OFFICE OF ADJUDICATIONS

IN THE MATTER OF	*: APPLICATION NOS. 199805258; 199900251-0253; 199902285, 199902314-02315 & 199903120*
TOWANTIC ENERGY, LLC	*: OCTOBER 2, 2002*

PROPOSED FINAL DECISION

I

SUMMARY

Towantic Energy, LLC (Towantic or the applicant) has submitted two applications to the Department of Environmental Protection (DEP) for permits associated with the construction and operation of a combined cycle gas turbine power plant in Oxford. The first application, filed with the DEP Bureau of Air Management, seeks seven new source air permits for the following sources: two combustion turbine generator trains; two oil storage tanks; two emergency engines; and an auxiliary boiler (new source application). The second application, submitted to the DEP Bureau of Water Management, seeks a permit to pretreat and discharge process wastewater to the Town of Oxford public sewer system for final treatment at the Naugatuck wastewater treatment plant (water discharge application).

The DEP Bureaus of Air and Water Management each issued a tentative determination to approve the applications. Staff of the Air Bureau has prepared seven draft new source permits (Attachments A-G). Water Bureau staff has prepared a draft permit for a water discharge (Attachment H).

The parties to this proceeding are the applicant, the DEP Bureaus of Air and Water Management (staff)[1], and the Town of Oxford and James Callahan as intervening parties. The following group also intervened as a party: the Town of Middlebury, Citizens for the Defense of Oxford, Inc., and Preservation Middlebury (the Coalition).

Hearings on the applications were conducted on nineteen days between May 30 and July 31, 2001. The hearings on May 30 and 31 were held in the evening in Oxford to hear public comment. The record in this proceeding closed on July 30, 2001. Post-hearing stipulated and proposed findings of fact were submitted on September 4 and 17, respectively.

The record was twice reopened. Hearings were held on December 4 and 10, 2001 to receive new evidence on the new source application. The record closed on December 21, 2001, and the parties filed supplemental stipulated and proposed findings of fact by January 11 and 18, 2002, respectively.

In May 2002, the record was reopened to receive comments from Air Bureau staff and responses from the parties as to any impacts to the applications from regulatory changes that had become effective on March 15, 2002. As a result, the applicant filed a required certification. This was entered on the record as a new exhibit in July 2002, and the record finally closed.

Upon review of the extensive record and applicable law in this matter, I find that the proposed regulated activities, if conducted in accordance with the terms and conditions of the draft new source and water discharge permits as modified herein are consistent with the applicable legal standards for permit issuance. The construction and operation of this facility will not result in unreasonable pollution. The proposed power plant will be constructed and operated in compliance with the statutory schemes that have been developed to control pollution in the state. The intervenors have not proven that

[1] The applications will be discussed in separate sections of this decision. The references to "staff" in each section will therefore be self-evident.

issuance of the permits will result in unreasonable pollution. I therefore need not consider the feasibility or prudence of any alternatives to the construction and operation of the power plant.

I recommend that the seven permits that are the subject of the new source application be issued, incorporating the terms and conditions set forth in the attached draft permits with the modifications outlined herein. I also recommend that authorization be given to DEP staff to proceed with the remaining requirements of the water discharge permit process so that the permit may be issued.

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DECISION

A

NEW SOURCE APPLICATION

1

STATUTORY AND REGULATORY BACKGROUND

As required by the federal Clean Air Act (CAA), the U. S. Environmental Protection Agency (EPA) has established national ambient air quality standards (NAAQS) that reflect the acceptable concentrations of specific pollutants that are consistent with the public health and welfare. 42 USC §7409. The NAAQS, which are based on annual and various hourly averaging intervals, have been established for six air pollutants known as "criteria pollutants." These are: sulfur dioxide (SO_2), particulate matter less than or equal to ten microns in diameter (PM_{10}), nitrogen dioxide (NO_2), carbon monoxide (CO), ozone (O_3), and lead (Pb). 40 CFR §50.4 - 50.12. Connecticut has adopted these ambient air quality standards. Regs., Conn. State Agencies §22a-174-3a.

The CAA established a joint federal and state program to control pollution and protect public health and to ensure that the ambient air quality as impacted by existing and new sources of pollution complies with the NAAQS. Each state is required to designate air quality control regions[2] defined by the EPA and may adopt a state implementation plan (SIP) that establishes criteria pollutant emissions limitations and procedures to implement, maintain, and enforce the NAAQS for those designated regions. 42 USC §7410(a)(2)(A)-(L).

[2] Air quality control regions are designated as:

(i) nonattainment, any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant,

(ii) attainment, any area (other than an area identified in clause (i)) that meets the national primary or secondary ambient air quality standard for the pollutant, or

(iii) unclassifiable, any area that cannot be classified on the basis of available information as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant. 42 USC §7407(d)(1)(A).

The NAAQS are implemented, in part, through two different programs. The first is a federal program to regulate air pollution in "attainment" or "unclassifiable" areas. 42 USC §§7470-7479. The purpose of this program is the "prevention of significant deterioration" (PSD) of air quality in attainment areas. The program also ensures that economic growth "will occur in a manner consistent with the preservation of existing clean air resources...." 42 USC §7470. The federal regulations that implement this program call for certain pre-construction permit requirements for new major stationary sources such as the proposed facility. 42 USC §§7470-7492. The program also establishes PSD increments, which represent the maximum allowable increase in concentration of any pollutant that may occur above the baseline ambient air concentration set by the NAAQS. 40 CFR §52.21; see Regs., Conn. State Agencies §22a-174-3a(k), Table 3a(k)-2.

Under these regulations, major new sources must determine and use the "best available control technology" (BACT)[3] to minimize emissions of pollutants from a source that might otherwise exceed the applicable significance levels established by the PSD program. 42 USC §7475(a)(4); 40 CFR §51.21(j)(2); §22a-174-3a(k). Applicants are also required to demonstrate the impacts from the proposed source combined with other interactive sources and existing ambient air quality through air dispersion modeling. To show that the new source will not cause or contribute to any air quality violation, the total concentration of any pollutant must be in compliance with NAAQS and related PSD increments. 40 CFR §52.21(m).

States such as Connecticut that have a federally approved SIP have been delegated the authority to implement the PSD program. The regulations that implement

[3] BACT is defined as "an emission limitation … based upon the maximum degree of reduction for each applicable air pollutant emitted from any proposed stationary source … which the commissioner, on a case-by-case basis, determines is achievable in accordance with section 22a-174-3a of the Regulations of Connecticut State agencies. BACT may include, without limitation, the application of production processes, work practice standards or available methods, systems, and techniques, including fuel cleaning or treatment, the use of clean fuels, or innovative techniques for the control of such air pollutant." Regs., Conn. State Agencies §22a-174-1(15).

the Connecticut SIP require a new source with potential emission rates greater than prescribed thresholds to conduct a BACT review and determination for those pollutants. §22a-174-3a(k). For pollutants that are not subject to the NAAQS, a new source with potential emissions of fifteen or more tons per year (tpy) must perform a BACT review. §22a-174-3a(j).

The second program is designed to bring nonattainment regions into compliance as soon as practicable. 42 USC §§7410, 7501-7515. Areas that are designated as "nonattainment" for ozone are further classified by degree of noncompliance[4] that determines emissions limits, the timeframe for attainment, and other aspects of the SIP. 42 USC §7511. The CAA and the SIP require a Lowest Achievable Emissions Rate (LAER)[5] determination in nonattainment areas for pollutants if the potential emissions of that pollutant exceed major source thresholds. 42 USC §7410; §22a-174-3a(l). A nonattainment review also requires an analysis of alternative technologies and locations, a control technology review, the acquisition of certified emission reduction credits (ERCs) and demonstrated compliance with environmental laws. §22a-174-3a(l)(2) - (6).

Relevant portions of the Regulations of Connecticut State Agencies that govern the permitting of new sources were repealed or amended during the review of this application. Specifically, as of March 15, 2002, §22a-174-1 was amended, §§22a-174-2 and 22a-174-3 were repealed, and §§22a-174-2a and 22a-174-3a were made effective. Sections 22a-174-2a and 22a-174-3a apply to permit applications that were filed with the DEP prior to March 15, 2002, where a permit has not yet been issued or denied. §22a-174-3a(a)(4).

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[4] Defined as "marginal, moderate, serious, severe or extreme." 42 USC § 7511(a)(1).

[5] LAER means the more stringent rate of emissions for any source based on the following:

> (A) State for such class or category of stationary source, unless the owner or operator of the proposed stationary source demonstrates that such limitations are not achievable; or
>
> (B) The most stringent emissions limitation which is achieved in practice by such class or category of stationary sources. … In no event shall the application of the term permit a proposed new … stationary source to emit any pollutant in excess of the amount allowable under an applicable new source standard of performance.

40 CFR §51.165a(1)(xiii); Regs., Conn. State Agencies §22a-174-1

The applicant was required to file a new signatory certification as a result of the new regulations. In all other respects, the revised and or amended regulations did not substantively change any standards or rules that were not already applicable at the time of the hearing.[6]

2
Findings Of Fact
a
Procedural History

1. On December 23, 1998, the DEP received Towantic's original *Prevention of Significant Deterioration/Permit to Construct Application* for two combustion turbine generators (CTGs) and two distillate oil storage tanks. The applicant published notice of the application in *The New Haven Register* on December 28, 1998, and sent notice to the First Selectman of the Town of Oxford on January 26, 1999. The DEP determined that the application was administratively sufficient on March 2, 1999. (Exs. APP-2, 3, 9, 10; test. I. Clark, 6/4/01, p. 39.)

2. During the period July 13, 1999 through May 17, 2000, Towantic filed supplemental applications for an auxiliary boiler and two emergency engines. These supplements were also determined to be administratively sufficient. (Exs. APP-14, 17, 20, 26; exs. BAM-10, 13-16; test. I. Clark, 6/4/01, pp. 38-61; test. J. Sinclair, 6/20/01, pp. 1484-1485.)[7]

3. The initial application contained BACT and LAER analyses for certain criteria pollutant emissions from the CTGs. Over the course of the technical review of the application, Towantic submitted revised BACT and/or LAER determinations for each of the seven sources in response to comments from the EPA. Staff requested additional

[6] Previously, an applicant was required to obtain a permit to construct the new source and then a post-construction permit to operate the facility. §22a-174-3. Two separate permits are no longer required under the new regulations. Application fees were required prior to issuance of each permit. Staff did not suggest additional fee requirements or any revisions to the draft permits to account for this change, but as this is an administrative matter, I leave its resolution to staff since it has no impact on my findings of fact or conclusions of law.

[7] The parties' exhibits are identified as follows: APP--applicant; BAM--DEP Bureau of Air Management; and INTC--the Coalition.

BACT/LAER analyses that determined emissions rates for ammonia and considered the use of the NOx control technology system SCONOx.[8] The applicant added determinations for VOC emissions during September and October, 2001. (Exs. APP-3, 11, 19, 23, 24, 27, 31, 37, 41; exs. BAM-4, 10, 19a-19c, 28a-33; test. I. Clark, 6/4/01, pp. 52, 54, 56-58, 65; test. M. Jarvis, 6/4/01, pp. 97-111, 116-117; test. J. Sinclair, 6/20/01, p. 1487, 12/10/01, pp. 3358-3362.)

