consistent with the requirements of the CWA.[57]

A number of state and federal regulations apply to the wastewater discharges from the proposed facility. First, there are regulations relating to the classification of the receiving water body. As authorized by ECL §17-0301, DEC has classified the state's water bodies based on their best usage and the degree of purity. The classifications are defined in 6 NYCRR Part 701 (Classifications - Surface Water and Groundwaters).[58]

Second, there are state regulations prescribing the water quality standards, which are set forth in 6 NYCRR Part 703 (Surface Water and Groundwater Quality Standards and Groundwater Effluent Standards). The applicability of these standards depends on the classification of the receiving water body.[59]

---

[55] 33 USC §1342(b); 40 CFR Part 123.

[56] Water Pollution Control - State Pollutant Discharge Elimination System (SPDES).

[57] The regulations that implement the SPDES program are 6 NYCRR Parts 750-758.

[58] The classification of each stream, lake and all other surface water bodies in the state, arranged by drainage basin, is presented in 6 NYCRR Parts 899-941.

[59] Water quality standards relate to parameters that may include

Third, the concentration of pollutants in wastewater discharges must comply with the effluent limitations outlined in 6 NYCRR §754.1. Effluent limitations are different from water quality standards. As explained above, water quality standards relate to the existing concentration of a parameter in a given water body with a specified classification. Effluent limitations, however, limit the concentration of a pollutant at the point of discharge. Most effluent limitations are set forth in federal regulations. The applicable effluent limitations for the proposed facility are outlined in 40 CFR Part 423 (Steam Electric Power Generating Point Source Category).[60]

Fourth, the applicable criteria governing the thermal discharge from the proposed facility are outlined in 6 NYCRR Part 704. Pursuant to §704.1, all thermal discharges must assure the protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife in and on the water body.

2. Discharges to the East River

Currently, cooling water discharges from Ravenswood Generating Station Outfall 001, including the wastewater discharges from Outfalls 001A, 001B and 001C, meet the discharge limits found in the existing SPDES permit and will not cause the

---

color, turbidity, temperature, and acidity/alkalinity (pH), as well as the concentration of individual chemicals that may be present in water. Each parameter has a unique water quality standard that specifies the maximum amount, or concentration, of that parameter that may be present in a water body given its classification.

[60] For new electric generating facilities, 40 CFR §423.15 limits the pH of the discharge to a range of 6.0-9.0 (§423.15(a)), prohibits the discharge of PCBs (§423.15(b)), sets effluent limits for total suspended solids (TSS) as well as oil and grease (§423.15(c)), limits the discharge of 126 priority pollutants that may be added for cooling tower maintenance (§423.15(j)(1)), and limits the amount of free available chlorine and total residual chlorine that may be discharged (§423.15(j)(2)).

East River, classified as Class I waters, to violate water quality standards. There will be no changes to the existing outfalls, and thus no changes to permit limits are required due to the operation of the proposed facility. After the proposed facility begins operating, the combined process wastewater discharge from the existing plant and the new facility will average 92,200 gallons per day (gpd) and will peak at approximately 279,400 gpd. The change in flow above the current permitted flow results from wastewater associated with boiler blowdown and minor process waste streams. This increase in flow will be less than 0.02% of the current flow.

The proposed facility will operate within the thermal discharge limits set forth in the SPDES permit for Ravenswood Generating Station Outfall 001 (cooling water discharge canal) and will not cause water quality violations.[61] All thermal discharges to the waters of the state will assure the protection and propagation of a balanced, indigenous population of shellfish, fish, and wildlife in and on the body of water.[62]

New waste streams that require modification of the SPDES permit will be consolidated into Outfall 01D and will be discharged into the East River through Outfall 001. The waste streams will include oil-water separator effluent, boiler blowdown, granular filter backwash, neutralized ion exchange regenerant reject wastewater, air condenser fan cleaning effluent, ion exchange softening reject water, and external heat exchanger blowdown.

KeySpan has agreed to weekly monitoring at Outfall 01D that will include sampling of pH levels. Weekly monitoring will

---

[61] Exhibit 1, §7, p. 7-1.

[62] 6 NYCRR §704.1(a) allows a mixing zone of 60 acres in which the receiving temperature of the water may exceed 90 degrees due to the discharge. This increase in temperature in the mixing zone has been determined by DEC to conform to the §704 requirements while accommodating the discharge.

assure that there is compliance with New Source Performance Standards for the Steam Electric Power Generating Point Source Category provided in 40 CFR §423.15. This federal regulation requires that the Best Practicable Control Technology Currently Available (BPTCA) applies. The standards that will govern the proposed facility pursuant to these regulations are set forth in Exhibit 1, Volume I, pages 7-15 - 7-16. The addition of this outfall does not require any other modifications to the existing SPDES permit.[63]

Non-thermal components of the discharge from the facility are also regulated pursuant to the water quality criteria in 6 NYCRR Part 703. Exhibit 1, Volume I, Table 7.3 sets forth the numerical criteria for pollutants expected to be discharged from the facility. Attachment A to the letter of February 16, 2001 from counsel for KeySpan to Associate Examiner Goldberger provides the revised KeySpan water balance diagrams, including the designation of monitoring locations.[64]

Washdown water reaching the discharge canal via building floor drains will first pass through an oil/water separator and will not exceed SPDES permit limits on oil and grease.[65]

3. Sanitary Discharge to DEP Sewage Treatment Plant

KeySpan has projected that sanitary wastewater generated on-site would be 2,880 gallons per day and this will be routed to the New York City sewer system that ultimately flows to the New York City Department of Environmental Protection's Bowery Bay Water Pollution Control Plant.[66]

---

[63] Exhibit 1, Volume I, §7.7.

[64] Exhibit 28.

[65] Exhibit 1, Volume I, §3.5.3(b).

[66] Exhibit 1, Volume I, p. 7-50.

4. Water Use

Because the proposed facility would use an air-cooled condenser for steam turbine thermal cycle cooling, no water will be required for cooling and only small amounts of process water will be required for facility operations. Potable water will be used for export steam generation, heat exchange within the combined cycle unit, general service water within the proposed facility, and sanitary water supply. The maximum amount of city water for export steam production is 2,082 gpm and for operation on kerosene is 370 gpm.[67] This water will be supplied to the facility by the New York City water supply system, and no intake water from the East River will be required, so there will be zero entrainment and impingement.[68] Potable water will be lost to evaporation, discharged to the City's sanitary sewer, or discharged to the East River.[69]

5. Site Development Controls

As the proposed facility site is a brownfield and contains contaminated soils, excavation will be performed to limit exposure of such soils. The Applicant will develop an Environmental, Health and Safety Plan to prevent contaminant exposure and migration during construction.[70]

6. Stormwater and Spill Management

The current Ravenswood Generating Station exists on fairly flat land with an elevation of about 15 feet above sea level. Water drains from the existing parking lot area and also

[67] Exhibit 1, Volume I, §3.6, p. 3-33.

[68] Joint Stipulation, Surface Water and Aquatic Resources, p. 3.

[69] Exhibit 1, Volume I, §7.5.3(a).

[70] Exhibit 1, Volume I, §6.5.2.

from ditches and culverts to the East River. As the site is largely paved, the construction of the proposed facility is not expected to add much in impervious coverage. The Applicant proposes to direct uncontaminated stormwater from roofs, roads, parking lots and general site areas to the existing discharge canal through outfall 001C.[71] During construction, sediment and erosion control measures such as silt fences and hay bales will be used to minimize construction runoff. The Applicant has agreed to submit a Notice of Intent to comply with DEC's SPDES General Permit for Storm Water Discharges During Construction.[72] Appendix 3D of the application provides a copy of the Preliminary Grading and Drainage Plan and Preliminary Soil Erosion and Sediment Control Plan.[73] The existing stormwater plans will be amended to reflect the new facility.

Plant personnel will receive appropriate training to address these and other related matters such as emergency response to hazardous materials. Areas of the facility where oil or hazardous materials are routinely stored, processed or transferred will be devised to prevent spills, and secondary containment will be utilized towards this end.[74] In addition, the Applicant will submit a Spill Prevention Control and Countermeasures plan as part of the compliance filing, to assure water quality protection pursuant to the Clean Water Act and the Environmental Conservation Law.[75]

7. Coastal Zone Management

In 1977, the Federal Coastal Zone Management Act was passed to encourage and assist state government to prepare and

[71] Exhibit 1, Volume I, §7.5.3(b).

[72] Joint Stipulation, Surface Water and Aquatic Resources, p. 4.

[73] Exhibit 1, Appendix 3D.

[74] Exhibit 1, Volume I, §3.6.8, pp. 3-48 - 3-50.

[75] Joint Stipulation, Surface Water and Aquatic Resources, p. 4.

implement programs to preserve, protect, develop, and where possible, restore and enhance the resources of the nation's coastal zone. New York State's Coastal Zone Management Program was established in 1981 by the Water Revitalization and Coastal Resources Act (Article 42 of the Executive Law) and is administered by the New York State Department of State (DOS). This program is based upon 44 policies that cover development, fish and wildlife, flooding and erosion, public access, recreation, historic resources, visual quality, agriculture, energy and ice management and water and air resources. Article 42 of the Executive Law requires that state agency actions within the coastal zone be consistent with these policies or a State-approved Local Waterfront Revitalization Program (LWRP). New York City's LWRP was approved in 1982 but has undergone amendment that is awaiting approval by DOS. The plan for the Queens Waterfront is a part of New York City's Comprehensive Waterfront Plan. This plan identifies four functions of the waterfront: natural, working, public and redeveloping. There is also a Manhattan Waterfront Plan that recommends plans for enhancing waterfront access.

Because the proposed facility is located along the East River in Long Island City, Queens, the application contains an analysis of the facility's consistency with the policies of the New York State Coastal Management Program and New York City's 1982 LWRP. A Coastal Policies Consistency Statement provides that the facility is in compliance with these programs.[76]

Specifically, the project will redevelop an underutilized area for an industrial use (policy 1); and develop a public service in a brownfield area that utilizes existing infrastructure (policy 5). The facility will be sited to minimize potential effects from coastal erosion and flooding (policy 11); the facility will not impact cultural or historic

[76] Exhibit 1, Volume I, §4.4.3, p.4-34; Appendix 4A.

uses (policy 23); and this Article X process has ensured that the permitting of this facility would be consistent with policy 27 requiring siting of such facilities be based on public energy needs. There will be compatibility with the environment; stormwater controls will prevent direct discharge of stormwater to coastal waters as a result of construction or operation of the facility (policy 33); shipment and storage of petroleum and other hazardous materials will be handled in a manner so as to minimize potential for environmental effects (policy 36); and operation of the facility will not cause a violation of State and federal air quality standards (policies 41 and 43). With respect to the local plans, the Applicant has demonstrated that the project does not preclude or conflict with their recommendations.