4. Following its technical review of the application, including all supplements and revisions, the DEP notified the applicant that it had made a tentative determination to approve the permits for the seven sources. The notice included a draft permit for each source. The applicant sent notice of this determination to the First Selectman of the Town of Oxford, the directors of the air pollution control programs in Massachusetts, Rhode Island and New York, the heads of the two federally recognized Indian governing bodies in Connecticut, and the regional Administrator of the EPA. (Exs. APP-42, 56, 57; exs. BAM-6, 9a-9g; test. J. Sinclair, 6/20/01, p. 1490.)

5. The Coalition was granted status as an intervening party on May 4, 2000 pursuant to General Statutes 22a-19 by asserting that the construction and operation of the proposed facility will cause unreasonable pollution. Oxford was granted intervening party status on January 10, 2001, and participated in the proceedings. Callahan was granted intervening party status May 18, 2001, and argued that the applicant should be required to consider alternative fuel source and generating technologies.[9] (Exs. INTC-1, 2.)

6. A hearing on the application was scheduled following requests and petitions from the Coalition and members of the public. Notice of the hearing was published in *The New Haven Register* and *The Waterbury Republican* on April 27, 2001. (Exs. APP-62, 63; exs. INTC-3a, 3b.)

7. In a May 15, 2002 Directive, I advised the parties of the recent changes to and applicability of §§22a-174-1, 22a-174-2a, and 22a-174-3a of the Regulations of Connecticut State Agencies. I directed staff to review the relevant provisions of those

[8] SCONOx is the tradename for a selective catalytic oxidation and NOx control system. (Test. M. Jarvis, 6/4/01, p. 53.)

[9] Copies of the rulings granting these requests for intervention are public documents and are included in the files of the DEP Office of Adjudications.

sections to determine whether any additional information was required from the applicant. Staff submitted its comments on June 4, 2002. Staff concluded that the applicant was required to submit certification in accordance with §§22a-174-2a(a) and 3a(c)(1)(K), which identifies the applicant's authorized signatory. (Ex. BAM-34.)

8. The applicant submitted this information on June 13, 2002 on forms provided by staff. All parties were given an opportunity to respond to staff's determination and to the applicant's submissions. On July 1, 2002, staff issued a determination that the applicant's submissions were sufficient and that the application was complete.[10] (Ex. BAM-34.)

b

Project Description

9. The proposed facility will have a net production capability of 512 megawatts (MW) and consist of two General Electric (GE) combustion turbine generators (CTGs), two heat recovery steam generators (HRSGs), a single steam turbine generator (STG), an air cooled condenser, and associated ancillary equipment. The major auxiliary equipment associated with the facility includes a CO catalyst for each HRSG, Selective Catalytic Reduction (SCR) control systems to reduce NOx emissions, an ammonia storage tank, a continuous emissions monitoring system, an emergency fire water diesel pump, an emergency engine/generator set, and an auxiliary boiler. The facility will also include a power generation building, a water treatment building, an administration and control building, a raw water storage tank, a treated water storage tank, two backup fuel storage tanks, an electric switchyard/substation, and a stormwater detention pond. (Exs. APP-3, 14, 17, 24, 59; exs. BAM-4, 10, 13-16, 18; test. M. Jarvis, 6/4/01, pp. 26-27.)

10. The CTGs will burn natural gas or oil to heat air that is used to drive the turbines and produce electrical energy. When the production of that energy is complete, the heat is passed through the HRSGs, which recover the heat and produce steam. That

[10] Copies of these documents, as well as those described in the previous finding, are public documents and are included in the files of the DEP Office of Adjudications.

steam then passes to the STG where it produces more energy without additional fuel or pollutant emissions. (Test. M. Jarvis, 6/4/01, pp. 26-28; test. J. Chalfin, 6/27/01, p. 1974.)

11. The auxiliary boiler will maintain the equipment at required temperatures during the winter when both CTGs are out of service. The boiler will be capable of firing natural gas and propane. (Exs. APP-3, 26; exs. BAM-11, 14.)

12. The emergency fire water diesel pump will be used only during testing and under emergency fire conditions if normal fire water supply is interrupted due to electric shutdown. The engine will burn diesel fuel with a sulfur content of 0.05 percent by weight. (Exs. APP-3, 26; exs. BAM-11, 14.)

13. The emergency engine/generator set will be used only during periods of electric outage and will provide emergency power to controls and vital systems. The generator will not operate during normal operation of the CTGs except for periodic testing. The unit will burn diesel fuel with a sulfur content of 0.05 percent by weight. (Exs. APP-3, 26; exs. BAM-11, 15.)

14. The two 886,000 gallon storage tanks will store enough fuel on-site to provide for sixty hours of continuous operation. The fuel storage system will include a truck unloading area, fuel pumping facilities and associated piping from the storage area to the CTGs. The storage area is designed to prevent leaks and spills from contaminating the environment. (Ex. APP-3; test. M. Jarvis, 6/4/01, p. 34, 6/11/01, p. 641.)

15. The applicant intends to operate the proposed facility seven days a week, fifty weeks a year with two weeks allowed for maintenance downtime. During normal operation, the output of the plant may range from 262 MW (50 percent load) to 523 MW (100 percent load), depending on market conditions. (Ex. APP-3.)

16. The primary fuel for the plant will be natural gas supplied by the Algonquin Pipeline that borders the project site on the north. During pipeline supply interruptions, the plant will use distillate No. 2 fuel oil as a backup fuel to fire the CTGs. This backup fuel will be 0.05 percent low sulfur distillate. (Ex. APP-3; test. M. Jarvis, 6/4/01, pp. 26-27.)

17. The applicant proposes to draw its water supply from the Heritage Water Company (HWC). HWC has an existing waterline 4700 feet southeast of the project site

that the applicant plans to extend to the site. Average water consumption is expected to be 41 gallons per minute (gpm) or 58,000 gallons per day (gpd) when the plant is firing gas. When firing oil, water consumption will increase to 96 gpm or 138,000 gpd due to the requirements of the water injection systems in the CTGs. (Ex. APP-3; test. M. Jarvis, 6/6/01, p. 562.)

18. The applicant has received all of the required local planning and zoning and wetlands permits for the proposed project, a *Certificate of Environmental Compatibility and Public Need* (Certificate) from the Connecticut Siting Council, and a no hazard determination from the Federal Aviation Administration. The facility will be designated as a Phase II Acid Rain New Affected Unit pursuant to 40 CFR §72 once commercial operations begin. The applicant will be required to apply for a Title IV permit at that time. (Exs. APP-50, 58c; test. M. Jarvis, 6/4/01, p. 29.)

19. The seven sources will emit the criteria pollutants NO_2, CO, PM_{10}, SOx, and VOC. The CTGs will also emit ammonia (NH_3) as a result of the use of the SCR control technology for NO_x emissions. The proposed project site is located within an area that has been designated as "attainment" for CO, PM_{10}, and SO_X and "serious non-attainment" for ozone and its precursors, NO_x and VOCs. (Exs. APP-3, 24, 31, 59; exs. BAM-4, 10, 11; test. I. Clark, 6/4/01, pp. 46-81; test. J. Sinclair, 6/20/01, p. 1486.)

c

Site Description

20. The proposed project site is a 20-acre parcel located in the northeast corner of an area that is targeted for industrial development in Oxford. A Connecticut Light and Power Company transmission line right-of-way with two transmission line support structures is adjacent to the site. The site borders the existing Algonquin Gas Transmission pipeline and undeveloped woodland to the north, undeveloped woodland and agricultural fields to the south, undeveloped woodland to the east, and Woodruff Hill Road to the west. The Waterbury-Oxford Airport is approximately 0.6 miles to the west. The site is located amid hilly terrain but does not impact any state or municipal

designated ridgeline or summit. (Exs. APP-3, 50, 58, 58a; test. P. Schreiber, 7/12/01, p. 2692.)

21. The Middlebury/Oxford town boundary is approximately 535 feet north of the proposed site. Land to the north of this boundary has been zoned residential by the Town of Middlebury. The nearest residences to the site are approximately 1150 feet north of the site in the Town of Middlebury, and 1500 feet southeast and 2400 feet southwest of the site in the Town of Oxford. (Ex. APP-58a; ex. INTC-224.)

22. The applicant proposes to access the site by Woodruff Hill Road, which is located off Prokop Road. Woodruff Hill Road is presently unimproved and is not maintained by the Town of Oxford. The applicant proposes to improve this road in accordance with municipal planning and zoning regulations. The applicant has entered into a development agreement with the Town of Oxford to make the necessary improvements to Woodruff Hill Road and to construct a second road that runs along the perimeter of the Waterbury-Oxford Airport (Airport Road). The applicant's obligation to construct Airport Road is conditioned on the costs of that construction and the availability of funds from the Town of Oxford to cover any expenses that exceed the limits set out in the agreement. (Exs. App-3, 58a; ex. INTC–198; test. R. Schreiber, 7/12/01, p. 2694.)

d

The Applicant

23. At the time of the initial permit application, Towantic Energy, LLC was owned and managed by Arena Capital Ltd. through its subsidiary Towantic Holdings, LLC. By October 28, 1999, Calpine Corporation had purchased a majority interest in the project though its subsidiary holding company, CPN Oxford, Inc., which became the managing member of Towantic Energy, LLC. Towantic Holdings, LLC continues as a minority-interest member in Towantic Energy, LLC. (Ex. APP-41; test. M. Jarvis/J. Lipman, 6/4/01, pp. 20-22, 173-189.)

24. The original application and all supplements were signed by Towantic's president, Janis G. Lipman. Other submissions to staff were signed by either a

representative of the applicant's environmental consultants, R.W. Beck, or by Malcolm Jarvis, Director of Project Development for Calpine Corporation. The development agreement with the Town of Oxford was signed by Robert K. Alff, Vice President of CPN Oxford, Inc. (Exs. APP-3, 11, 13, 16, 18, 24, 26, 41; exs. BAM-13, 16; ex. INTC-189; test. J. Lipman, 6/4/01, p. 177; test. M. Jarvis, 6/4/01, pp. 184-185.)

25. Effective June 6, 2002, Robert K. Alff replaced Janis G. Lipman as the applicant's authorized representative. An October 7, 1999 corporate resolution identified certain elected officers of Towantic Energy, LLC, including Robert K. Alff as Vice President. These officers were granted authorization to act for and on behalf of Towantic although the members retained management duties and continued authority to bind the applicant pursuant to its operating agreement. (Ex. BAM-34.)

26. On June 12, 2002, the applicant signed and submitted to staff registration form DEP-AIR-SIG-REG-001, which reflected the change in the applicant's designated authorized representative. The form also indicated that Malcolm Jarvis, Project Development Manager for Calpine Corporation, was the project's contact person. (Ex. BAM-34.)

27. The assets of Towantic Energy, LLC presently consist of an option to purchase the proposed site and the rights to the development of the power plant. Once the plant is constructed, the applicant's assets will have a total value of approximately $300 million and will include the site and the power generating facilities. (Ex. APP-3; test. M. Jarvis, 6/4/01, pp. 187.)