8. Recommended Findings

The required modification to the Ravenswood SPDES permit will not result in significant increased discharges to the East River. Because the proposed facility will not withdraw water from the River for cooling, impacts of entrainment and impingement are eliminated. The Applicant has agreed to measures to minimize impacts from stormwater related to construction and from any spills from potential contaminants. Accordingly, the proposed facility minimizes adverse environmental impacts to aquatic resources of the state as required by PSL §168(2)(c)(i), and the proposed facility is compatible with public health and safety pursuant to PSL §168(2)(c)(ii). The record demonstrates that the proposed facility would not contravene either any applicable water quality standards or be inconsistent with applicable regulations of DEC, as required by PSL §168(2)(c)(iii). And, pursuant to PSL §168(2)(d), the proposed facility is designed to operate in compliance with applicable state and local laws and regulations related to water resources, as well as public health and safety.

C. Other Environmental Issues

1. Terrestrial Biology

This section considers the potential environmental impacts associated with the construction of the proposed facility on the plants and wildlife. The discussion identifies the applicable legal requirements and ecological resources, and then discusses the potential impacts to plants and wildlife.

a. Legal Requirements

Under PSL Article X, the Board must make findings specifically with regard to the impact of construction and operation of the proposed facility on the environment, ecology and wildlife.[77] These findings subsume compliance with applicable state and federal laws and regulations related to the protection of (1) threatened or endangered plant and wildlife species,[78] (2) freshwater wetlands, and (3) coastal resources.[79]

The federal Endangered Species Act protects certain species of plants and wildlife. ECL §11-0535 enables New York to enforce the endangered and threatened species lists maintained by the Secretary of the Interior, as well as New York's lists set forth in 6 NYCRR §182.6. A list of protected plants is provided in 6 NYCRR §193.3. Since there are no endangered or threatened species on the proposed facility's site,[80] there would be no related impact.

b. Ecological Resources

The proposed facility's site consists of a 2.5 acre parcel within a larger site with a long history of industrial use. There are no known records of occurrences of rare, threatened, or endangered species at that site, and existing

[77] Applicable here are the required findings on the nature of the probable adverse and beneficial effects on the normal environment, ecology, and wildlife (§168(2)(b)); and that the facility minimizes adverse environmental impacts with respect to wildlife" (§168(2)(c)(i)).

[78] 16 USC §§1531-1544 (U.S. Endangered Species Act), ECL §9-1503 (Removal of Protected Plants), ECL §11-0535 (Endangered and Threatened Species), and implementing regulations outlined, respectively, in 50 CFR Part 17 (Endangered and Threatened Wildlife and Plants), 6 NYCRR Part 193 (Trees and Plants), and 6 NYCRR Part 182 (Endangered and Threatened Species of Fish and Wildlife; Species of Special Concern).

[79] Compliance with the federally approved state coastal management plan is discussed above.

shoreline conditions--bulkhead along the shoreline of the Ravenswood site and riprap on the opposite shoreline at Roosevelt Island--preclude tidal wetland impact along that section of the East River.

KeySpan has agreed to conditions requiring it to engage in best management practices to control erosion and sedimentation. Moreover, the Applicant has agreed to minimize the amount of fugitive dust that will occur during construction.

c. Recommended Findings

On the basis of the foregoing, the proposed facility will not have any adverse ecological impacts because it would not disturb wetlands, wildlife habitats, forests, or other natural areas. In addition, the proposed facility would not adversely affect any endangered or threatened plant or animal species. Therefore, the proposed facility would minimize adverse environmental impacts considering the interest of the state with respect to forest, parks, and wildlife in compliance with PSL §168(2)(c)(i).

Furthermore, construction and operation of the proposed facility would have no adverse impacts on resources regulated by state and local laws that protect biological resources and vegetation, such as the Fish and Wildlife Law, the Natural Heritage Program, the Listing of Protected Plants, and the federal Endangered Species Act. Pursuant to PSL §168(2)(d), the Project would comply with applicable state and local environmental laws and regulations.

2. Soils, Geology, Seismology and Agricultural Lands

a. Application and Stipulation

Section 6 of the application (Exhibit 1) describes the existing characteristics of geology and seismology of the site, and evaluates the potential impacts and design considerations

[80] Exhibit 1, Volume II, §9.2.1; Exhibit 1(9A).

associated with those characteristics.[81] Although geological and other earth resource characteristics do not generally trigger specific regulatory measures, the Siting Board is required to find whether the Project would minimize environmental impacts with respect to soils, geology and seismology.[82]

The area of disturbance for the proposed facility includes a surface layer of asphalt or bluestone with underlying fill material consisting of large boulders, cobbles, concrete rubble, brick, wood, cinders, and metal debris. The soil consists primarily of low plasticity silt, sandy silt, and sand,[83] and the bedrock type is Ravenswood Gneiss.[84] The soil and bedrock conditions described in the application will support construction of the proposed facility.[85]

Queens County is located within Seismic Zone C, which applies to a region of intermediate seismic hazard.[86] The region is an area of low earthquake frequency. Nevertheless, in accordance with the New York State Building Code, the proposed facility will be designed to withstand the expected effects of a seismic event with an effective peak acceleration of 0.15 g.[87]

As described by the Examiners in another recent Article X proceeding, "a tsunami is considered to be a low risk

---

[81] Related materials are set forth in Exhibits 1(1E), 1(6A), and 10.

[82] PSL §168(2)(b), and 16 NYCRR §1001.3(b). The PSL also requires the Siting Board to find that a proposed facility would minimize potential adverse impacts to viable agricultural lands. Viable agricultural lands are not located in the vicinity of the proposed facility's site.

[83] Exhibit 1, Volume I, §6.4.1.

[84] Exhibit 1, Volume I, §6.3.1.

[85] Exhibit 1, Volume I, §6.5.

[86] Exhibit 1, Volume I, §6.2.3.

[87] Exhibit 1, Volume I, §§6.2.3 and 6.5.1.

phenomenon along the east coast of the United States."[88] The elevation of the proposed facility's site is about 15 feet above sea level, and is located along the East River, which is several miles inland from the exposed shoreline that would more likely be impacted by a tsunami.

The Applicant provided an evaluation of site conditions resulting from the former operation on the site of a manufactured gas plant. Those conditions are characterized as residual impacts from historical release of petroleum-related fuels and oils. DEC has agreed with the Applicant that site remediation can proceed under the state's Voluntary Cleanup Program. The parties have agreed to certificate conditions XII.A and XII.C, which provide that (1) construction of the proposed facility will be conducted in accordance with an approved remedial action work plan addressing management and disposal of excavated materials, and (2) an environmental, health and safety plan will be developed to prevent potential contaminant exposure and migration during construction.[89]

Finally, the Applicant has agreed to conditions XII.E and XII.F. Condition XII.E provides that project construction and blasting, if required, will proceed according to applicable regulations, including those of the federal Bureau of Alcohol, Tobacco and Firearms and the federal Occupational Safety and Health Administration; the Federal Fire Code, New York State Code 39, and New York City Building Code; and the Rules of the City of New York.[90] Condition XII.F provides that storage of explosives, if any, will comply with state Department of Labor requirements, and provides further that transportation of explosives, if any,

---

[88] Case 99-F-1314, supra, Recommended Decision (issued June 28, 2001), pp. 136-137.

[89] Exhibit 1, Volume I, §6.5.2.

[90] Exhibit 1, Volume I, §6.5.3.

would comply with state Department of Transportation requirements and would follow a delivery routing plan that will be reviewed by New York City officials prior to delivery.

b. Recommended Findings

As conditioned, the proposed facility would minimize adverse environmental impacts and would be compatible with public health and safety as required by PSL §168(2)(c)(ii). In addition, the record shows that the proposed facility is designed to operate in compliance with applicable state and local laws and regulations concerning the environment, and public health and safety as required by PSL §168(2)(d).

3. Visual and Cultural Resources, and Aesthetics

PSL Article X requires the Siting Board to find that the proposed facility "minimizes adverse environmental impacts, considering the state of available technology, . . . the interest of the state with respect to aesthetics, preservation of historic sites, . . . and other pertinent considerations."[91] In addition, New York's Parks, Recreation and Historic Preservation Law (PRHPL) includes provisions relating to approval of a private project by a state agency, "if it appears that any aspect of the project may or will cause any change, beneficial or adverse, in the quality of any historic, architectural, archeological, or cultural property that is listed on the national register of historic places or property listed on the state register, or is determined to be eligible to be listed on the state register by the commissioner [of Parks, Recreation, and Historic Preservation.]"[92] The proposed facility's potential visual impacts, its potential impacts to historic, architectural, archeological and cultural resources, and the Applicant's

[91] PSL §168(2)(c)(i).

[92] PRHPL §14.09.

proposals to minimize potential adverse impacts are discussed in turn.

a. Potential Visual Impacts

The external changes to the Ravenswood Generating Station following construction of the proposed facility would be minimal. The new cogeneration plant would appear as an extension of the existing plant, as its turbine building and exhaust stack would be similar, in terms of scale, form, and color, to existing plant structures and would be adjacent to them. Electric and gas transmission interconnections would be consolidated with existing facilities. From nearby neighborhoods in Queens, the east side of Manhattan, and Roosevelt Island, the proposed facility would appear as an extension to the existing plant and would not affect existing urban design elements in those areas. Moreover, because of the distance between the proposed facility's site and the sites of facilities proposed by other Article X applicants and the presence of intervening urban features, the proposed facility's construction would not result in adverse cumulative visual impacts. And projections of combustion plume frequency, height, and length under various conditions suggest that the visual impacts of potential plumes would be minimal.[93]

KeySpan has proposed further mitigation of potential visual impacts by agreeing to submit, as part of its compliance filing, a detailed lighting plan. The plan will include (1) measures to prevent off-site glare from exterior area lights by using full cut-off fixtures; (2) use of task-lighting; (3) a demonstration that illumination design conforms to worker safety requirements for work-area lighting while minimizing off-site lighting impacts; and (4) a report on the feasibility of synchronizing the flashing of aviation warning lights on the new and existing exhaust stacks.[94] The Applicant has also committed

[93] Exhibit 1, Volume II, §§10.2, 10.2.2, 10.2.3, and 10.4; Exhibits 1(10), 2C, and 3.

[94] Exhibit 1, Volume II, §10.2.2.

to evaluate (with the city Department of Parks and Recreation) the feasibility of additional tree plantings at nearby P.S. 76.

b. Potential Impacts to Cultural Resources

The application includes a cultural resource assessment. The assessment identifies historic architectural resources within one mile of the proposed facility's site that are listed on the State or National Registers of Historic Places, and suggests that no resources listed on those registers would be adversely affected, either directly or indirectly, by construction or operation of the proposed facility.[95] The assessment also documents, on the basis of prior disturbances at the proposed facility's site, the lack of potential archeological resources.[96] KeySpan has agreed to follow an Unanticipated Discovery Plan, submitted as an appendix to the application, to provide protection to cultural resources that might be encountered during construction.[97]

c. Recommended Findings

The proposed facility's potential visual and cultural impacts, mitigated as described above, are minimal and would comply with the requirements of PSL Article X and other applicable laws and regulations.