28. The applicant's objectives for the proposed project are to improve the reliability of the electric supply system in Connecticut and to contribute to air quality improvement efforts by reducing the region's dependence on older coal/oil fired generating units with significantly higher air pollutant emissions. (Exs. APP-3, 58a-c.)

e

The Application

29. The application documents included, among other things, an executive summary, background information, a premises site plan, equipment and other technical

information, projected air pollution emissions, and proposed control equipment descriptions. (Ex. APP-3; test. I. Clark, 6/4/01, pp. 44-45; test. J. Sinclair, 6/20/01, p. 1490.)

30. The projected annual emissions rates for individual air pollutants were calculated using information from such sources as stack test results from similar sources, calculations by the applicant, and manufacturer's data and guarantees. The applicant proposed annual emissions rates under two operating scenarios. The first showed the annual emissions when firing only natural gas for 8760 hours per year. The second demonstrated emissions rates when firing oil for 720 hours per year and gas for the remaining 8040 hours of operation per year. (Exs. APP-3, 11, 13, 17,18, 24, 31, 41, 59; ex. BAM-10; test. I. Clark, 6/4/01, pp. 44-61.)

31. The BACT analyses included determinations for SOx, CO, VOC, PM_{10} and NH_3 for all seven sources. The applicant also conducted a LAER analysis for NOx emissions from each category of NOx emitting sources proposed for the project. The applicant did not conduct a LAER analysis for VOC emissions because it has agreed to comply with a permit limitation on such emissions below the level that triggers the requirement for a LAER determination. (Exs. APP-3, 24, 59; exs. BAM-4, 11, 33, test. I. Clark, 6/4/01, pp. 35-81; test. J. Sinclair, 12/10/01, pp. 3358-3360.)

32. The applicant conducted the BACT/LAER analyses according to EPA guidelines, which correspond to guidelines adopted by the Northeast States for Coordinated Air Use Management (NESCAUM).[11] Staff reviewed the emissions rates and control technology proposed by the applicant. In addition to the applicant's cost effectiveness analysis for each potential control technology, staff calculated the incremental cost effectiveness[12] of each option. For all seven sources, staff determined

[11] The EPA Office of Air Quality Planning and Standards has issued a set of guidelines for BACT analysis, *New Source Review Workshop Manual, PSD and Nonattainment Area Permitting,* (draft October, 1990). NESCAUM has also developed guidelines for its member states to promote consistent methods of determining BACT. Both sets of guidance provide for a case-by-case, top-down analysis of control technologies that incorporates an identification of control alternatives, elimination of alternatives that are not technically feasible, ranking of remaining alternatives for control effectiveness from most effective or stringent to least, and evaluation of each alternative with respect to its environmental, energy and economic impacts. (Ex. APP-59; ex. INTC-192; test. P. Fox, 6/12/01, p. 796, 6/13/01, pp. 1065-1066; *In re Three Mountain Power, LLC,* PSD Appeal No. 01-05, slip op at 6 n.3 (EAB, May 30, 2001) 10 EAD ___.)

[12] The ratio of the difference between two degrees of emissions reduction and the difference in costs of achieving those two degrees of emissions reductions. (Ex. BAM-29.)

BACT to be either the most effective emissions control option or the next most effective control technology option if the cost analyses warranted selection of that option. Staff determined that the combined efforts of the applicant and staff's engineering review satisfy the elements of the top-down BACT analysis for all sources. (Exs. APP-3, 24, 59, 144; exs. BAM-4, 10; test. I. Clark, 6/5/01, pp. 373-374; test. A. Hacker, 6/5/01/pp. 375-380, 6/11/01, pp. 650-652; test. J. Sinclair, 7/3/01, pp. 2450-2455; test. J. Hanisch, 7/11/01, pp. 2676-2681, 7/12/01, pp. 2804-2805.)

33. The application indicates that the sum of allowable emissions from the storage tanks, emergency engines, auxiliary boiler, and CTGs will exceed the significant rate thresholds set forth in §22a-174-3a(k), Table 3a(k)-1 for PM_{10}, SOx, NOx, VOC and CO. The entire premises[13] are therefore subject to PSD review in addition to the BACT determinations required for each individual source. The review requires mathematical modeling of the emissions from the premises to insure that operations will not interfere with the attainment of NAAQS and will not exceed the PSD increments. (Exs. APP-3, 59; ex. BAM-11; test. I. Clark, 6/4/01, p. 45.)

34. The initial application included an air quality impact analysis. The applicant submitted several revisions during the DEP technical review process. The analyses incorporated state and federally approved methods of air dispersion modeling based on the proposed project's impacts, other regional interactive sources, and the existing or "background" ambient air quality. (Exs. APP-3, 13, 18, 26, 38-40, 118; ex. BAM-10; test. I. Clark, 6/4/01, pp. 45, 66-68; test. J. Catalano, 6/20/01, pp. 1527-1531.)

35. Other revisions to the application were due to the proposed installation of catalytic oxidation to limit CO emissions from the CTGs, modifications to the height of the turbine stacks from 160 feet to 146 feet above ground level, and revisions to the air dispersion modeling to account for the impacts from these changes. (Exs. APP-13, 18, 41; ex. BAM-10; test. I. Clark, 6/4/01, pp. 46-59; test. J. Catalano, 6/20/01, pp. 1529-1531.)

[13] Premises is defined as "the grouping of all stationary sources at any one location and owned or under the control of the same person or persons." §22a-174-1(88).

36. The applicant provided information regarding its history of compliance with environmental protection laws in Connecticut and other states and federal jurisdictions. The applicant has no record of violation of any such laws during the five years preceding the submission of its application. Based on this information and given that Towantic Energy LLC does not operate any other stationary source of air pollution, staff determined that the applicant has no history of non-compliance with environmental laws. The applicant has paid all required application fees.[14] (Ex. APP-3; ex. BAM-16; test. J. Sinclair, 6/20/ 01, p. 1495, 7/13/01, pp. 3048-3049.)

37. The applicant also supplemented its application with the findings and decision of the Connecticut Siting Council (CSC) authorizing issuance of the *Certificate of Environmental Compatibility and Public Need.* The decision of the CSC was based on its evaluation of the cumulative benefits and impacts of the proposed facility on the State as well as on the local community. The CSC expressed concern with the long-term allocation of water from the Pomperaug River Basin and identified methods the applicant could use to reduce water consumption. The CSC also found that the proposed facility and exhaust stacks would be prominent because the facility would be lighted and located near the top of Woodruff Hill. (Exs. APP-58a, 58b; test. M. Jarvis, 6/4/01, pp. 31-32; test. I. Clark, 6/4/01, p. 51.)

38. The Certificate was approved subject to several conditions and requirements. These included reducing the height of the facility by shifting the proposed site up to 500 feet to the south; providing for adequate water supply while operating on oil; requiring oil storage and other facilities to ensure continuous operations on oil for up to 720 hours per year during natural gas curtailment; and developing a water conservation plan to use on-site water storage for operations during low flow conditions. (Ex. APP-58c; test. M. Jarvis, 6/4/01, pp. 31-32; test. I. Clark, 6/4/01, p. 51; test. J. Catalano, 6/20/01, pp. 1530, 1539.)

[14] See footnote 6.

f

PSD/BACT Determinations

39. The following control technology determinations and emissions limitations have been established for the CTGs based on this standardized operating scenario:

a. ambient temperature = 59°F;

b. 720 hours of operation of each turbine at 100 percent load, burning distillate oil with a 5percent sulfur content, by weight;

c. 8040 hours of operation of each turbine with loads varying between 50 percent and 100 percent;

d. SCR and CO Catalytic Oxidizer manufacturers' guaranteed emissions rates for NO_x, NH_3, and CO based on steady-state operations; and

e. Manufacturer's (GE) guarantees and guidance for particulate matter and VOC emissions for the PG 7241 (FA) gas turbines.

(Ex. BAM-10.)

- SOx emissions from each turbine are limited to 39.518 tpy and controlled by limiting the fuel sulfur content to 8 ppmvw[15] for natural gas and 0.05 percent by weight for oil.[16] (Exs. APP-3, 59; exs. BAM-9a, 9b, 10.)
- CO emissions from each turbine will be limited to 85.898 tpy and controlled by proper combustion design and operation including a Dry Low NOx (DLN) combustor installed in the CTGs. The most stringent control for CO emissions, an oxidation catalyst, will be installed in the HRSG where the temperatures are high enough to promote oxidation. (Exs. APP-3, 18, 58, 59; exs. BAM-9a, 9b, 10; test. I. Clark, 6/4/01, pp. 49-51.)

[15] Parts per million wet volume basis.

[16] The applicant rejected the use of ultra low sulfur content fuel oil (less than 30 ppm) on the basis that there was only one refiner currently producing the fuel and one storage terminal located in New Jersey. The applicant was concerned about a sole source of supply, availability and transportation of the fuel. Staff indicated that the DEP will consider ultra low sulfur fuel to be an innovative technology and that the applicant would have to request its use. (Test. J. Sinclair, 7/11/01, pp. 2532-2535; test. R. Howard, 7/11/01, pp. 2649-2658; test. J. Hanisch, 7/12/01, pp. 2799-2800.)

- Total VOC emissions from the turbines will be limited to 23.4 tpy. This limit is based on the turbine manufacturer's guarantee for VOC emissions from the CTGs and on the inherent VOC removal capabilities of the CO catalyst when properly installed in the HRSG and operating at 50 percent capacity or greater.[17] (Ex. APP-3; exs. BAM-4, 28a, 28b, 29, 33; test. J. Niland/E. Couppis, 6/6/01, pp. 579-581.)
- The limit on total PM_{10} emissions from each CTG will be 98.225 tpy.[18] Emissions will be controlled through the use of natural gas as the primary fuel and low ash, low sulfur oil as the back-up fuel. In addition, opacity[19] will be limited to 10 percent or less utilizing a six-minute block average when firing oil.[20] (Exs. BAM-9a, 9b, 10, test. J. Sinclair, 6/20/2001, p 1510, 1521-22.)
- When the CTGs are firing oil, some of the fuel sulfur will convert to sulfur trioxide resulting in potential increases in PM_{10} emissions. In consideration of this reaction, this emissions rate was based on the CTG vendor's recommendation and experience that 5 percent of the fuel sulfur will convert to sulfur trioxide. (Exs. APP-18, 26, 37; exs. INTC-9, 195; test. P. Fox, 6/11/01, pp. 686-687; test. J. Chalfin, 6/27/01, pp.1975-1980; 7/2/01, pp. 2215-2225.)
- To preserve equipment and system reliability when firing oil, the turbines/generators will be constructed such that the exhaust gases can bypass the low pressure economizer or feedwater tube section of the HRSG. The effect of the bypass is that the stack plume will be high enough to cause a greater degree of dispersion of pollutants into the atmosphere and lower

[17] The HRSG vendor also provided a guarantee of 40 percent reduction of VOC emissions based on the ability of the oxidation catalyst to remove VOCs. After review, this guarantee was rejected by staff and was not a factor in the BACT determination. (Ex. BAM-30; test. J. Sinclair, 12/10/01, pp. 3361-62; test. M. Jarvis, 12/4/01, pp. 3098-3099.)

[18] PM_{10} occurs in three forms. Filterable particulate matter, particulates that can be filtered from exhaust gases; particulate that forms from cooled exhaust gases and secondary particulate matter that results from the reactions of the CO catalyst and the ammonia with the fuel sulfur. (Ex. APP-37; ex. INTC-195; test. I. Clark, 6/4/01, p. 60; test. P. Fox, 6/11/01, pp. 686-687.)

[19] "'Opacity' means the degree to which emissions reduce the transmission of light and obscure the view of an object in the background." Regs., Conn. State Agencies §22a-174-1(77).

[20] Opacity limits of 10 percent have been used as BACT determinants in permits issued by the DEP in 1999 and 2000. (Test. J. Sinclair, 6/20/01, p. 1510.)

- concentrations of pollutants, specifically PM_{10}, detected in ambient impact compliance analyses. Staff considers the exhaust gas temperatures to be consistent with similar sources in the state and the bypass to be reasonable and grounded in established scientific principles. (Exs. INTC-196, 196a; test. J. Niland, 6/5/01, pp. 311-312; test. B. Egan, 6/18/01, pp. 1208-1213; test. J. Sinclair, 6/20/01, pp. 1497-1498; test. J. Catalano, 6/20/01, pp. 1531-1533; test. J. Chalfin, 6/27/01, pp. 2006-2007.)
- The plant control system can be set up so that the bypass of the low pressure economizer can occur automatically when the CTG is set to burn oil. The applicant agrees to a permit condition that requires the bypass to be placed in operation automatically at all times when the gas turbines are burning oil. (Ex. APP-98; test. M. Jarvis, 7/13/01, pp. 2989-2991.)
- NH_3 emissions will be controlled by the use of additional catalyst in the SCR to limit ammonia slip[21] to no more than 5 ppmv, when adjusted to conditions of 15 percent O_2,[22] and permit conditions that provide for a review of the NH_3 removal capabilities of the SCR technology after three years of commercial operations to determine whether this limit should be reduced. (Ex. APP-31; exs. BAM-9a, 9b, 10; test. I. Clark, 6/4/01, pp. 56-57.)

40. The two 886,000 gallon storage tanks will each be subject to VOC emissions limits of 0.047 tpy achieved through the use of internal floating roofs. The tanks are not expected to emit any other regulated air pollutant. The tanks are subject to federal new source performance standards; the applicant therefore must keep records of the dimensions and design capacity of the tanks. 40 CFR §60.116b(a) and (b). (Ex. APP-3; exs. BAM-9c, 9d, 11, 18, 28a, 29.)

41. The auxiliary boiler will emit NOx , SOx, CO, VOC, and PM_{10}. The following control technology determinations and emissions limitations have been established for the auxiliary boiler.

[21] The amount of NH_3 injected into the SCR must be greater than the stoichiometric ratio to effectively control NOx emissions. The uncombusted NH_3 is called "ammonia slip". (Ex. BAM-10.)
[22] This limit description reflects an industry practice of determining pollutant concentrations at standardized levels of excess oxygen rather than at the actual oxygen levels, which can vary. (Test. P. Fox, 6/11/01, pp. 736-737.)

- SOx emissions will be limited to less than 5 tpy through the use of low sulfur fuels. (Exs. APP-51, 59; exs. BAM-4, 9e, 11.)
- CO emissions will be limited to 100 ppmvd when adjusted to conditions of 3 percent O_2 achieved through annual operating limits of 3500 hours and proper combustion control/design including the use of the DLN burner. (Ex. APP-59; exs. BAM-4, 9.)
- VOC emissions limits of 3 ppmvd when adjusted to 3 percent O_2 are achievable with the DLN burner. (Exs. BAM-28a, 28b, 29.)
- The most stringent PM10 emissions limit for the boiler is 0.0048 lb/MMBtu combined with the annual operating limit, the fuel specifications of natural gas or propane, and proper combustion/control design. (Ex. APP-59; ex. BAM-4.)

42. The emergency engines will burn diesel fuel with a sulfur content of 0.05 percent by weight under annual fuel consumption or operational limits. The engines are proposed to supply power during fire emergencies or power outages. The engines are subject to the following emissions limitations and control technology requirements.

- The control for SOx will be the use of low sulfur fuels to achieve the most stringent level of control of SOx emissions, 0.05 lb/MMBtu, from each engine. (Ex. APP-59; ex. BAM-4; test. J. Sinclair, 7/3/01, pp. 2452-2452.)
- CO emissions from the emergency engine and fire pump will be the most stringent limit of 2.16 g/bhp-h[23] with operational limits restricting the use of the engine to testing and emergencies. CO emissions from the emergency generator will be limited to 1.68 g/bhp-h with similar operational limits. (Ex. BAM-4; test. A. Hacker, 6/6/01, pp. 434-435.)
- VOC emissions from the emergency engine and fire pump will be limited to .08 tpy and emissions from the generator will be limited to .26 tpy. (Exs. BAM-28a, 28b, 29.)
- The most stringent level of control of PM_{10} emissions of 0.16 g/bhp-h will be required for the emergency engine and fire pump and 0.28 g/bhp-h will be

[23] Grams per brake horsepower hour.

required for the emergency generator. The emissions limits will be achieved by limits on the total number of annual operating hours. (Ex. APP-59; ex. BAM-4; test. A. Hacker, 6/6/01, pp. 434-435.)

g

PSD/Analysis of Impacts of the Project on Ambient Air Quality

43. The applicant performed a number of mathematical modeling/dispersion studies to determine the impact of the emissions from the project on air quality. The results of these studies indicate that the project will have relatively low impacts due to low levels of pollutant emissions and its hilltop location. Within the area of the significant impact for this project, the project's emissions combined with other interactive sources indicate that the emissions are in compliance with PSD increments. The interactive impacts combined with ambient air quality are also in compliance with the NAAQS for all relevant criteria pollutants. (Exs. APP-3, 13, 18, 26, 38-40; ex. BAM-10; test. I. Clark, 6/4/01, pp. 45, 66-68; test. J. Catalano, 6/20/01, pp. 1527-1531.)

44. The applicant also performed an additional impact analysis to determine whether the operations of the facility would impair visibility, soils or vegetation. The analysis also considered the commercial and residential growth in the area and the projected ambient air quality impact of that growth. The results of this analysis indicate that there will be no significant impacts due to growth, no impacts on visibility, and no detrimental impacts on soils and vegetation. (Ex. APP-3; ex. BAM-10; test. I. Clark, 6/4/01, pp. 70-71; test. J. Catalano, 6/20/01, pp. 1533-1535.)

h

Nonattainment

The proposed project site is located in an area designated as nonattainment for ozone. The applicant is therefore required to provide a LAER determination for NO_x and VOC emissions, conduct an alternatives analysis, acquire emissions reduction credits (ERCs) and demonstrate compliance with environmental laws. §22a-174-3a(l).

(1)

LAER Determination

45. NOx is formed in the CTGs through thermal oxidation of nitrogen in the air. The DLN combustors installed in the turbines will inhibit the formation of NO_x. The proposed water injection system will reduce the quantity of thermal NOx produced in the CTGs when burning oil. The LAER for NOx from turbines of this size and capacity is 2.0 ppmvd[24] when firing gas and 5.9 ppmvd when firing oil. The following factors were considered in arriving at these emissions rates. (Exs. APP-3, 24; ex. BAM-4.)

- There are two control technologies capable of meeting LAER for NO_x emissions, selective catalytic reduction (SCR) and SCONOx.[25] The applicant was therefore required to consider both. SCR has been applied to combustion turbine systems of the size and capacity proposed for this project. There is no facility currently using a $SCONO_X$ system of this size. The applicant concluded that the $SCONO_X$ system of modules and louvers was mechanically problematic and that the technology was not scaled-up[26] sufficiently for facilities such as the proposed project. (Exs. APP-3, 24, 59; exs. BAM-4, 10; test. I. Clark, 6/4/01, p. 95-95; test. M. Jarvis, 6/4/01, pp. 98-105; test. J. Hanisch, 7/12/01, pp. 2823-2825.)
- In addition to the fact that a $SCONO_X$ system has not been applied to combustion turbines of the size and capacity proposed for this project, the applicant rejected the technology because capital and annual operating costs are greater than the costs of SCR and the demand for water will increase by as much as 28,800 gpd with its use. The applicant will not accept the economic and environmental risks associated with a control technology that has no proven record with projects of this size. (Exs. APP-3, 24; test. I. Clark, 6/4/01, p. 96; test. M. Jarvis, 6/4/01, pp. 104-111; test. P. Fox, 6/12/01, pp. 816-817; test. J. Hanisch, 7/12/01, pp. 2823-2826; test. M. Jarvis, 7/13/01, pp. 2996-3002.)

[24] Parts per million dry volume basis.
[25] See footnote No 8.
[26] Scale-up is an industry practice used to bring a new technology from its pilot stage to broader and larger applications. (Test. I. Clark, 6/4/01, p. 96.)

- Staff determined that the appropriate control technology for NO_x emissions should be SCR. Staff based its determination on the fact that the demand for additional water required by the SCONOx technology is "more significant and detrimental than the additional air emissions and potential environmental impacts of ammonia discharges inherent in the use of SCR." This has been the basis for other permitting agencies to eliminate SCONOx as a control technology. (Ex. BAM-4; ex. INTC-138; test. J. Sinclair, 6/27/01, p. 1925; test. G. Rubenstein, 7/3/01, pp. 2403-2404.)
- The potential environmental impacts associated with the use of SCR are the hazards of transporting and storing aqueous ammonia, disposal of the vandium pentoxide catalyst,[27] and increased NH_3 and PM_{10} emissions. The catalyst degenerates over time and must be replaced. The SCR vendor will remove the spent catalyst and dispose of it. Limits on the allowable emissions of NH_3 and PM_{10} will further mitigate these impacts. Also, the proposed 19 percent ammonia solution is below the hazard threshold that would trigger the requirement of a risk management plan under the CAA. The ammonia will be stored in a containment area of sufficient size to contain a spill and limit the ammonia released into the air to levels below those that pose a significant threat to human health. The storage and transport hazards can be eliminated by the use of a solid form of ammonia, Urea, which is in the early stage of development for projects of this type. The applicant will accept a permit condition that requires the facility to incorporate Urea into its process when it has been established that it is a feasible alternative source of ammonia. (Exs. APP-31, 59; ex. BAM-4; ex. INTC-195; test. M. Jarvis, 6/4/01, pp. 114-118, 6/11/01, pp. 653-655; test. J. Niland, 6/5/01, pp. 364-366; test. L. Green, 7/12/01, pp. 2844-2848; test. P. Fox 6/12/01, pp. 851-853.)