D. Public Health and Safety

1. Traffic Impacts

The application sets forth a description of existing traffic conditions near the proposed facility's site and an assessment of the impacts of the proposed facility's construction and operation on traffic, parking, and public transportation.

The description of existing traffic conditions focused on key local streets and five intersections along Vernon

[95] Exhibit 1, Volume II, §11.4; Exhibits 2C and 11.

[96] Exhibit 1, Volume II, §11.3; Exhibit 2C.

[97] Exhibit 1, Volume II, §11.5; Exhibits 1(11A) and 2C.

Boulevard, namely, at the site driveway, and 36th, 37th, 40th,and 41st Avenues. The Applicant relied on state Department of Transportation (DOT) traffic data, manual turning movement counts, and automatic traffic recorder counts. DOT's traffic accident data showed that, from 1996 through 1999, 58% of the traffic accidents along Vernon Boulevard between 36th and 41st Avenues involved injuries and damages worth less than $1,000, and that there were no traffic fatalities. The intersection capacity analysis showed that each of the studied intersections operates, overall, at an acceptable level of service (LOS), that is, an LOS of "C" or better. The analysis showed, however, that delays were encountered by northbound traffic on Vernon Boulevard at 36th Avenue and westbound traffic on 40th Avenue during afternoon/evening peak travel periods. Local police and fire department representatives indicated that there are no established routes for emergency vehicles in the traffic study area. [98]

During the period of peak construction activity, 350 construction workers would arrive at the proposed facility's site between 6:30 a.m. and 7:00 a.m. and depart between 3:00 p.m. and 3:30 p.m. Those arrivals and departures would coincide in part with peak morning and afternoon commuter hours. The applicant assumed that half of the construction workers would use personal automobiles instead of public transportation.[99] An LOS analysis suggests that delays for westbound traffic on 40th Avenue would continue during afternoon/evening peak periods, although those delays might be mitigated by the operation of traffic signals at the intersections of Vernon Boulevard and 36th and 40th Avenues.[100] Construction delivery trucks, when used,[101] usually would arrive

[98] Exhibit 1, Volume II, §§13.2.3 - 13.2.6; Exhibits 1(13E) and 1(1H).

[99] Exhibit 1, Volume II, §13.3.3; Exhibit 1(1H).

[100] Exhibit 1, Volume II, §13.3.3.

[101] Some equipment deliveries would be made by barge (Exhibit 1, Volume II, §13.5).

at or depart from the site during non-peak periods, and would not have a significant impact on traffic conditions in the area.[102] Once the proposed facility began operations, there would be 25 additional employees at the site, with no resulting impact on traffic.[103]

The Applicant's parking survey, conducted in March 2000, showed that in the morning there were sufficient available parking spaces on the street (100 spaces) and in a garage on Roosevelt Island (500 spaces) to accommodate the number of construction workers expected to use their own vehicles.[104] Once the proposed facility began operations, there would be adequate parking at or near the site for both current and new employees.[105] No significant impacts on the operation of mass transit systems are expected from either construction or operation of the proposed facility.[106]

2. Noise

The Applicant performed an assessment of the proposed facility's noise impacts that compares existing noise levels to those anticipated from the facility's construction and operation. To obtain a spatial representation of ambient noise, sound receptors were placed at Roosevelt Island opposite the facility site; Vernon Boulevard at 36th and 40th Avenues; and P.S. 76 on 37th Avenue between 9th and 10th Streets. The survey showed existing late night noise levels ranging from 51 decibels on the A-weighted scale (dBA) to 58 dBA for 90% of the times when

---

[102] Exhibit 1, Volume II, §13.3.3; Exhibit 1(1H).

[103] Exhibit 1, Volume II, §13.3.5; Exhibit 1(1H).

[104] Exhibit 1, Volume II, §13.6; Exhibit 1(1H).

[105] Exhibit 1, Volume II, §13.6; Exhibit 1(1H).

[106] Exhibit 1, Volume II, §13.4; Exhibit 1(1H).

measurements were taken ("L_{90}," which is indicative of ambient noise).[107]

In general, construction noise would be lower than ambient daytime noise levels, and construction traffic noise would be minimal due to the relatively small increase in construction workers' travel and construction deliveries.[108] Construction noise would be mitigated by proper equipment maintenance and mufflers. Outdoor construction activity would occur between 7:00 a.m. and 6:00 p.m. Indoor activities could be conducted during other hours, provided that they did not generate noise exceeding city standards. Construction deliveries would be limited to the daytime, with the possible exception of oversize deliveries that would occur in off-peak hours pursuant to a city Department of Transportation permit.

The proposed facility would be designed so that operational noise levels would be below 55 dBA at any residential zones and below 70 dBA at any industrial zones.[109] KeySpan and the other parties to the joint stipulations have agreed, and urge the Siting Board to conclude, that (1) the proposed facility should be subject to Title 24, Chapter 2 of the New York City Administrative Code (the Noise Code), and that (2) New York City should be granted the jurisdiction and authority to enforce the Noise Code consistent with the terms of the joint stipulations regarding noise issues.[110] Amendments to the Noise Code applicable to the proposed facility would also be enforced by the

---

[107] Exhibit 1, Volume II, §12.2; Exhibit 2F.

[108] Exhibit 1, Volume II, §§12.5.2 and 13.3.3.

[109] Exhibit 1, Volume II, §12.6.1; Exhibit 2F.

[110] The Siting Board in Case 99-F-1314 determined that a demonstration of compliance with Noise Code standards would satisfy the evidentiary requirements of PSL Article X with respect to this issue. Case 99-F-1314, supra, Order Concerning Interlocutory Appeals, p. 21.

City, except that the KeySpan-Ravenswood, Inc. could petition the Siting Board within 90 days after enactment of an amendment seeking a stay of the amendment and/or a finding that the amendment is unreasonably restrictive pursuant to PSL §168(2)(d).[111]

3. Recommended Findings

The record demonstrates that the proposed facility would minimize any adverse environmental impacts associated with facility-related traffic. With the implementation of the proposed certificate conditions discussed above, potential noise impacts related to the construction and operation of the proposed facility would be minimized, as required by PSL §168(2)(b) and §168(2)(c)(i). Accordingly, the proposed facility would be compatible with public health and safety pursuant to PSL §168(2)(c)(ii).

E. Land Use and Local Laws

1. Generally

The proposed facility would be located within a complex of existing power generation and support facilities on a property that has been used for energy production since 1898.[112] The project site is in the City's M3-1 Zone, which accommodates heavy industrial uses including electric generation. The proposed facility will comply with both the bulk requirements and the performance requirements of M3-1 zoning.[113] The proposed facility would not conflict with the development plans, recommendations, or community requests presented in the Plan for Long Island City or the District Needs Statement for Community District #1 in

[111] The parties' agreement contemplates that the Siting Board would act on such a petition within 180 days of its filing.

[112] Exhibit 1, Volume I, §4.1.

[113] Exhibit 1, Volume I, §4.3.1.

Queens.[114] Moreover, as discussed earlier, the proposed facility would be consistent with state coastal zone management policies and the Plan for the Queens Waterfront.[115] And the Applicant has agreed to certificate conditions requiring it and its corporate parent, KeySpan Corporation, to assure funding for decommissioning and for site restoration in the event that construction is begun but not completed.[116]

The proposed facility could require various permits and approvals under local regulations issued by the City of New York and its agencies. Such approvals could include building permits, street excavation permits, street closure permits, permits for structural welding, permits under the City Fire Code, permits for the use and supply of water, and permits to discharge wastewater and stormwater into the sewer system. The Applicant has requested the Siting Board to exercise its authority, pursuant to PSL §172(1), to authorize the appropriate municipal agencies to issue the permits and approvals required under local law for the proposed facility, as specified in the application[117] with one exception discussed below. The City agencies in question could include the Fire Department and the Departments of Buildings, Transportation, Environmental Protection, and Business Services.

2. New York City Air Code

As noted earlier in the section of this decision discussing air quality issues, DEC prepared a draft air permit for the proposed facility, two issues conferences concerning the draft permit were held, and the Associate Examiner has issued a ruling holding that there were no adjudicable air permit

[114] Exhibit 1, Volume I, §4.2.5.

[115] Exhibit 1, Volume I, §4.4; Exhibit 1(4A).

[116] Proposed Certificate Conditions VII.A and VII.B.

[117] Exhibit 1, Volume I, §1.9.2, as modified by Exhibit 33.

issues.[118] The parties to the joint stipulations expressly agreed that the proposed facility should not be held subject to the requirements of the New York City Air Code (New York City Administrative Code §24-120 et seq.) to the extent that the code would require the proposed facility to obtain an air permit from the City's Department of Environmental Protection (DEP). The parties were authorized to file post-hearing briefs addressing that provision of the joint stipulations. The City has filed a brief arguing that the Siting Board should, in effect, disapprove the provision by delegating air permitting authority to the City, pursuant to PSL §172(1), and require the Applicant to obtain a City permit. The City's position is opposed by the Applicant, DEC Staff, DPS Staff, and DOH Staff.

Although the City argues its position at considerable length, that position can be fairly summarized as follows:

a. The City Air Code includes a requirement that a new source of air emissions must conduct a cumulative air impact analysis (CAIA) that is "quite different" from analyses required by DEC. According to the City, "DEC requires a cumulative analysis only if significant impact levels ("SILS") are exceeded, and only for the specific pollutants that exceed those levels." In contrast, argues the City, DEP "requires that the analysis consider all relevant health-based NAAQS criteria pollutants."[119]

b. Thus, the City continues, the City Air Code is a local law to which the proposed facility should be held applicable pursuant to PSL §168(2)(d), unless the Siting Board finds that compliance with that law would be unreasonably restrictive.

c. And therefore, the City concludes, although it does not have the authority to require a City air permit, because of the general preemption of local permitting requirements by PSL §172(1), the Siting Board should exercise its authority under that

[118] 6 NYCRR §624.4(b)(5).
[119] The City's Initial Brief, p. 4.

> provision to delegate air permitting authority to the City.

The parties were asked to address this issue in light of the decision on interlocutory review by the Case 99-F-1314 Siting Board.[120] In that decision, the Siting Board stated as follows:

> [P]ursuant to authority granted by the federal Environmental Protection Agency (EPA) under the federal Clean Water Act and Clean Air Act, the DEC determined whether air emission and water discharge permits should be issued to power plant developers subject to PSL Article X. The Board cannot issue a certificate unless it first finds that the proposed facility will not violate applicable [DEC] regulations and water and air quality standards. The DEC permits, therefore, are a prerequisite to certification.
>
> The Siting Board must also find, as a prerequisite to issuing a certificate, that the proposed facility will minimize adverse environmental impacts (PSL §168(2)(c)(i)) and will be compatible with public health and safety (PSL §168(2)(c)(ii)). The DEC permits ensure that impacts to air and water quality are minimized and compatible with public health and safety, including imposition of appropriate control technologies and permit conditions. Consequently, the Board must accept the specific findings and conclusions of the DEC Commissioner relating to air emission and water discharge permits issued pursuant to federal delegation. In considering environmental issues that are subsumed by DEC's air and water permits, the Board must incorporate the DEC's resolution of these questions. . . .
>
> The DEC is the expert agency with the responsibility to issue permits relating to air emissions. . . . Our responsibilities do not include consideration of issues addressed in the DEC permitting process. We may consider the issuance of permits by DEC as a basis for making the findings we are required to make under PSL §168.[121]

---

[120] Case 99-G-1314, East River Generating Station, Order Concerning Interlocutory Appeals (issued June 22, 2001).