46. The applicant conducted a LAER analysis for NOx emissions from the auxiliary boiler as part of the premises emissions determination. The proposed boiler will include a low NO_x burner that will minimize NO_x emissions. Flue gas recirculation is required and it is the most stringent and feasible control technology for NO_x emissions

[27] Vanadium pentoxide is considered a hazardous waste material under federal law. (Ex. APP-59; ex. INTC-195; test. P. Fox, 6/12/01, pp. 823, 854.)

from the boiler. LAER is 9.0 ppmv[28] when adjusted to 3 percent O_2 with the use of the low NO_x burners and flue gas recirculation. (Ex. APP-59; ex. BAM-4; test. M. Jarvis, 6/6/01, pp. 592-593; test. I Clark, 7/13/01/ pp. 2928-2931.)

47. LAER for NO_x emissions from either of the two emergency engines is 6.9 g/bhp-h with limits on the total number of annual operating hours and the use of engine performance improvements such as turbocharging, intercooling, after cooling, or any other combination of control technologies. Lower rates have been set for small, "short-term use" engines. Staff rejected those lower rates because the "emergency use" engines proposed for this project are a distinct source category and subject to a separate LAER determination. (Ex. APP-59; exs. BAM-4, 15; exs. INTC-139-144; test. A. Hacker, 6/6/01, pp. 414-416; test. M. Jarvis, 6/6/01, pp. 591-592; test. P. Fox, 6/12/01, pp. 837-839; test. J. Sinclair, 7/3/01, pp. 2427-2428.)

(2)

Alternatives Analysis

48. The applicant evaluated various alternatives to the proposed project as required in a nonattainment review. Regs., Conn. State Agencies §22a-174-3a(l)(2). Fourteen potential sites were assessed for community receptivity, proximity of natural gas and electric transmission lines, water and sewer availability, and availability of properly zoned parcels of fifteen to twenty acres. (Ex. APP-58; test. I. Clark, 6/4/01, p. 72; test. J. Sinclair, 6/20/01, p. 1486.)

49. The applicant eliminated sites where the project would significantly impact wetlands or air quality, contribute to existing environmental contamination or where the site was too close to existing residential neighborhoods. The applicant also eliminated any site located in an area of the state that was characterized as a severe ozone non-attainment area. The twenty-acre parcel targeted for industrial development in Oxford was identified as the most suitable site. (Ex. APP-58; test. J. Lipman, 6/6/01, pp. 478-481.)

[28] Parts per million by volume.

50. The applicant evaluated the use of solid, liquid, gaseous and dispersed fuels. Five technologies -- nuclear, hydroelectric, geothermal, solar and photovoltaic cell generation -- were eliminated for one or more of the following reasons: cost/risk ratio, environmental concerns, inadequate resources, lack of sufficient open space, and limited availability. (Ex. APP-58.)

51. The applicant considered seven power generation alternatives and selected gas-fired combined-cycle generation based on energy (heat rate, capacity), environmental (air emissions, water use, sold waste produced, land use), and economic (capital cost, fuel price, operating and management costs) considerations and unit size. (Ex. APP-58; test. M. Jarvis, 6/6/01, pp. 466-470.)

52. The proposed facility will be one of several hundred in the New England region managed by an Independent Systems Operator (ISO New England). Power generators are dispatched by ISO through a bidding process that gives certain competitive advantages to older, fossil-fueled power plants in Connecticut due to low cost fuel and little need for capital expenses. However, recently enacted state regulations that require more stringent emissions controls for sulfur, combined with less nuclear power generation in the area, will likely improve the competitive position of cleaner, more efficient generators. The proposed project will be positioned to augment the reliability and quantity of electric power produced in the area, and contribute to an improvement in air quality. (Ex. APP-3; test. M. Jarvis, 6/6/01, pp. 590-591.)

53. The construction and operation of the proposed project will provide other benefits to the area. The applicant has committed to develop Woodruff Hill Road and to share in the cost of constructing Airport Road. The applicant has agreed to rebuild local water gauging stations within the Pomperaug watershed and to provide funding to enable measurements of the Pomperaug River flows. The applicant has committed to a tax stabilization agreement with the Town of Oxford that will generate annual revenues in excess of two million dollars and to the creation of a community fund to benefit the greater New Haven area. (Ex. INTC-189; test. M. Jarvis, 6/4/01, pp. 166-167; test. P Schrieber, 7/12/01, pp. 2693–2697.)

54. The proposed project will cause increases in air pollution in the vicinity of the project site. It will also increase the demand for water from the HWC, the utility that serves the entire area. There will be increases in vehicular traffic and there are certain inherent dangers in the operation of a large fuel burning source. The applicant has proposed measures to conserve water and minimize the environmental impacts of the project. Staff has considered the benefits and costs associated with the project and has determined that the benefits of reliable energy outweigh the social and environmental costs of its production. (Ex. APP-60; ex. BAM-3; test. I. Clark, 6/4/01, p. 135.)

(3)

Acquisition of Emission Reduction Credits

55. The applicant has obtained 177 tpy of nitrogen oxides continuous emission reduction credits (ERCs) from a total reserve of 2078.42 tpy that were created in 1994-1995 due to a shutdown of two boilers at the Consolidated Edison Company of New York, Inc. Astoria Generating Station. The Astoria Station is located in a severe ozone non-attainment area and is within 200 km of the proposed project site. The New York State Department of Environmental Conservation certified and registered these credits, and issued a trading block number to identify them. (Ex. APP-33; test. I. Clark, 6/4/01, p. 72 - 74; test. M. Jarvis, 6/5/01, pp. 357-362; test. J. Sinclair, 6/20/01, p. 1487; test. W. Jacobs, 6/27/01, pp. 1948-1961.)

56. A reciprocity agreement between the states of Connecticut and New York sets out the criteria for ERC transfer including the requirements that the ERCs are to be permanent, quantifiable, and enforceable at state and federal levels. New York environmental regulations include federally enforceable requirements for creating ERCs. The registered ERCs are therefore considered to be in compliance with the requirement of federal enforceability. (Test. W. Jacobs, 6/27/01, pp. 1948-1950.)

(4)

Compliance Requirements

57. The applicant has provided information on forms supplied by the DEP that indicates that it has not been convicted, or penalized for any violation of a local, state or federal environmental law. The applicant further indicated that it has not had any judgment entered against it for violating any environmental law and there is no outstanding order against it issued by a state or federal administrative agency. (Ex. BAM-16; test. J. Sinclair, 6/20/01, p. 1488, 1495.)

i

Hazardous Air Pollutants

58. When firing gas, the CTGs may emit HAPs that include formaldehyde, acrolein, ammonia, sulfuric acid, toluene, and polynuclear aromatic hydrocarbons. When firing oil, the CTGs may emit HAPs that are common to all fossil fuel fired sources such as: arsenic, benzene, butadiene, chromium, formaldehyde, lead, sulfuric acid, and poly aromatic hydrocarbons. (Exs. APP-3, 26; ex. BAM-10.)

59. The applicant is required to demonstrate compliance with the maximum allowable stack concentration (MASC) for each HAP emitted from the project. The initial MASC determinations were based on estimated hourly emissions rates, fuel type, fuel flow rates, heat rates and emissions factors taken from the Emissions Factor Documentation for AP-42 Section 3.1 Stationary Gas Turbines[29]. (Exs. APP-2, 26; exs. BAM-9a, 9b, 10; test. I. Clark, 6/4/01, pp. 81-83; test. J. Sinclair, 6/20/01, pp. 1499-1500; test. B. Rachini, 6/27/02, pp. 2017-2019.)

60. The AP-42 emissions factors do not specifically provide for operating conditions other than 100 percent capacity. During periods of start-up, HAPs emissions may be uncontrolled for approximately ten minutes and emissions levels may increase

[29] AP-42 is a compilation of stack test reports prepared primarily during the late 1980s and early 1990s. The data was collected and compiled for the EPA to establish emissions factors for stationary gas turbines to provide a reference for permitting agencies. (Ex. BAM-10; test. B. Richani, 6/27/01, pp. 2018-2019.)

beyond those estimated by the applicant and staff. Stack emissions testing during startup, shutdown and steady state operations will determine the actual emissions rate of all HAPs. Continuous Emissions Monitoring (CEM) systems for HAPs have not been required for CTGs in this state and were not required for this project. (Exs. BAM-9a, 9b, 10; test. P. Fox, 6/12/01, p. 867-877, 881, 884, 886; test. J. Sinclair, 6/20/01, pp. 1499–1501; test. K. Hill, 6/20/01, pp. 1524-1525.)

61. The draft permits require the applicant to calculate and record monthly HAPs emissions. The applicant must control emissions such that no single HAP will be greater than or equal to ten tons in any period of twelve consecutive calendar months and no combination of HAPs emissions will be greater than or equal to a total of twenty-five tons in any period of twelve consecutive calendar months. Without these limits, the CTGs would be considered major stationary sources of HAPs and subject to a maximum achievable control technology determination (MACT). The most stringent control technology known for HAPs is an oxidation catalyst such as that proposed to be used in the CTGs for this project. (Exs. BAM-9a, 9b; test. B. Rachini, 6/27/01, pp. 2030-2036; test. G. Rubenstein, 6/27/01, pp. 2070-2075.)

j

Draft Permits

62. The seven draft permits specify the state and federal statutes and regulations that govern the operation of the facility, restrict emissions, and establish the requirements for stack testing, emissions monitoring and record keeping. All permits provide that the applicant must conduct, maintain and operate each new source in compliance with all applicable requirements of any federal, municipal or state agency and applicable federal, state and local law. (Exs. BAM-9a-9g; test. J. Sinclair, 6/20/01, p. 1491.)

63. The draft permits for the CTGs specify the allowable emissions limits for the criteria pollutants, ammonia, and HAPs based on the BACT/LAER and MASC determinations. (See Attachments A and B.) The permits establish operational conditions including the fuel sulfur contents of 8 ppmw for natural gas and no more than 0.05

percent, by weight, for oil. The control equipment is specified as Low NOx burners, water injection (for oil firing only), SCR, and catalytic oxidation. (Exs. BAM-9a, 9b.)

64. Continuous emissions monitoring (CEM) is required in accordance with the DEP *Continuous Emissions Monitoring Guideline*. Monitoring equipment is to be installed, calibrated and approved by the DEP prior to commercial operation of the CTGs. (Exs. BAM-9a, 9b; test. J. Sinclair, 6/20/01, pp. 1492-1494, 1512, 6/27/01, pp. 1905-1906.)

65. The CTG draft permits also require periodic stack testing for the criteria pollutants and HAPs, monitoring, reporting and record-keeping, and assuring compliance with federal New Source Performance Standards and the National Emissions Standards for Hazardous Air Pollutants. 40 CFR§§60, 61. (Exs. BAM-9a, 9b; test. J. Sinclair 6/20/01, pp. 1492-1494.)

66. Additional terms and conditions in the CTG permits require the applicant to submit manufacturers' specifications for all air pollution control equipment and to prepare a written standby plan to be submitted to the commissioner for his approval prior to issuance of a permit to operate. The applicant is also required to submit a comprehensive written operations and maintenance plan for all air pollution emitting activities and control equipment. (Exs. BAM-9a, 9b; test. J. Sinclair, 6/20/01, p. 1504.)

67. The draft permits for the storage tanks specify the operating parameter limitations of a maximum hourly filling rate of 25,000 gph and a maximum annual throughput of 9,600,000 gpy. The permits include the limitation on VOC emissions to 0.047 tpy and require compliance with federal regulations pertaining to volatile organic liquid storage vessels. Certain additional record keeping and recording requirements include the amount of fuel received by the tanks, storage capacity over the life of the tanks, and maximum true vapor pressure of the fuel. The applicant is also prohibited from creating or contributing to odors that constitute a nuisance or from violating or contributing to any violation of any noise regulation. (Exs. BAM-9c, 9d.) (See Attachments C and D.)

68. The draft permit for the auxiliary boiler specifies operational conditions that include limits on fuel consumption. The control equipment is specified as flue gas recirculation. There are certain monitoring, reporting and record keeping requirements

including installation of a device to monitor and record the quantity and type of fuel fed to the boiler on a daily and twelve consecutive month basis. The draft permit includes the emissions limits for criteria pollutants under natural gas firing and propane gas firing scenarios based on the BACT/LAER determinations for the boiler. HAPs limitations are provided based on MASC estimations. The applicant is prohibited from operating the boiler in any way that contributes to a violation of any applicable noise statute or regulation and is required to comply with relevant federal new source performance standards. 40 CFR §60. (Ex. BAM-9e.) (See Attachment E.)

69. Staff has issued draft permits for the emergency engines that set operational limits on fuel consumption and emissions limits based on the BACT/LAER determinations. The draft permits also specify the MASC for two HAPs, Sulfuric Acid and Formaldehyde. The permit conditions do not include continuous emissions monitoring but do include, among other things, a requirement that the applicant monitor and record the quantity of fuel fed to the engine during each calendar month and for periods of twelve consecutive months. Other permit conditions require that the engines be dedicated solely to responding in emergency situations and provide that routine testing or maintenance of the engines shall not occur during days when ambient ozone is forecasted by the commissioner to be moderate, unhealthful or very unhealthful. (Exs. BAM-9f, 9g.) (See Attachments F and G.)

70. In a February 26, 2001 letter, the EPA Region 1 Air Permits Unit provided comments on the draft permits and asked staff to address these comments before issuing the permits. In its letter, the EPA stated that "[a]s a general comment, the draft permits' control technology analysis and emission limit requirements are consistent with the most stringent permit conditions issued anywhere in the country." EPA went on to say that its comments were "simply designed to help the DEP better document it permit decisions." (Ex. BAM-19a; test. J. Hanisch, 7/12/01, pp. 2805-2806.)

k

Proposed Permit Modifications

71. Staff has recommended certain corrections and clarifications to the draft permits for the CTGs. In particular, the operating requirements should be modified to clearly indicate that operational phases such as start-up, shut-down, load switching and equipment maintenance are excepted from the definition of "steady-state" and included in the definition of "transient" operations. (Exs. BAM-9a, 9b; test. J. Sinclair, 6/20/01, p. 1505-1506, 1509-1511, 7/3/01, p. 2473.)

72. Based on EPA recommendations, staff proposes to modify the CTG permits to specifically identify the ERCs acquired by the applicant, including the criteria under which the ERCs were reviewed and a description of how the reductions meet the offset requirements of the SIP. (Exs. BAM-9a, 9b, 19a, 19c; test. J. Sinclair, 6/20/01, p. 1513.)

73. The CTG permits do not contain production or operational limits as a means to enforce the VOC emissions limitation accepted by the applicant. In order to ensure the enforceability of this limitation, the permits should be modified to include a specific method for determining the emissions rate of VOCs from the turbines on a periodic basis that accounts for periods of start-up and shutdown as well as during steady-state operations. Such a modification would require the applicant to demonstrate on a twelve-month rolling average that the VOCs emissions from the turbines will not exceed the permit limits of 23.4 tpy. This process makes it possible for the applicant to effectively monitor emissions of VOCs and make monthly adjustments to its operations to ensure compliance with the permit limits. Staff has proposed that the draft permit be modified to incorporate this method. (Exs. BAM-9a, 9b, 29, 33; test. G. Rubenstein, 12/4/01, pp. 3211-3214; test. P. Fox, 12/4/01, p. 3201; test. J. Sinclair, 12/10/01, pp. 3368-3370.)

74. The proposed bypass design to mitigate the corrosive effects of the sulfuric acid that can form in the HRSG feedwater tubes impacts the concentration of PM_{10}. Without the bypass, the PM_{10} level would exceed PSD increments. The bypass feature is good engineering practice under circumstances where oil firing might occur for

more than 240 hours. The applicant has agreed to an additional CTG permit condition that will ensure that the plant control system be designed to automatically activate the bypass of the low pressure economizer when the turbines are set to burn oil. (Ex. APP-98; test. J. Niland, 6/06/01, pp. 583-585; test. B. Egan, 6/18/01, p. 1314; test. J. Catalano, 6/20/01, pp. 1531-1533; test. J. Sinclair, 6/20/01, pp. 1497-1498; test. J. Chalfin, 6/27/01, pp. 2006-2007, test. M. Jarvis, 7/13/01, pp. 2989-2992.)

75. The applicant has proposed a modification to the CTG permits that allows it to demonstrate compliance with the design specifications by adjusting them to a specific ambient temperature and relative humidity. Staff also recommends that the permits be revised to clearly state that NO_x and CO emissions will be tracked using the CEM systems during steady state and transient periods of operation. VOCs and PM_{10} emissions will also be tracked during transient operation by monitoring fuel flow and/or turbine output. (Exs. BAM-9a, 9b, 19c; test. J. Sinclair, 7/3/01, pp. 2413-2414.)

76. This permit for the auxiliary boiler was drafted prior to the final BACT/LAER determinations for criteria pollutant emissions. Staff has proposed revisions to the permit to reflect those determinations, including the requirement for stack emissions testing for NO_x, CO, SOx, VOC and $PM_{10,}$ revisions to the allowable emissions limits for NO_x and CO, and the installation of additional control equipment. (Exs. BAM-4, 9e; test. J. Sinclair, 7/3/01, p. 2442.)

77. The draft permits for the emergency engines were issued prior to the final BACT/LAER determinations. Staff has recommended that the permit conditions be revised to reflect those determinations, the use of performance improvements to control NOx emissions, and the stack emission test requirements for NOx, CO, SOx, VOC and PM_{10}. (Exs. BAM-4, 9f, 9g, 28b, 29; test. J. Sinclair, 7/3/01, p. 2442.)

I

Unreasonable Pollution

78. The Coalition and the Town of Oxford oppose the construction of the proposed facility.[30] It is the position of the Coalition that, given the ISO bid/dispatch process, and the competitive position of older, more polluting generators, the proposed project will not necessarily augment the state's electric power supply or ease the electric power transmission congestion in southwest Connecticut. The Coalition maintains that the project's benefits do not significantly outweigh the environmental impacts and social costs associated with its location and construction. (Test. R. Zaklukiewicz, 6/26/01, pp. 1711-1756.)

79. The Coalition has challenged a number of the elements of the permit application. The primary arguments presented by the Coalition include the following:

- The $SCONO_X$ technology is BACT for control of NO_x emissions from the CTGs. (Exs. INTC-195, 195a, 196, 196a, 211; test. P. Fox, 6/12/01, pp. 809-823, 847-866; test. B. Egan, 6/18/01, pp. 1223-1236.)
- The proposed bypass design is a "dispersion technique" prohibited under 40 CFR §51.100 and the benefits of reduced PM_{10} emissions due to the bypass should not be included in any demonstration of compliance with PSD increments. (Exs. INTC-196, 196a; test. B. Egan, 6/18/01, pp. 1206-1217, 1275-1277.)
- The applicant should be required to acquire ERCs that have been generated recently and within the state at a ratio greater than 1.2 to 1 for NO_x emissions. (Exs. INTC-66-70, 133, 197; test. W. Sylte, 7/12/01, pp. 2748-2768.)
- The nonattainment alternatives analysis should include other environmental impacts such as increases in traffic in the area, particularly truck traffic, impacts to the site to due to construction, and such social costs as consumer losses due to a less than fully competitive power supply market. (Exs. INTC-199, 217, 218; test.

[30] The Coalition intervened on the basis of allegations that the construction and operation of the proposed project would cause unreasonable pollution. The burden of proving unreasonable pollution rests with the Coalition. General Statutes §22a-19a. The Town of Oxford and James Callahan intervened pursuant to Regs., Conn. State Agencies §22a-3a-6(k)(1)(B), which provides for intervention upon demonstration that the petitioner's legal rights, duties or privileges will be affected by the decision .

R. Sinclair, 6/26/01, pp. 1789-1853; test. R. Nocera, 6/26/01, pp. 1855-1892.)

- The applicant, Towantic Energy, LLC, is not the owner/operator of the facility and Calpine Corporation, the real party-in-interest should be named as such in the application and the permits to ensure adequate enforcement of the permit conditions. (Exs. APP-3, 64, 65; ex. INTC-189; test. M. Jarvis/J. Lipman, 6/4/01, pp. 175-191.)
- The applicant should be required to plant trees or contribute to a climate trust fund to mitigate the effects of CO_2 emissions on the environment. (Exs. INTC-109-119, 131-132; test. H. Barres, 6/25/01, pp. 1579-1655; test. S. Broderick, 6/25/01, pp. 1655-1684.)
- The applicant's BACT analyses were inadequate. (Exs. INTC-195, 195a; test. P. Fox, 6/12/01, pp. 139-173.)

80. The Coalition also maintains that the applicant is required demonstrate that there are no feasible and prudent alternatives to this project including the "no build" alternative. (Exs. INTC-1, 2.)

3

CONCLUSIONS OF LAW

a

Jurisdiction

The commissioner is authorized to adopt and implement regulations to control and prohibit air pollution throughout the state and to issue permits for the construction and operation of new sources of air pollution in accordance with those regulations. General Statutes §22a-174(a) and (c). The regulations must be consistent with federal law, which provides that any state may develop an acceptable procedure for implementing and enforcing federal standards of performance for new sources of air pollution. 42 USC §7411(c). The commissioner has promulgated §§22a-174-1 to 22a-174-100 of the Regulations of Connecticut State Agencies, which include the standards of performance for new sources of air pollution. Section §22a-174-3a specifies the

application procedures and criteria and the standards for issuing permits to construct and operate stationary sources of air pollution.

Prior to issuing the permits to construct and operate the seven stationary sources proposed by the applicant, the commissioner must determine that the applicable provisions of the new source review regulations have been satisfied. This includes a determination that all emissions rates and operational limits determined as BACT or LAER are consistent with relevant regulatory requirements. The applicant must demonstrate that it has or will comply with applicable state and federal statutes and regulations and permit terms and conditions. In the present case, the commissioner must also determine whether the intervenors have proven that issuance of the permit will result in unreasonable pollution.

b

Regulatory Requirements

(1)

New Source Permit Applications

An application for a permit to construct and operate a regulated source of air pollution must include, among other things, an executive summary, background information pertaining to the owner and/or operator of the source and other contact information, a premises site plan, technical information, emissions rates for individual air pollutants, BACT and LAER determinations, compliance information, an authorized signatory certification, and all application fees. Regs., Conn. State Agencies §22a-174-3(c)(1)(A)-(L).