[121] Id., pp. 13-14, footnote omitted.

On brief, the City contends that the East River decision is "readily distinguishable from the instant matter," because in that case the Siting Board refused to examine, as an Article X issue, an emission type for which there are no regulatory standards. In contrast, the City asserts, "the DEP cumulative air impact analysis models sources not modeled by the State DEC to determine whether there are localized exceedences of any health-based ambient air quality standards."[122]

There is no need address the City's claims about the relative thoroughness of DEC's and DEP's permitting process, except to note that the parties opposing the City's position have raised significant doubts about the validity of those claims.[123] Since the East River decision was issued, another Siting Board has addressed itself to the matter of the role of the DEC air permitting process in an Article X proceeding:

> [T]he DEC determines what permitting issues warrant adjudication and arguments concerning such issues are ultimately considered by the DEC Commissioner alone. The DEC Commissioner's decision is final and any permits granted by the DEC Commissioner become the sole basis for all required Board findings related to such issues, including those related to predicting the probable environmental impacts, ensuring adverse environmental impacts are minimized, and evaluating whether construction and operation of the proposed facility is in the public interest. . . .
>
> As the DEC Commissioner alone will act on matters related to air and water permits, evidence on such topics is neither relevant nor material under Article X as it will not impact any findings we will make or any conclusions we will reach in this case.[124]

---

[122] The City's Initial Brief, p. 14.

[123] Thus, it appears unlikely that the City's position would have prevailed in DEC's air permit proceeding. See 6 NYCRR §624.4(c)(4).

[124] Case 98-F-1968, Ramapo Energy Limited Partnership, Order

The City would have the Siting Board authorize a duplicative review, by a delegatee under PSL §172(1), that other Boards have refused to authorize directly under PSL §168(2)(b) and (c). A fair reading of the other Boards' recent decisions leads us to the conclusion that the Board in this case is unlikely to be inclined to reach a different decision, and we will not recommend a different decision.

3. Recommended Findings

With respect to land uses, the record demonstrates that the proposed facility would minimize adverse environmental impacts considering the interest of the state as required by PSL §168(2)(c)(i), and that the proposed facility is compatible with the public health and safety pursuant to PSL §168(2)(c)(ii). The record further demonstrates that, pursuant to PSL §168(2)(d), the proposed facility is designed to operate in compliance with applicable state and local laws. The Siting Board should exercise its authority under PSL §172(1) to authorize issuance of the necessary and appropriate permits by the municipal agencies concerned, while retaining its own jurisdiction to issue any necessary permits and approvals upon petition by the Applicant.

F. Public Interest

1. Approved Procurement Process

Accompanying KeySpan's application was a "motion for declaratory ruling" to the effect that the proposed facility has been selected pursuant to an approved procurement process. KeySpan pointed out in the motion that the state Public Service Commission (PSC) has held that "[c]ompetition in the electricity supply market is an approved procurement process because it is an electric capacity procurement process approved as reasonably

---

Concerning Interlocutory Appeals from Article X Issues Ruling (issued July 25, 2001), pp. 5-6.

consistent with the 1998 State Energy Plan." The PSC went on to state that it is up to case-specific Siting Boards to determine whether particular major electric generating facilities are selected pursuant to an approved procurement process that is part of the emerging competitive electricity generation market.[125]

KeySpan's application states that (1) the proposed facility will operate as a merchant plant in competitive electric markets, and that construction and operation of the facility will result in increased competition and encourage lower electric rates within the state's electric industry.[126] KeySpan's motion states in addition that the Applicant will not seek to recover any costs from ratepayers under the Public Service Law, nor will it operate as a qualifying facility and seek a contract under the Public Utility Regulatory Policies Act of 1978. Thus, KeySpan argues, no economic risk will be borne by electricity consumers, as all such risks associated with the construction and operation of the proposed facility will be borne by the applicant.

KeySpan's motion was unopposed by any party. Although the competition that has emerged in electricity markets has been less robust than might have been envisioned, the fact remains that the addition of capacity in a geographical market, such as New York City, with persistently tight peak-period reserve margins should improve market conditions over time, especially if suitable wholesale market price mitigation measures are in place in the near term.[127] And even with those regulatory measures in place, the risk of recovering the costs of the proposed

---

[125] Case 99-E-0089, Petition of Ramapo Energy Limited Partnership of a Declaratory Ruling, Declaratory Ruling Concerning Approved Procurement Process (issued August 25, 1999).

[126] Exhibit 1, Volume I, §1.4.

[127] See Federal Energy Regulatory Commission (FERC) Docket No. EL01-45-001 et al., Consolidated Edison Company of New York, Inc., 96 FERC ¶61,095 (2001); see also FERC Docket No. ER01-2076-000, New York Independent System Operator, Inc., 95 FERC ¶61,471 (2001).

facility's construction and operation costs will still be borne by the Applicant. Accordingly, we conclude that the declarations in KeySpan's motion and the underlying material in the application support a finding that the Applicant's proposed facility is selected pursuant to an approved procurement process.

1. Transmission Interconnections

a. Electric System

The proposed facility would be connected to the electric transmission system at the 345 kilovolt (kV) switchyard at the Rainey Substation owned by Consolidated Edison Company of New York, Inc. (Con Edison) located adjacent to the project site (to the north). An underground transmission line will connect the facility's step-up transformer to the substation, and the interconnection facility would be located entirely on the project site, so there will be no off-site environmental impacts. Transmission of the electricity produced by the propose facility will not require the construction of new electric transmission facilities outside the project site's boundaries (except, possibly, that off-site circuit breakers might have to be replaced by Con Edison). Thus, there is no need for the development of project design considerations related to public exposure to electric and magnetic fields outside the project site.[128] KeySpan has agreed to several certificate conditions requiring it design its electric transmission system interconnection and operate the proposed facility and its interconnection facilities in accordance with the requirements of Con Edison, the New York Independent System Operator, various reliability organizations, and any respective successor organizations.[129]

b. Gas System

Con Edison operates a 30-inch natural gas transmission main located in an easement at the Ravenswood Generating Station site. KeySpan's proposed facility would connect to that main with a 12-inch pipeline operated at transmission level pressure (125 psig), and a remote operated valve would be installed to

[128] Exhibit 1, Volume I, §§3.5.10 and 3.5.11.

[129] Proposed Certificate Conditions V.B.1 through V.B.6.

isolate the facility's load. The 12-inch pipeline would run to a filter/scrubber that would remove liquids entrained in the gas stream. Behind the filter/scrubber, a 6-inch service line would draw gas from the 12-inch pipeline to supply the HRSG duct burners and required building services. The interconnection plant would also include valves, regulators, an ultrasonic flow meter and gas regulating station, a combustible gas detection system, and sound attenuation enclosures for gas compressors. Fencing and pipeline markers would be installed. All interconnection construction would occur on-site.[130] KeySpan expects to take gas service on an interruptible basis. Should it need to take firm gas service, reinforcements to Con Edison's gas transmission system might be required. Such reinforcements would not require an environmental review under PSL Article X.

c. Recommended Findings

The Applicant has committed to construct the proposed facility's interconnections with the electric and gas transmission facilities in accordance with applicable regulatory requirements. Accordingly, the proposed facility's electric and gas interconnections would minimize adverse impacts and would be compatible with public health and safety in compliance with PSC §168(2)(b), (c)(i) and (c)(ii).

3. Overall Public Interest Assessment

The Siting Board must find that construction and operation of the proposed facility would serve the public interest, considering among other things the facility's potential environmental impacts.[131] The signatories to the joint stipulations agree that construction and operation of the proposed facility would be in the public interest. We agree as

[130] Exhibit 1, Volume I, §3.5.6.

[131] PSL §168(2)(e).

well, and recommend that the Siting Board find likewise.

With regard to environmental effects, the proposed facility's overall benefits outweigh any potential environmental and social costs, especially when environmental impacts are mitigated in accordance with the proposed certificate conditions. Air quality would be improved, insofar as the proposed facility's electricity production displaces the output of older, less efficient, and higher-emitting generators.[132]

The proposed facility will contribute to the reliability of the electric system in New York by adding supply at a time of projected capacity shortages. With the completion of relatively minor upgrades to circuit breakers and a substation on Con Edison's system, the proposed facility will have no adverse impact on electric transmission system reliability.[133]

The proposed facility will not cause a significant impact on the surrounding community's existing services,[134] and it will provide socio-economic benefits to the community. Construction of the facility will employ between 250 and 300 persons, and operation of the facility will employ 25 persons. The Applicant expects that those positions will be filled from the regional work force. The Applicant projects that construction of the facility will create secondary employment of 204 jobs, and that operation of the facility will create secondary employment of 32 jobs. The Applicant projects that, including secondary impacts, construction will increase economic activity in the area by approximately $176 million and operation will increase economic activity by approximately $10 million per year.[135]

The Applicant has committed itself to the following

[132] Exhibit 1, Volume II, §15.3.

[133] Exhibit 1, Volume I, §§1.8, 3.5.11, and 3.10; Exhibit 1(3B).

[134] Exhibit 1, Volume II, §§14.4 and 14.5.3.

community benefit projects:

[135] Exhibit 1, Volume II, §§14.5.1 and 14.5.2; Table 14.7.

1. Installation of photovoltaic panels and/or fuel cells, having a value of no less than $1 million, at or in the vicinity of the proposed facility. The installation will take place over a five-year period.

2. Donation, over a 10-year period, of 50% of the excess SO_2 emission allowances generated at the existing Ravenswood Generating Station to the KeySpan Foundation, with proceeds to be made available to local community or environmental improvement projects. The maximum annual donation would be $200,000, and the maximum aggregate donation would be $2 million.

3. Contribution of intervenor funds not expended in this case to the Natural Resources Defense Council and Citizens Helping Organize a Kleaner Environment ("CHOKE") to conduct an air quality study in northwest Queens (with input from KeySpan).

4. Donation of no less than $100,000 over a five-year period for restoration or beautification of buildings and parks, tree plantings, and similar projects.

5. Donation of no less than $100,000 over a five-year period for charitable community service projects and programs.

6. Donation, over a five-year period, of equipment to support two chemistry laboratories at the high school level. The equipment will include 100 personal computers from the inventory of KeySpan's computer donation program.

In view of the foregoing, we conclude that the construction and operation of the proposed facility is in the public interest, considering the facility's potential environmental impacts. We recommend that the Siting Board find likewise.

III. SUMMARY AND CONCLUSIONS

In Section I.D of this decision, we outlined the findings that PSL Article X requires the Siting Board to make before it may grant a certificate. We summarize these findings here.

A. Approved Procurement Process and Competition

Pursuant to PSL §168(2)(a), the Siting Board must find that the "facility was selected pursuant to an approved procurement process." On the basis of the application (Exhibit 1, Volume I, §1.4.) and the Applicant's motion of July 28, 2000, we conclude that the proposed facility, as a merchant plant, was selected pursuant to an approved procurement process.

B. Environmental Impacts

PSL §168(2)(b) requires the Siting Board to identify the nature of the proposed facility's probable environmental impacts. We conclude that this record contains a complete review of the likely adverse and beneficial effects in all of the areas of concern listed in that section of PSL Article X. With respect to each such concern, moreover, we conclude that with the implementation of the mitigation proposals accepted by the Applicant, and recommended herein, the proposed facility minimizes environmental impacts as contemplated in §168(2)(c)(i).

In reaching the determinations regarding how the facility would minimize environmental impacts, the Board is required to consider the state of available technology, and New York's interests pertaining to aesthetics, the preservation of forests and parks, fish and wildlife, viable agricultural lands, and other pertinent considerations. With respect to each aspect of the proposed facility's probable impacts, we conclude that both the range of available and feasible approaches to mitigating those impacts, as well as the state laws respecting aesthetics, historic preservation, and resource preservation, have been

thoroughly considered.

Based on the foregoing analysis, we also conclude the board may find that the proposed facility is compatible with public health and safety (§168(2)(c)(ii)), will not discharge effluents in contravention of standards adopted by DEC (§168(2)(c)(iii)), and will not emit air pollutants in contravention of applicable air emission control requirements or air quality standards (§168(2)(c)(iv)). There are no solid waste management or hazardous waste disposal facilities associated with this facility.

As we have also discussed, the Siting Board issues all state-level permits required for the construction and operation of the proposed facility, except for permits required pursuant to the federal Clean Air Act and Clean Water Act. The DEC is expected to make final determinations about the requested air emission and water discharge permits. Therefore, the Board should be able to make the requisite findings required under §168(2)(c)(iii) and (iv), and issue its final decision and a certificate.

As further discussed, we find that the proposed facility is designed to operate and compliance with appropriately applicable state and local laws and regulations (§168(2)(d)), and that its construction and operation will be in the public interest (§168(2)(e)).

C. Conclusion

As discussed above, we conclude the Siting Board can make all of the findings it is required to make pursuant to Article X (PSL §168(2)) in order to grant a Certificate of Environmental Compatibility and Public need to the Applicant, subject to terms and conditions listed in Appendix C to the recommended decision. We recommend that the application, so conditioned, be granted. The Board should also grant other

necessary state approvals and waiver requests, to the extent it is authorized to do so by Article X.

August 7, 2001
RRG/HGG:yrs

APPEARANCES

FOR KEYSPAN-RAVENSWOOD, INC.:

Arnold & Porter (by Michael B. Gerrard and Andrew S. Ratzkin, Esqs.), 399 Park Avenue, New York, New York 10022.

FOR THE NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION:

Jennifer Hairie, Esq., 625 Broadway, Albany, New York 12233.

FOR THE NEW YORK STATE DEPARTMENT OF PUBLIC SERVICE:

Jean A. McDonnell, Esq., Three Empire State Plaza, Albany, New York 12223.

FOR THE NEW YORK STATE DEPARTMENT OF HEALTH:

A. Kevin Gleason, Esq., 547 River Street, Room 330, Troy, New York 12180.

FOR THE NEW YORK POWER AUTHORITY:

James D. Lyons, Esq., 123 Main Street, White Plains, New York 10601

FOR THE NEW YORK CITY ECONOMIC DEVELOPMENT CORPORATION:

Richard B. Miller and Jay L. Kooper, Esqs., 110 William Street, New York, New York 10038

FOR THE NEW YORK CITY DEPARTMENT OF ENVIRONMENTAL PROTECTION:

Joseph Ketas, Esq., 59-17 Junction Boulevard, 19th Floor, Corona, New York 11368

FOR THE OFFICE OF PRESIDENT, BOROUGH OF QUEENS:

Hugh B. Weinberg, Esq., 120-55 Queens Boulevard, Kew Gardens, New York 11424

FOR CITIZENS HELPING ORGANIZE A KLEANER ENVIRONMENT:

Mario D'Elia, 28-21 46th Street, Astoria, New York 11103

APPEARANCES

FOR THE NATURAL RESOURCES DEFENSE COUNCIL:

Katherine Kennedy, Esq., 40 West 20th Street, New York, New York 10011

FOR COMMUNITY ENVIRONMENTAL CENTER, INC.:

Dr. Donald Dodelson, 43-10 11th Street, Long Island City, New York 11109

FOR THE EAST RIVER ENVIRONMENTAL COALITION:

Daniel Gutman, 407 West 44th Street, New York, New York 10036

FOR KODA CONSULTING, INC.:

Richard J. Koda, 409 Main Street, Ridgefield, Connecticut 06877

PRO SE:

Beth Cullinane, 10-31 48th Avenue, Long Island City, New York 11101

APPENDIX B

Joint Exhibit List

Application

EXH-1	KeySpan Application for Certification of a Major Generating facility under Article X of the Sew York State Public Service Law, dated July 28, 2000, as supplemented November 10. 2000 ("Application").

Testimony

EXH-1(1A)	Direct testimony of Brian T. McCabe, Robert D. Teetz, and Joseph Littmann, Jr. in support of Sections 1 and 2 of the Application.
EXH-1(1B)	Direct testimony of Howard Hurwitz, Richard J. Pacclone, Brian T. McCabe, Curt J Dahl, Jay Prestia, Jeffrey L. Smith, and Robert D. Teetz in support of Section 3 of the Application.
EXH-1(1C)	Direct testimony of Craig H. Wolfgang and Christopher Corrado in support of Sections 4, 9.10, 11 and 15 of the Application.
EXH-1(ID)	Direct testimony of Anthony P. Letizia, Theodore Main, Mitchell Lagerstrom, George Martin, Howard Hurwitz in support of Section 5 of the Application.
EXH-1(1E)	Direct testimony of Steven V. Dalton, Patrick J. Van Rossem, Bruce S. McClellan in support of Section 6 of the Application.
EXH-1(1F)	Direct testimony of Thomas L. Englert, Christopher Gross, and Robert Teetz in support of Section 7 of the Application.
EXH-1(1G)	Direct testimony of Anthony C. Agresti, Christopher Corrado, and Richard J. Paccione in support of Section 12 of the Application.
EXH- I (I H)	Direct testimony of Brian E. Dempsey, and Christopher Corrado in support of Section 13 of the Application.
EXH-I(1I)	Direct testimony of Brian T. McCabe, Curt J. Dahl, and Christopher Corrado in support of Secnon 15 of the Application.
EXH-1(1J)	Direct testimony of Brian T. McCabe. Robert D. Teetz, Howard Hurwitz, Thomas L. Englert, and Theodore Main in support of Secnon 16 of the Application.

Public Involvement Program

EXH-1(2A)	Public Involvement Materials, Application Appendix 2A.
EXH-1(2B)	Response to Comments, Application Appendix 2B.

Project Description

EXH-1(3A)	Gas Supply Study, Application Appendix 3A
EXH-1(3B)	Electrical Interconnection Studies, Application Appendix 3B.
EXH-1(3C)	Capacity Analysis of the New York City Water Distribution System and the New York City Sewage Treatment System, Application Appendix 3C.

EXH-1(3D) Stormwater Plans, Application Appendix 3D

Land Use, Zoning and Public Policy

EXH-1(4A) Coastal Policies Consistency Statement. Application Appendix 4A

Air Resources

EXH-1(5A) Air Modeling Protocol, Application Appendix 5A

EXH-1(5B) PSD Air Permit Application, Application Appendix 5B.

EXH-1(5C) Environmental Concentration and Exposure Intake/Dose Equations, Application Appendix 5C.

EXH-1(5D) Physical/Chemical Properties, Application Appendix 5D.

EXH-1(5E) Risk Assessment Scenarios, Application Appendix 5E

EXH-1(5F) Environmental Justice Analysis, Application Appendix 5F.

Soils, Geology, and Hydrogeology

EXH-1(6A) Executive Summary from the April 19, 2000 *Ravenswood Generating Station Preliminary Site Investigation Report for Proposed Combined Cycle Power Plant and the Former Manufactured Gas Plant, prepared by Foster Wheeler Environmental Corp.,* Application Appendix 6A.

Surface Water Resources

EXH-1(7A) CORMIX Modeling Results, Application Appendix 7A.

EXH-1(7B) Letter Request for Amendment of the Pending SPDES Permit Modification Request for the Proposed KeySpan Ravenswood Cogeneration Facility, Application Appendix 7B.

Biological impact Assessment

EXH-1(8A) Fisheries Resources, Application Appendix 8A.

EXH-1(8B) Reserved, the Application Appendix 8B.

EXH-1(8C) Discharge Impacts, Application Appendix 8C.

EXH-1(8D) Essential **Habitat, Application Appendix 8D.**

EXH-1(8E) Threatened and Endangered Species, Application Appendix 8E.

EXH-1(8F) Reserved, Application Appendix 8F.

Vegetation and Wildlife

EXH-1(9A) Agency Correspondence, Application Appendix 9A.

Urban Design and Visual Resources

EXH-1(10A) Combustion Turbine Visibility Analysis, Application Appendix 10A.

Cultural Resources

EXH-1(11A) Unanticipated Discovery Plan, Application Appendix 11A.

Noise

EXH-1(12.4) Noise Study – Technical Report, Application Appendix 12A.

Traffic and Transportation

EXH-1(13A) Turning Movement Traffic Counts, Application Appendix 13A.

EXH-1(13B) Summary of Field Observation Collected Dunng Traffic Assessment, Application Appendix 13B.

EXH-1(13C) 1994 Update to the 1985 Highway Capacity Manual – Level of Service Definitions. Application Appendix 13C.

EXH-1(13D) Capacity Analysis Worksheets. Application Appendix 13D

EXH-1(13E) Accident Data, Application Appendix 13E.

EXH-I(13F) Correspondence related to Notification of Construction or Alteration and Federal Aviation Administration (FAA) Study, Application Appendix 13F.

Supplemental Testimony

EXH-2A Supplemental testimony of Brian T. McCabe. Robert D. Teetz, and Brian T. McCaffrey in support of Sections 1 and 2 of the Application.

EXH-2B Supplemental testimony of Howard Hurwitz, Richard J. Paccione, Brian T. McCabe, Curt J. Dahl, Jay Prestia, Jeffrey L. Smith, and Robert D. Teetz in support of Section 3 of the Application.

EXH-2C Supplemenial testimony of Craig H. Wolfgang and Christopher Corrado in support of Sections 4, 9, 10,11 and 15 of the Application.

EXH-2D Supplemental testimony of Theodore Main, Jay A. Snyder, David J. Shots, George Martin, and Howard Hurwitz in support of Section 5 of the Application.

EXH-2E Supplemental testimony of Christopher Gross, and Robert Teetz in support of Section 7 of the Application.