The applicant has provided the commissioner with the information specified in §22a-174-3a(c). However, the intervenors, specifically the Coalition, have contested the adequacy and the accuracy of much of this information throughout the proceedings. Most of the Coalition's issues are reviewed in subsequent, relevant sections of this proposed final decision. I will therefore only address here the Coalition's challenge to the identification of the owner of the project.

The Coalition argues that the owner and legally responsible entity for this project is Calpine Corporation, which should be identified as such in the application documents and in the new source permits. The Coalition's primary concern is that Calpine Corporation, the real party in interest, could be shielded by complex corporate structuring in the event it becomes necessary to take enforcement action if the permits are violated.

Limited liability companies such as the applicant are expressly authorized by the regulations to apply for a permit to construct and operate a new source. The regulations define a new source "operator" as any legally responsible "person", and the term "person" has been defined by statute to include limited liability companies. General Statutes §22a-170; Regs., Conn. State Agencies §§22a-174-1(79) and (85). In addition, the record contains evidence that describes the relationship between Towantic Energy, LLC and Calpine Corporation. Calpine has fully disclosed its subsidiary corporations that are the members of Towantic Energy, LLC. The state may take action against the legal entity, Towantic Energy, LLC, as provided by law if the permit is violated. Moreover, the law allows the state to look beyond Towantic to Calpine in certain instances and therefore provides a means of enforcing all permits related to this facility. See, e.g., *BEC v. Department of Environmental Protection,* 256 Conn. 602 (2001); *Town of Middlebury v. Connecticut Siting Council,* 2002 Conn. Sup. 2265 (2002).

The regulations permit a limited liability company to own or operate the type of facility proposed by the applicant. There is no evidence in the record to indicate that Towantic Energy, LLC was illegally formed. There is no regulatory requirement that Calpine Corporation be identified on the application as the owner of the project. Towantic will own significant assets once the facility is constructed. In the event these assets are insufficient or unavailable, the law permits the state to take action against the members of Towantic or against Calpine. The applicant has complied with §22a-174-3a(c)(1)(B) with respect to the identity of the owner and/or operator of the facility.

(2)

Standards for Issuing Permits

Section 22a-174-3a(h) of the Regulations of Connecticut State Agencies imposes a duty on any owner or operator of a major stationary source of pollution to comply with the terms and conditions of any permit issued by the commissioner. Further, §22a-174-3(d)(2) provides that a permit will not be issued unless the commissioner determines that the owner or operator of the subject stationary source will comply with the applicable provisions of §22a-174-3a(d)(3). The applicant is subject to §22a-173-3a(h) and to the following provisions of §22a-174-3a(d)(3).

- *Construct and operate such stationary source … in accordance with the permit, and operate such stationary source… in accordance with all applicable and relevant emissions limitations, statutes, regulations, schedules for stack tests, and other order of the Commissioner.… §22a-174-3a(d)(3)(A).*

The applicant has not objected to any of the relevant regulations or statutes that govern its application or to the terms and conditions of the draft permits or proposed modifications. The draft permits specify emissions limitations, stack testing requirements and the authority of the commissioner to revise these conditions if necessary. The permits provide that the applicant must construct and operate the facility in accordance with all applicable requirements of any federal or state agency or applicable federal or state law. There is no evidence that the applicant intends to do otherwise. The applicant has demonstrated that it intends to construct and operate the facility in accordance with all relevant emissions limitations, stack test requirements and any other order of the commissioner.

- *Operate such stationary source … without preventing or interfering with the attainment or maintenance of any applicable ambient air quality standards or any Prevention of Significant Deterioration increments under subsection (k) of this section. §22a-174-3a(d)(3)(B)*

The applicant has provided ambient air quality analyses, source impact analyses and additional impact analyses as required under subsection (k) of §§22a-174-3a and 22a-174-24 using methods acceptable to the commissioner. These analyses are based on the emissions and operational limitations as set forth in the draft permits, as modified herein, and agreed to by the applicant. The permits require the applicant to routinely monitor emissions in order to maintain the specified emissions limitations. The record shows that compliance with the permit terms and conditions will not cause or contribute to the violation of any applicable ambient air quality standards or PSD increment. The applicant has therefore demonstrated that it will operate the stationary source in accordance with the requirements of this provision.

- *Operate such stationary source … without preventing or interfering with the attainment or maintenance of any [NAAQS] in any other state and without interfering with the application of the requirements in any other state's implementation plan…. §22a-174-3a(d)(3)(C).*

The applicant has demonstrated by approved methods of mathematical predictive modeling that compliance with the emissions and operational limits in the draft permits, as modified herein, will not significantly impact air quality or interfere with the attainment of any NAAQS. Further, the applicant has acquired a sufficient number of certified, offsetting ERCs for NO_x emissions. On these facts, it is reasonable to conclude that the applicant will operate the facility without preventing or interfering with the attainment or maintenance of any NAAQS in this state or others, or with any SIP.

- *Operate such stationary source … in accordance with all applicable emissions standards and standards of performance pursuant to 40 CFR Parts 60, 61, and 63, …. §22a-174-3a(d)(3)(D).*

The CTGs, the storage tanks, and the auxiliary boiler are subject to certain standards of performance pursuant to 40 CFR §§60 and 61. The draft permits for these sources incorporate the relevant sections by reference and contain relevant emissions limitations and special requirements that the applicable performance standards are complied with at all times. Compliance with the terms and conditions of the permits will result in operation of the facility in accordance with all applicable emissions standards and standards of performance pursuant to these regulations.

- *Install: (i) sampling ports of a size, number and location as the Commissioner may reasonably require, (ii) instrumentation to monitor and record emission and other parameter data as the Commissioner may require, and (iii) such other sampling and testing facilities as the Commissioner may require…. §22a-174-3a(d)(3)(E).*

The draft permits include requirements to install and operate continuous emissions monitoring systems, to perform periodic monitoring of emissions and process parameters, to conduct stack emissions testing, and to fulfill specific record keeping requirements. Compliance with these terms and conditions will result in the installation of sampling ports and monitoring instrumentation and such other sampling and testing facilities as the commissioner may require.

- *As the Commissioner may require, conduct stack tests … in accordance with subsection (e) of this section and in accordance with permit conditions and methods prescribed by the Commissioner. Such stack tests shall demonstrate, to the Commissioner's satisfaction, that the requirements of each and every applicable permit … are being met and that such stationary*

source … complies with the Regulations of Connecticut Agencies and federal requirements. §22a-174-3a(d)(3)(F).

The draft permits for the CTGs set out the requirements for initial and periodic stack emissions testing that must be conducted in accordance with the provisions of §22a-174-5 and the DEP *Source Stack Testing General Requirements.* The permits specify that the commissioner has retained the right to revise these requirements in order to demonstrate compliance with the permit requirements. Staff has proposed modifications to the permits for the small sources to require stack testing where appropriate and stack testing procedures to determine certain actual emissions rates after the facility is constructed. (See Exhibit 1.) The applicant has not objected to these requirements. It is reasonable to conclude that the applicant will conduct stack emissions testing to demonstrate compliance with each permit and state regulations and federal requirements.

- *Pay all fees required by the Department within forty-five (45) days of receipt of a tentative determination of the Commissioner. §22a-174-3a(d)(3)(G).*

The applicant has paid all fees that were required at the time of issuance of the tentative determination.

- *Incorporate [BACT] as directed by the Commissioner, for each individual air pollutant subject to, and in accordance with, subsection (j) of this section. §22a-174-3a(3)(d)(3)(H).*

The applicant has provided numerous BACT determinations for the relevant criteria pollutants and ammonia emissions from the CTGs, tanks, and the small sources. Staff has reviewed and, in some instances, revised those determinations. The draft permit emissions limits are based on those BACT determinations. In order to comply with the permit limits, as modified herein, the applicant will incorporate BACT for emissions of NO_2, SOx, VOC, CO, PM10, and ammonia as required from each source. (See Part (3) aa - *BACT Analysis Procedures*.)

- *Incorporate LAER, as directed by the Commissioner, for each individual air pollutant subject to, and in accordance with, subsection (l) of this section. §22a-174-3a(d)(3)(I).*

The applicant has provided LAER determinations for NOx emissions from the CTGs, the auxiliary boiler, and the emergency engines. Staff has reviewed and revised these determinations. The applicant has purchased a sufficient number of ERCs to satisfy the requirements of §22a-174-3(l)(4)(A)(ii). The applicant has demonstrated that "the benefits of the subject source significantly outweigh it adverse environmental impacts, including secondary impacts and cumulative impacts, and social costs imposed as a result of location, [and] construction …." §22-174(l)(2)(A). The relevant permit emissions limits are based on these LAER determinations and specifically identify the ERCs to be used to offset NO_x emissions. Compliance with the permit emissions limits will require the applicant to incorporate LAER for NO_x emissions. (See Parts (3) bb -- *NO_x Control Technology Analysis*, and (4) - *Nonattainment Program Requirements*.)

- *Incorporate the maximum available control technology (MACT), as directed by the Commissioner, for each individual air pollutant subject to, and in accordance with, subsection (m) of this section. §22a-174-3a(d)(3)(J).*

This subpart does not apply to the proposed facility because the HAPs emissions limits in the draft permits are below the levels that require a MACT determination. However, the record indicates that the applicant intends to install an oxidation catalyst. At the present, the most stringent control technology for HAPs emissions is such a catalyst.

- *As required by the Commissioner, install monitoring equipment and perform monitoring to demonstrate compliance with any permit provision. Such monitoring may include, but not be limited to, continuous emission monitoring (CEM). §22a-174-3a(d)(3)(K).*

The applicant is required to install and calibrate CEM equipment in accordance with the DEP *Continuous Emissions Monitoring Guideline* and to receive DEP approval of that equipment prior to commercial operation of the CTGs. Other monitoring or measuring devices are required on the CTGs and the small sources. The applicant is also required to maintain records of the results of these monitoring devices in order to demonstrate compliance with permit provisions. The evidence shows that the applicant will install the CEM system and other monitoring equipment necessary to perform the required record keeping and to demonstrate compliance with the permit provisions.

- *Provide the Commissioner with current information regarding air pollutant emissions from such stationary source …. §22a-74-3a(d)(3)(L).*

The extensive record of the application history shows that the applicant complied with requests by staff to update its emissions information on all sources during the technical review of the application and volunteered other information. The permits require the applicant to provide additional preconstruction information pertaining to emissions rates from the boiler and the two emergency engines and control equipment for the CTGs. The draft permits also require that records must be maintained for the purposes of demonstrating compliance with emissions limits. The applicant has shown that it intends to comply with the requirements of this provision.

- *Comply with any applicable maximum allowable stack concentration (MASC) or other emissions limitation of §22a-174-29. §22a-174-3a(d)(3)(M).*

The draft permits for the CTGs, the boiler and the emergency engines specify the requirement that HAPs emissions not exceed MASC and that the applicant must comply with the provisions of §22a-174-29 at all times. The applicant is required to conduct stack emissions tests for each HAP to demonstrate compliance with MASC, which is to be calculated in accordance with §22a-174-29 and to maintain records of HAPs emissions. The applicant will therefore comply with the applicable MASC for HAPs emissions.