EXH-2F **Supplemental testimony of Anthony C.** Agresti, Christopher Corrado, and Richard J. Paccione in support of Section 12 of the Application.

EXH-2G **Supplemental** testimony of Brian T. McCabe, Curt J. Dahl, Christopher Corrado in support **of Section 15 of the Application.**

Individual Exhibits

EXH-3 Applicant's Response to Department of Public Service (DPS) Interrogatories Nos. 1-7, dated February 9, 2001 (concerning Land Use and Visual Resources).

EXH-4 Applicant's Response to DPS Interrogatories Nos. 8-9, dated March 8.2001 (concerning Fuel Gas System).

EXH-5 Applicants' Response to DPS Interrogatones Nos. 10-12, dated March 8, 200 1 (concerning Electric Transmission).

EXH-6 Applicants' Responses to DPS Interrogatory No. 13, dated May 11, 200 1 (concemmg Gas Transmission).

EXH-7 Applicants' Response to DPS Interrogatones DPS- 14 through DPS- 18 dated May I 1, 2001 (concerning Visual Impacts)

EXH-8 Applicants Response to the Department of Envuonmental Conservation (DEC) Interrogatones Nos. 1-4, dated April 27, 2001 (concerning Record of Compliance).

EXH-9 Applicants' Response to the DEC Interrogatories Nos. 5-8, dated March 27, 200 1 (concemmg Draft Air Permits).

ESH-10 Applicants Response to Department of Health informal interrogatories Nos. l-29, dated May 30, 2001.

EXH- 11 Letter to Janet H. Deixler from Craig H. Wolfgang, dated January 5, 2001, enclosing (i) Letter to Craig H. Wolfgang from Ruth L. Pierpont. OPRHP, dated November 17, 2000, (ii) Letter to Kathy Howe, OPRHP, from Craig H. Wolfgang, dated November 29, 2000, and (iii) Letter to Craig H. Wolfgang to Julian Adama, OPRHP, dated December 18, 2000.

EXH-12 Environmental Notice Bulletin regarding Emission Reduction Credits ("ERC") for the Project, dated April 18, 2001.

EXH-I3 ERC submissions, dated March 6, 2001 and March 12, 2001.

EXH-14 Lener from Gary Baranowski to Darryl Cabbagestalk, dated May 7, 2001 (providing cumulative air analysis protocol).

EXH-15 Memorandum from Gary Baranowski. dated June 1, 2001 (reflecting DEP comments on protocol).

EXH-16 Lener from Gary Baranowski to Gonzalo Corredor, dated June 1.2001 (confirming DEP acceptance of protocol).

EXH- 17 Letter to Steven Riva from Anthony P. Letizia, dated February 28, 2000 (requesting waiver from pre-construction ambient air quality monitoring).

EXH-18 Letter to Anthony P. Letizia from Steven C. Riva, dated March27, 2000 (granting waiver from pre-construction ambient air quality monitoring).

EXH- 19 Letter to Brian McCabe from Otest Lewinter, dated July 27, 2000 (granting approval of Ravenswood Air Quality Modeling Protocol).

EXH-20 Compliance Letter from the Chairman of the Siting Board, dated January 24,200 1.

EXH-2 1 Letter to Orest Lewinter from Brian McCabe, dated December 13, 2000 (enclosing signed certifications for Title V Application, Acid Rain Permit Application, and PhaseII Permit Application of Acid Rain Permit Application).

EXH-22 Letter to John P. Cahill from Robert D. Teetz (enclosing signed certification for Application for SPDES Permit Modification).

EXH-23 Draft DEC Part 201-6 (Title V) Permit.

EXH-24	Draft Prevention of Significant-Deterioration (PSD) Permit.
EXH-25	Draft Permit Summary and DEC General Conditions.
EXH-26	Draft Title IV (Phase II Acid Ram) Permit.
ENH-27	Draft SPDES Permit Modification (NY0005 193) and SPDES Permit Fact Sheet, dated January 19, 2001.
EXH-28	Letter to Administrative Law Judge Helene Goldberger from Michael B. Gerrard, dated February 16, 2001 (containing comments on Draft SPDES permit and enclosing water balance diagrams).
EXH-29	Letter to Administrative Law Judge Helene Goldberger from Andrew S. Ratzkin, dated February 23, 2001 (enclosing water balance diagrams).
EXH-30	Noise Specifications for the KeySpan Ravenswood Project.
EXH-31	Letter from Michael B. Gerrard to Secretary Janet Hand Deixler re: Notice of Impending Negotiation, dated March 2 1, 2001.
YH-32	Letter from Ashok Gupta of the Natural Resources Defense Council to Robert Catell of KeySpan Corporation in support of KeySpan Application before the Siting Board, dated March 5, 2001.
:H-33	Letter to Richard Miller from Andrew Ratzkin, dated June 12, 2001 re: local permit requirements.
XH-34	DEC Erosion and Sediment Control Guidelines

APPENDIX C

PROPOSED CERTIFICATE CONDITIONS

TABLE OF CONTENTS

PROPOSED CERTIFICATE CONDITIONS

I. Project Authorization

A. The Certificate Holder is authorized to construct and operate the Ravenswood Cogeneration Facility ("Facility"), including associated on-site interconnects within the Proposed Development Site described in Figure 3-1 of the Application, except as waived, modified or supplemented by this Certificate or other permits.

B. The Certificate Holder is responsible for obtaining all necessary permits, including State Pollutant Discharge Elimination System ("SPDES") and Prevention of Significant Deterioration ("PSD"), New Source Review, Clean Air Act ("CAA") Title IV (acid rain), CAA Title V (major stationary source), and any other approvals, land easements, and rights-of-way that may be required for this Facility and which the Board is not empowered to provide.

C. The Facility shall be designed to operate and be operated in compliance with all applicable federal and state laws and regulations. The Facility shall be designed to operate and be operated in compliance with all applicable local laws and regulations. The Certificate Holder will provide, as part of a Compliance Filing, a Final Site Plan to demonstrate conformance with applicable provisions of the New York City Zoning Resolution..

D. The Certificate Holder is authorized to construct and operate the Energy Facility comprised of the components described in Section 3.0 of the Application, provided, however, that in the event that the Certificate Holder does not reach agreement with Con Edison regarding the export of steam, the Certificate Holder will not be required to construct or operate components relating to the export of steam.

E. The Certificate Holder is authorized to connect to the existing Con Edison 30-inch natural gas transmission main located on the Con Edison easement at the Ravenswood site, as described in Section 3.5.6 of the Application and as shown on Figures 3-3 and 3-7 of the Application.

F. The Certificate Holder is authorized to add a new breaker (5W) to the Con Edison Rainey Substation 345kV ring bus configuration, and to connect a 345kV solid dielectric cable to the 345kV terminus, created by the addition of the new 5W breaker, to carry the electricity generated by the Facility to the Rainey Substation.

II. General Conditions

A. The plant and/or plant site shall be constructed, operated, maintained, restored and monitored as set forth in the Application and other submissions, and as indicated by the Certificate Holder in stipulations and agreements, if any, during this proceeding, except as these may be waived, modified or supplemented by the Siting

Board, and except as regarding conditions contained in the SPDES and PSD Permits issued by the New York State Department of Environmental Conservation ("NYSDEC").

B. The Certificate Holder shall submit a schedule of all plans, filings and other submissions to the Board as required by these Certificate Conditions, and shall coordinate the schedule and document requirements for submitting Compliance Filings with the relevant state agencies having jurisdiction over such Compliance Filings.

C. The Certificate Holder shall submit a Compliance Filing consistent with Part 1003 of the Article X regulations. A "licensing package" is defined herein as a component of the Compliance Filing and includes all plans or other submissions required by these Certificate Conditions. Licensing packages may be submitted individually or on a combined basis. All filings shall be served on all active parties that have advised the Board of their desire to receive a copy of such filings.

D. Prior to completion of construction of the Facility, the Certificate Holder shall meet with the New York City Police Department to plan how the Facility site staff will coordinate with the existing NYPD services.

E. Local New York City Fire Department companies shall be given periodic training tours of the Facility, both during construction and operation.

III. Construction Conditions - General

A. These Certificate Conditions shall be made contract requirements for the construction contractors as applicable, to the extent commercially feasible.

B. Appropriate construction personnel shall be trained in environmental compliance matters. During all construction times, the authority to stop construction shall be conferred on at least one person with appropriate environmental degree(s) and/or experience.

C. The Certificate Holder shall describe in a licensing package a community liaison program designed to maintain communication with the surrounding communities prior to and during construction. This plan shall include a dedicated phone line and the maintenance of a complaint log. The community liaison program shall continue for a period of six months after the Facility becomes operational.

D. To the extent practicable, construction work shall take place between 7:00 a.m. and 6:00 p.m. For certain construction phases and activities, such as initial plant start up and final commissioning of the Facility, concrete pours and low pressure steam blows, additional work hours may be necessary. Nothing herein shall preclude the Certificate Holder from making necessary arrangements for the extension of work hours with appropriate authorities of the City of New York.

E. The Certificate Holder shall comply with federal regulations limiting truck noise (40 CFR § 205).

F. A temporary vent silencer shall be installed on the steam-blow vent during pipe clean out. High pressure steam blows shall take place only between 7:00 a.m. and 6:00 p.m. Low pressure steam blows, which are less noisy, may be conducted continuously over a period of days.

G. If required during construction, blasting shall be done using best practice techniques to minimize noise and shall be conducted only between 7:00 a.m. and 5:00 p.m.

H. Equipment installation and assembly shall be performed to the fullest extent possible within the building shell to contain noise emissions.

I. Trucks used for transporting soil or gravel during construction shall be covered to avoid loss of transported material and truck speed on-site shall be controlled to minimize dust.

J. If dust palliatives other than water are required, only those that are listed on the New York State Department of Transportation's Approved Materials List shall be used, in accordance with the associated conditions for use of those chemicals.

K. Before hiring contractors for solid waste haulage, the Certificate Holder shall request evidence that such contractors are in possession of all required permits and licenses. During the period of operation, the Certificate Holder shall retain for inspection records showing that all waste hauling and disposal contractors have all required permits and licenses. Solid waste shall be disposed of only at facilities authorized to accept such waste, unless the material is otherwise exempt from regulation as a solid waste under 6 NYCRR Part 360 or the applicable regulations of the state where the waste is to be disposed, and, to the extent applicable, in accordance with the terms of any Voluntary Clean-Up Agreement entered among the Certificate Holder and the NYSDEC. All unused, excavated materials and/or construction debris shall be removed within a reasonable time upon completion of construction and placed at facilities authorized to accept such waste, unless the material is otherwise exempt from regulation as a solid waste under 6 NYCRR Part 360 or the applicable regulations of the state where the waste is to be disposed.

L. The Certificate Holder shall submit a Grading and Drainage Plan and a Soil Erosion and Sediment Control Plan, as provided in Appendix 3D of the Application. In addition, the Certificate Holder will complete and file, as part of the Compliance Filing, a Notice of Intent to comply with the terms of the NYSDEC's SPDES General Permit for Storm Water Discharges During Construction, as provided in Section 1.9.1 of the Application.

M. The Certificate Holder shall control potential emissions from construction related activities through use of dust and emissions controls, proper handling of dewatering control effluent, proper disposal of excavated soil, paving of exposed areas, and the adoption of an Environmental Health and Safety Plan, as discussed in Section 6.5.2 of the Application.

IV. Construction – Energy Facility

A. The Facility shall be constructed of architectural materials that approximate in appearance the existing Ravenswood Generation Station, and housed in a metal-clad building, painted in a metallic-silver color similar to the existing Ravenswood plant. The new stack will be marked in alternating red and white bands at the top, similar to the existing Ravenswood plant stacks. The pattern of colors, starting from the red at the top, will be red, white and red. The balance of the stack, down to the base, will be unpainted concrete. A paint system will be as manufactured by ~~Sherman~~ Williams, or approved equal, as follows: (i) Red shall be "Safety Red," SW4081, LRV 11%; and (ii) White shall be "Ultra White," LRV 88%, "Brilliant White," LRV 86%, or "Pure White," LRV 85%. An architectural drawing and detail plan will be submitted to the Siting Board as part of the Compliance Filing. All paints shall comply with DEC regulations for VOC content contained in 6 NYCRR Part 228, in particular Section 228-7 (table of limits for each product).

B. The Certificate Holder shall design the Facility to withstand the expected effects of a seismic event in accordance with the New York State Building Code for regions identified as Seismic Zone C with an effective peak acceleration determined to be 0.15 g, and in accordance with reference standard RS 9-6, as provided in Sections 6.2.3 and 6.5.1 of the Application.

V. Construction – Gas, Waterline and Electrical Interconnects

A. The Certificate Holder shall attempt to complete negotiations on all necessary contractual arrangements associated with its electric, gas and water interconnections as soon as practicable, and agrees to accept the assistance of the staff of the New York State Department of Public Service ("NYSDPS") to mediate any disputes that cannot be resolved directly between the Certificate Holder, the New York City Department of Environmental Protection and Con Edison and its successors, or any other parties.

B. Electric Interconnnections

1. The Certificate Holder is authorized to construct and shall design, engineer, and construct the transmission interconnection as provided in the System Reliability Impact Study ("SRIS") approved by the New York Independent System Operator ("NYISO") Operating Committee and in accordance with the applicable and published planning and design standards and best engineering practice of Con Edison, the NYISO, Con Edison, the New York State Reliability Council ("NYSRC"), Northeast Power Coordinating Council ("NPCC"), North American Electric Reliability Council ("NERC"), and North American Electric Reliability Organization ("NAERO"), and successor organizations. Specific requirements shall be those required by the NYISO

Operating Committee in the approved SRIS, the Class of 2001 annual transmission reliability study, and by any interconnection or facilities modification agreement negotiated with Con Edison, NYSRC, and any successor Transmission Owners (as such term is defined in the New York Independent System Operator Agreement-Composite Reflecting Commission Orders Through July 13, 2000, as updated ("NYISO Agreement")). Copies of the studies and agreements will be filed with the New York State Public Service Commission ("NYSPSC").

2. The Certificate Holder shall operate the Facility in accordance with the approved tariffs and applicable rules and protocols of the NYISO, NYSRC, NPCC, NERC, and NAERO, and successor organizations. Should aspects of network operation be affected by the Facility that are under the lawful control of Con Edison, or successor Transmission Owners (as defined in the NYISO Agreement), rather than NYISO control, the Certificate Holder shall operate the facilities according to the procedures of Con Edison NMPC or NYPA, or successor Transmission Owners (as defined in the NYISO Agreement). The Certificate Holder reserves the right to seek subsequent review of any specific operational orders at the NYISO, NYPSC, the Federal Energy Regulatory Commission, or in any other appropriate forum.

3. The Certificate Holder shall work with Con Edison, and any successors, to ensure that, with the addition of the Facility affected transmission lines will have relay protection system equipment and appropriate communication capabilities to ensure that operation of the transmission system is adequate under NPCC "Bulk Power System Protection Criteria," and meets the protection requirements at all times of the NYSRC, NYISO, and Con Edison, and successor Transmission Owners (as defined in the NYISO Agreement). The Certificate Holder shall be responsible for the costs, together with associated expenses incurred, to verify that the relay protection system is in compliance with applicable NPCC criteria.

4. The Certificate Holder shall file a copy of the following documents with the Board and with the NYPSC: (1) the SRIS approved by the NYISO Operating Committee; (2) any requirements imposed by the NYSRC; (3) Class of 2001 annual transmission reliability studies; (4) all facilities agreements and interconnection agreements with Con Edison, and successor Transmission Owners (as defined in the NYISO Agreement) specific to the Facility.

5. The Certificate Holder agrees to construct and operate the Facility and associated electric transmission interconnection facilities in accordance with applicable laws, regulations, and requirements as

specified in the conditions for approval of the Project set forth in Section V.B.1-4, above.

6. If at any time the Facility fails to meet any reliability requirement of Con Edison, NYISO, NPCC, NERC, NAERO or any successor Transmission Owners (as defined in the NYISO Agreement), the Certificate Holder shall notify the NYISO and the NYSPSC immediately in wiriting upon obtaining such knowledge.

C. Gas Interconnections

1. The natural gas interconnection facilities will include a filter/scrubber, valves, regulators, an ultrasonic flow meter and gas regulating station, a combustible gas detection system, and sound attenuation enclosures for gas compressors to assure public safety and reliable service.

2. Gas supply will be transported to the Facility from interstate delivery points through New York Facilities System pipelines owned an operated by Con Edison. Applicant will negotiate a gas transportation agreement and comply with the applicable Con Edison gas transportation tariff for delivery of gas to the Facility. After execution, the agreement will be filed with the New York State Public Service Commission.

VI. Operation and Maintenance

A. The Certificate Holder shall submit a Preliminary Spill Prevention Control and Countermeasures Plan, as provided in Section 1.9.1 of the Application.

B. Certificate Holder will continue to maintain a telephone hotline to receive and respond to complaints.

C. The Certificate Holder shall perform post-construction monitoring to demonstrate that, based on noise measurements and acoustic observations, the operating plant complies with the acoustic design goals contained in the Application. Prior to conducting the noise monitoring program, the Certificate Holder will develop a monitoring protocol and submit it to the NYSDPS and NYSDEC for approval.

D. The Certificate Holder shall obtain a CAA Title V Operating Permit, a Title IV Acid Rain Permit, and a PSD permit, and operate the Facility in accordance with their terms. The Project will require modification of the SPDES permit issued by DEC under Article 17 (6 NYCRR Part 750) for the discharge of wastewater and will operate in accordance with the effluent limitation imposed thereunder.

E. The Certificate Holder shall comply with all applicable local, state and federal chemical and waste-storage use and handling regulations and will keep local fire department and emergency management teams apprised of chemicals and waste on site.

VII. Decommissioning

A. Prior to commencing any construction, other than research, surveying, boring or related activities necessary to prepare final design plans and permitting, the Certificate Holder shall file with the Secretary a parent guarantee from KeySpan Corporation to assure funding for the restoration of any disturbed areas in the event that the Project is not completed. If at any time before the completion of the Project, either (1) the tangible net worth of KeySpan Corporation falls below $1 billion; or (2) if KeySpan Corporation experiences a downgrading, or is placed on a credit watch for a possible downgrading of its Senior debt below investment grade, then the Certificate Holder shall promptly notify the Siting Board in writing of such event, and shall provide some other or additional financial assurance as might be required by the Board to demonstrate its ability to restore the site.

B. The Certificate Holder shall file with the Secretary evidence that sufficient funds are available to cover the cost of decommissioning, dismantling, closing, or reusing the plant when it has reached the end of its service life. Such evidence shall be in the form of a performance bond, escrow, letter of credit or other appropriate financial instrument,or satisfaction of a financial test, with appropriate renewal provisions. The Certificate Holder shall not commence commercial operation of the Project until the Public Service Commission has determined that the financial instrument provided by the Certificate Holder is appropriate and sufficient to cover the cost of decommissioning.

VIII. Traffic

A. The Certificate Holder shall periodically consult with the New York City Department of Transportation ("NYCDOT") about traffic conditions near the Ravenswood Generating Station. After such consultation and/or if requested by the Department, the Certificate Holder shall fund a uniformed traffic control officer, as necessary to facilitate traffic at the intersection of 40th Avenue and Vernon Boulevard during the morning peak period.

B. To the extent required in connection with the delivery of oversized facility components, Certificate Holder or its suppliers will obtain any necessary permits from the NYCDOT.

C. The normal construction shift for the Facility will be from 7:00 a.m. to 3:00 p.m. to avoid the peak morning commuter hour of 7:45 a.m. to 8:45 a.m. and only partially overlap the peak afternoon commuter hour of 3:15 p.m. to 4:15 P.M.

D. Acceptable LOS ratings of "D" or better will be maintained at each local intersection approach, except at the westbound approach at the intersection of 40th Avenue and Vernon Boulevard, which is already rated LOS F. The conservative analysis did not consider the operational improvements that will be provided by nearby traffic control signals.

IX. Visual and Cultural Resources and Aesthetics

A. The Certificate Holder shall submit as part of its Compliance Filing a detailed Lighting Plan. The Plan shall include: measures to prevent off-site glare by using full-cutoff fixtures on all exterior area lights; use of task-lighting of component areas as feasible; a demonstration that illumination design conforms to applicable worker safety requirements for work area lighting while minimizing off-site lighting impacts; and a report on the feasibility of synchronizing flashing lights on new and existing stacks.

B. A lighting system with flashing lights similar to the existing stack lighting system, and, if feasible, synchronized with the existing stack lighting shall be installed on the new stack in accordance with FAA requirements.

C. The Project shall be constructed using architectural materials that approximate in appearance the existing Ravenswood Generating Station. The main building façade shall be painted in a metallic-silver similar to the existing Ravenswood Generating Station. The stack shall be marked in alternating red and white bands at the top, similar to the existing Ravenswood plant stacks. The balance of the stack, down to the base, will be unpainted concrete.

D. The Certificate Holder shall follow its Unanticipated Discovery Plan submitted as Appendix 11A to its Application to provide protection in the event that cultural resources are encountered during construction.

E. Visual impacts will be minimized by the following measures:

1. consolidating Project facilities and electric and gas interconnections at an existing power plant site in an area with other power plants;

2. locating the Facility powerhouse and stack directly adjacent to the existing Ravenswood Generating Station powerhouse and stack; and

3. minimizing offsite lighting impacts through use of task lighting, lighting fixture shields and non-continuous and directional lighting.

F. Certificate Holder will request assistance from the New York City Department of Parks and Recreation in evaluating the feasibility of planting additional trees around the playground at P.S. 76 and will consult with the school regarding location and placement. Following such consultations, Certificate Holder will report on any resulting agreement or understanding among Certificate Holder, the Department of Parks and Recreation and P.S. 76 in a Compliance Filing. Based on the results of the feasibility evaluation, KeySpan will commit to the funding of the planting of additional street trees on 9th Street along the playground at P.S. 76.

G. Aesthetic and urban design impacts will be minimized by using low-glare, architectural materials and finishes that match the existing Ravenswood Generating Station.

X. Air Quality

A. The Certificate Holder shall operate the Project pursuant to the air permits issued by the DEC under Article 19 (6 NYCRR Part 200 et seq.), PSD regulations (40 CFR sections 52.21 and 124), and the nonattainment New Source Review program (6 N.Y.C.R.R. Part 231-2).

B. The Certificate Holder shall control potential emissions from construction related activities through limitation of exposed soils, use of covered trucks for transport of soils and other dry materials, limited storage of spoils on the construction site, final grading and protection of exposed areas.

C. The Project will install controls to achieve the lowest achievable emission rate ("LAER") for NOx, in the form of selective catalytic reduction and dry low-NOx combustors. In addition, the Certificate Holder has purchased 185 tons of NOx emission reduction credits, thereby removing NOx from the air at a rate of 1.3:1.

D. The Project will install controls to achieve LAER for VOCs, in the form of dry low-NOx combustors and an oxidation catalyst. In addition, the Certificate Holder has purchased 145 tons of VOC emission reduction credits, thereby removing VOCs from the air at a rate greater than 1.3:1.

E. The Project will install controls to achieve LAER for CO, in the form of an oxidation catalyst.

F. The Project will utilize best available control technology ("BACT") to control emissions from the combustion turbines as follows:

1. SO_2 and H_2SO_4 BACT will be achieved through use of natural gas as the primary fuel, which has a fuel sulfur content of 2.5 grains/100 scf. Low-sulfur distillate (0.04% sulfur by weight) will be used as a back-up fuel.

2. PM BACT will be achieved through use of clean burning fuels natural gas (primary fuel) and low-sulfur distillate (back-up fuel) and good combustion practices.

G. The Project will comply with opacity limits by firing primarily natural gas in the turbines and by using state of the art combustion technology employing ultra low sulfur distillate back-up fuel. Opacity will be monitored by a Continuous Opacity Monitor (COM).

H. The Project will operate in compliance with National and New York State Ambient Air Quality Standards and PSD increments for criteria pollutants.

I. The Project will comply with New Source Performance Standards ("NSPS") for stationary gas turbines (40 C.F.R. Part 60, Subpart GG), which impose emission limits for NOx and SO2, and the NSPS for Electric Utility Steam Generating Units for Which Construction Is Commenced After September 18, 1978 (40 C.F.R. Part 60, Subpart Da), which impose emission limits for NOx, SO2 and particulate matter.

J. The Project will comply with non-attainment new source review requirements (6 NYCRR Subpart 231-2).

K. The Certificate Holder has submitted an application for a Clean Air Act Title V Operating Permit and shall operate the Project pursuant to that permit when issued, ensuring compliance with Title V standards.

L. The Certificate Holder has submitted an application for a Clean Air Act Title IV Acid Rain Permit and shall operate the Project pursuant to that permit when issued, ensuring compliance with the Title IV standards.

M. The Project's emissions of non-criteria pollutants will result in predicted air concentrations that are well below state regulatory and health risk-based benchmark concentrations.

N. The Project will utilize aqueous ammonia at a concentration of less than 20%, which is below the threshold for Section 112(r) of the Clean Air Act that would require a risk management plan.

O. Low sulfur distillate oil will be used only as a backup fuel (for the CTG only).

XI. Noise

A. Construction noise sources shall be mitigated by proper equipment maintenance and the use of appropriate mufflers, as provided in Section 12.5.2 of the Application.

B. The Certificate Holder will carry on construction activities outside the walls of buildings whose exterior walls and roof are substantially complete between the hours of 7 a.m. and 6 p.m. (the "Daytime"), as required by Section 24-227 of the Noise Code. Construction activities may be conducted within the interior of buildings during other hours except that during such periods the Certificate Holder shall not conduct or allow to be conducted activities that will cause noise considered excessive under City standards at nearby sensitive receptors, including, but not limited to, heavy rigging operations, debris loading or removal or hauling by trucks, jack hammering, or external wall installation. Deliveries related to construction activities shall take place during the Daytime, except that, to the extent required to accommodate oversized delivery pursuant

to NYCDOT permit, the Project shall be exempt from restrictions limiting delivery to Daytime.

C. Specific noise control measures shall be incorporated in the design of the Facility to achieve the required noise design goals. These measures may include:

1. Low-noise air-cooled condenser unit.

2. Tuned HRSG stack silencers.

3. Acoustically treated turbine building including acoustical insulation on the interior and acoustic louvers on any openings.

4. Enclosures for the gas compressing station and circulating pumps.

D. The Facility will be designed to meet the specific design goals at the various sensitive receptors in accordance with the Noise Code (residential nighttime standard of 55 dBA), the CEQR Technical Manual (increase of 3 dBA or less above late night L_{90} levels) and the Modified CNR analysis (CNR rating at any residential area of "C" or better). In addition, the Facility will be designed to meet the octave band limits specified in the New York City Zoning Resolution, and the noise emitted from the Project will comply with the New York City Zoning Resolution limits.

E. The Certificate Holder shall comply with federal noise level requirements for employees during construction and operation of the Project as established by OSHA (40 CFR § 1910.95).

F. The Certificate Holder shall conduct a post-construction ambient noise monitoring program within six months of the starting of commercial operation to demonstrate that, based on noise measurements and acoustic observations, the operating plant complies with the acoustic design goals contained in the Application. Prior to conducting the noise monitoring program, a protocol will be developed and submitted for approval as a Compliance Filing subsequent to the issuance of the Certificate.

G. If requested, the Certificate Holder shall consult with neighbors regarding noise issues related to the Facility.

H. The Facility will be designed such that operational noise levels will be below 55 dBA at any residential zones and below 70 dBA at any industrial zones.

I. During Project operation, daytime and night-time noise levels at the property line of residential and school receptors will be limited to 55 dBA, in compliance with the requirements of the Noise Code.

XII. Soils, Geology, Seismology and Agricultural Laws

A. Construction will be conducted in accordance with an approved Remedial Action Work Plan for the Voluntary Cleanup Agreement ("VCA") to address the management and disposal of materials generated during excavation activities.

B. The Certificate Holder will design the Facility to withstand the expected effects of a seismic event in accordance with the New York State Building Code for regions identified as Seismic Zone C with an effective peak acceleration determined to be 0.15g.

C. An Environmental, Health and Safety Plan will be developed to prevent potential contaminant exposure and migration during construction of the Facility.

D. The Certificate Holder will design the Facility to withstand the expected effects of a seismic event with an effective peak acceleration of 0.15 g.

E. Project construction and blasting, if required, will proceed according to applicable regulations, including the Bureau of Alcohol, Tobacco and Firearms, Occupational Safety and Health Administration, Federal Fire Code, New York State Code 39, the New York City Building Code and the Rules of the City of New York..

F. Storage of explosives, if any, will comply with New York State Department of Labor requirements. Transportation of any explosives will comply with New York State Department of Transportation requirements. A delivery routing plan will be reviewed with the local New York City officials prior to delivery of any explosive materials.

XIII. Land Use and Local Laws

A. The Project shall be designed to operate and be operated in compliance with all applicable federal and state laws and regulations. The Project shall be designed to operate and be operated in compliance with all applicable local laws and regulations.

B. Before commencing any construction, other than research, surveying, boring or related activities necessary to prepare final design plans and permitting, the Certificate Holder shall post a parent guarantee, to assure the restoration of any disturbed areas in the event the Project is not completed. The type of construction security shall be stated by the Certificate Holder in a Compliance Filing.

C. The Certificate Holder will provide, as part of a Compliance Filing, a Final Site Plan to demonstrate conformance with applicable provisions of the New York City Zoning Resolution.

D. The City of New York has determined that the provisions of §§ 44-52 through 44-58 of the New York City Zoning Resolution, pertaining to off-street loading berths, do not apply to electric generation facilities in general or the Project in particular.

Accordingly, the Certificate Holder need not seek from the Siting Board any waiver or exemption from these requirements.

XIV. Surface Water and Aquatic Resources

A. The Facility will obtain and operate pursuant to the SPDES permit modification issued by DEC under Article 17 (6 NYCRR Part 750) for discharge of wastewater, and will operate in accordance with the effluent limitations imposed thereunder.

B. The Project will discharge stormwater and low volume waste water to the existing Ravenswood Generating Station discharge canal pursuant to a modification of the Ravenswood SPDES permit to accept those wastes.

C. The Project will utilize erosion prevention best management practices during construction including a system of straw bale dikes and silt fences as described in the Application.

D. The Certificate Holder will submit a Spill Prevention Control and Countermeasures ("SPCC") plan as part of the Compliance Filing, to assure that water quality remains protected as required by the Clean Water Act and the Environmental Conservation Law.

E. The Certificate Holder will submit a Notice of Intent to comply with the terms of NYSDEC's SPDES General Permit for Storm Water Discharges During Construction as part of the Compliance Filing.

F. All chemical storage areas will be diked and designed to contain a minimum of 110% of the largest tank in the diked group or a minimum of 110% of a single tank/dike system, with a minimum freeboard of 6 inches, and will use containers that comply with all applicable requirements.

G. An Environmental, Health and Safety Plan (EHS Plan) will be developed to detail the engineering controls and other procedures that will need to be implemented to minimize contaminant exposure and migration during excavation and construction. If plant construction requires dewatering of certain excavations, then the EHS Plan will include proper handling of dewatering effluent, including testing, possible treatment, and discharge. Effluent will be discharged through an existing SPDES permitted outfall in accordance with the applicable SPDES permit, or managed in an appropriate manner based on the physical and chemical characteristics of the discharge in accordance with all applicable federal, state and local requirements.

H. Wastewater effluents discharged through the existing discharge canal will be subject to a SPDES permit and will therefore comply with all applicable thermal and chemical water quality standards.

I. Stormwater from the Facility will be directed to the existing Ravenswood Generating Station discharge canal, and will comply with all applicable water quality standards as per the Ravenswood Generating Station SPDES permit.

J. The Certificate Holder will obtain the necessary SPDES permit modification from the DEC and approvals granted by the Siting Board including, if necessary, CWA § 401 State Water Quality Certification.

K. The Certificate Holder's SPCC Plan that covers potential oil spills and chemical releases will demonstrate compliance with environmental and public health and safety laws and regulations.

L. The Certificate Holder's erosion and sediment control best management practices will be designed, implemented and maintained in accordance with DEC Erosion and Sediment Control Guidelines.

M. The Certificate Holder will obtain all necessary permits and approvals and design the Project so as to comply with all substantive requirements of the NYCDEP with respect to any discharges to the POTW and for any potable water withdrawals from the New York City water supply system.

XV. Terrestrial Ecology

The following conditions are included in settlement agreements for other topics but are noted here as they are protective of terrestrial resources:

A. The Certificate Holder shall use best management practices to control erosion and sedimentation.

B. The Certificate Holder shall minimize the amount of fugitive dust that will occur during construction.