- *Demonstrate that the emission limitation required of such stationary source … for the control of any air pollutant shall not be affected by that portion of the stack height of such stationary source … that exceeds good engineering practice stack height or by any other dispersion technique. §22a-174-3a(d)(3)(N).*

During periods when the CTGs are firing oil, stack exhaust temperatures will be high enough to cause greater dispersion of emissions into the air due to the bypass of the feedwater tubes. The Coalition contends that the bypass operation represents a dispersion technique and that emissions of PM_{10} will exceed the allowable PSD increment if the benefits of the bypass are not included in the emissions calculations. 40 CFR §51.100(hh). The applicant's reasons for the bypass are sound from an engineering standpoint and the exhaust temperatures will not be significantly higher than others in the state. Further, the applicant has agreed to a permit condition that requires automatic activation of the bypass feature whenever the CTGs are firing oil. (See Exhibit 1.) It is reasonable to conclude that the applicant has not designed the bypass operation as a dispersion technique and that the PM10 emissions reductions resulting from it should be incorporated into the permit limits.

- *Comply with an approved operation and maintenance plan submitted pursuant to subsection (c)(2) of this section. §22a-174-3a(d)(3)(O).*

The CTG permits require the applicant to file an operation and maintenance plan for all air pollution emitting activities and air pollution control equipment.

- *Make the permit available at the subject premises throughout the period that such permit is in effect. §22a-174-3a-(d)(3)(Q).*

There is no evidence on the record to show that the applicant will comply with this provision and the draft permits do not include this requirement. The permits require the applicant to comply with all applicable statutes and regulations and the applicant is

under a duty to comply with the permit terms and conditions. §22a-173-3a(h). While it is reasonable to conclude that the applicant will comply with this provision and make the permit available on the premises, I recommend that the permits be modified to include such a condition to ensure compliance with this regulation. (See Exhibit 1.)

- *Comply with the applicable provisions of this section and any other applicable regulations, permits or orders of the Commissioner for such stationary source. §22a-174-3a(d)(3)(R).*

The permits provide that the applicant has the responsibility to conduct, maintain and operate the regulated activity in compliance with all applicable requirements of any federal or state agency and in accordance with any federal or state law. The permits also provide that the commissioner may impose additional conditions to ensure compliance with emissions limits and applicable regulations and laws. The record shows that the applicant has no history of noncompliance with any environmental laws. There is no evidence to support a conclusion that the applicant will not comply with any applicable regulations, permit terms or conditions, or orders of the commissioner.

(3)

BACT/LAER Determinations

aa

BACT Analyses Procedures

The Coalition claims that the BACT determinations were inadequate because the applicant did not follow the top-down analysis procedures outlined in the NESCAUM guidelines and in the draft EPA New Source Review Workshop Manual (Draft NSR Manual). The Coalition argues that the applicant was required to consult such sources as vendors of pollution control technology, vendors of the small source equipment, trade literature, and international permitting agencies.

The applicant conducted a top-down analysis as required by the NESCAUM guidelines and the Draft NSR Manual and consulted a number of the sources specified in those guidance documents. Staff also consulted a number of the recommended sources to confirm or revise the applicant's determinations. The combined efforts of the applicant and staff incorporate requirements of NESCAUM and the Draft NSR Manual.

The evidence indicates that the NESCAUM guidelines were prepared to ensure consistent BACT analyses in the New England region. There is no evidence that the guidelines have any statutory or regulatory force. The Draft NSR Manual is widely used in PSD reviews but is not given the same effect as a binding regulation so a strict application of its prescribed methodology is not mandatory. The EPA expects an analysis that is as sufficiently detailed as the model in the manual or sufficient scrutiny of the analysis to "ensure that all regulatory criteria were considered and applied appropriately." *In re Three Mountain Power, LLC,* PSD Appeal No. 01-05, slip. Op. At 22-23, (EAB, May 30, 2001) 10 E.A.D. _____.

The applicant conducted several BACT analyses over the course of the technical review of its application. In each instance, the applicant demonstrated that it had performed a top-down analysis and consulted many, if not all, of the sources identified in the NESCAUM guidelines and the Draft NSR Manual. Staff reviewed the applicant's analyses and confirmed or revised the information provided. The BACT emissions rates specified in the draft permits for the CTGs are considered by the EPA to be the most stringent limits required anywhere in the country. Many of the BACT determinations for the small sources have been identified to be the most stringent limits or controls used for the subject source. In all instances, the emissions limits specified in the draft permits or proposed modifications demonstrate that the relevant regulatory criteria has been applied appropriately. The applicant's BACT determinations are adequate to demonstrate compliance with all state and federal permitting requirements.

bb

NOx Control Technology Analysis

The Coalition raised several issues concerning the BACT/LAER determinations for reductions in NOx emissions. The Coalition contends that the control technology $SCONO_X$ was improperly eliminated on the basis of an environmental impact such as water consumption.

The requirements for BACT/LAER analyses clearly specify a case-by-case or source category determination. §§22a-174-1(15) and 22a-174-1(54). The EPA Environmental Appeals Board (EPA Board) has concluded that "[I]t is readily apparent … that … BACT determinations are tailor-made for each pollutant emitting facility." *In re Three Mountain Power, LLC,* supra 13, citing *In re CertainTeed Corp.,* 1 E.A.D. 743, 747 (Adm'r 1982). The best control technology to reduce NOx emissions for this project should therefore be determined based on the project's specific or unique circumstances.

$SCONO_X$ and SCR are equally capable of meeting LAER for NO_x emissions. The Coalition argues that the collateral environmental impacts associated with the use of SCR are sufficiently significant to outweigh the environmental impact caused by the increases in water consumption required for the use of $SCONO_X$.

There is evidence in the record to support the Coalition's claim that there are certain hazards associated with the transport and storage of aqueous ammonia and that emissions of PM_{10} and NH_3 will occur with the use of ammonia in the SCR system. There is also evidence in the record that the applicant considered and addressed these environmental impacts. The applicant has addressed the emissions resulting from the use of ammonia through appropriate controls or emissions limits. There is substantial evidence that the risk of an ammonia release during transport or while stored is minimal at a facility of this type.

The Connecticut Siting Council approved this project based in part on the condition that the applicant employ methods to conserve water. The applicant has made efforts to do so. Although the applicant based its recommendation to eliminate SCONOX on economic, energy and environmental impacts, and certain risk factors, staff made its determination on only one environmental impact that is specific to this project, the additional demand for water.

In its review of control technology determinations, the EPA Board draws a distinction between "decisions where the permit issuer failed to consider an 'available' control option … and decisions where an option was considered but rejected." Id. In this case, the applicant provided staff with analyses of all available control technologies, including $SCONO_X$. The EPA has expressed its position that the authority to make control technology determinations has been delegated to the permitting agencies. Water consumption represents a specific or unique constraint on this project's choice of control technologies. See, *In re Kawaihae Cogeneration Project*, PSD Appeal No. 96-9, 96-10, 96-11, 96-14, and 96-17, 7 E.A.D. 115-117 (EAB, 1997).

Large-capacity power generators are unwilling to accept the commercial risks associated with the use of a technology that is not proven to be transferable to facilities of the size proposed for this project. The CTG permits require the applicant to continuously demonstrate compliance with all emissions limits. In the absence of a proven and reliable track record for $SCONO_X$, it is reasonable for the applicant to favor an equally effective control technology such as SCR rather than risk permit violations and significant economic losses.

The applicant and staff properly eliminated $SCONO_X$ as the control technology for NO_x emissions from the CTGs. Given the unique requirements for water conservation imposed on this project by the Connecticut Siting Council, and the obvious economic risks associated with SCONOx, SCR is the best control technology available to meet the LAER for NO_x emissions from the turbines.

(4)

Nonattainment Program Requirements

aa

Alternatives Analysis

The Coalition contends that the applicant's alternatives analysis, required as part of the nonattainment review, did not sufficiently demonstrate that the benefits of the proposed project significantly outweigh its adverse impacts and social costs. §22a-174-3a(l).

An approved SIP for non-attainment area permits must include a requirement that an applicant provide "an analysis of alternative sites, sizes, production processes, and environmental control techniques" for the proposed source. The analysis must demonstrate "that benefits of the proposed source significantly outweigh the environmental and social costs imposed as a result of its location, construction or modification." 42 USC §7503(a)(5). The EPA has not specified what sort of benefits should be considered in this alternatives analysis or what constitutes a social cost. The EPA Board has stated that the "statute contains no express requirements concerning the particular contents of the … alternatives analysis, nor has the [EPA] promulgated regulations addressing the require analysis." *In re Campo Landfill Project,* NSR Appeal No. 95-1, 6 EAD, 501, 520 (EAB, 1996). The Board has concluded that the alternatives analysis involves a decision that is "inherently subjective." Id., 521.

In an action to set aside EPA approved alternatives analysis requirements under an SIP adopted by Texas, the District Court for the Fifth Circuit interpreted this analysis requirement and determined that "obviously the benefits must be economic and social ones: construction of a 'major emitting facility' will rarely result in environmental benefits." The court also acknowledged that the CAA "gives no indication of how economic and social benefits may be compared to environmental and social costs." *City of Seabrook, Texas v. U.S. EPA,* 659 F. 2d 1349, 1362 (5th Cir. 1981). The Court acknowledged and agreed with the EPA that the CAA provides the states with

"considerable latitude in determining how its requirements will be met, [citation omitted] and that therefore there is no inflexible 'alternatives analysis program' imposed by" the CAA. However, the Court reviewed the alternatives analysis requirements to determine if they incorporate the general elements and purpose intended by the CAA. Id. In upholding approval of the Texas alternatives analysis program, the court based its conclusion on the fact that the EPA determined that it was sufficient, it required applicants to demonstrate environmental costs, and Texas assured the EPA that it will not issue permits without the alternatives analysis. Id., 1363.

The DEP has incorporated this "alternatives analysis program" requirement into its non-attainment permit review criteria. §22a-174-3a(l)(2)(A)-(C). The regulation specifically provides, in part, that the analysis must demonstrate that the benefits of the source of pollution "significantly outweigh its adverse environmental impacts, including secondary impacts and cumulative impacts, and social costs imposed as a result of the location [or] construction" of the source. §22a-174-3a(l)(2)(B). This regulation is also silent as to what sort of benefits should be considered and how those benefits should be compared to the environmental impacts and social costs.

However, the regulation is part of an approved SIP. It specifies a requirement that an applicant provide the alternatives analysis prior to permit issuance. The applicant is required to demonstrate environmental costs including cumulative and secondary environmental costs. §22a-174-3a(l)(2)(B).

A number of federal, state and municipal agencies have considered various aspects of this project. The Connecticut Siting Council has issued the applicant a *Certificate of Environmental Compatibility and Public Need*. The FAA has issued a no hazard permit. The Town of Oxford has considered the project in terms of municipal planning, zoning and inland wetlands impacts and issued the appropriate permits. Alternatives that address public need, convenience, necessity, location, transmission routes and other land use matters have been reviewed by those agencies with primary jurisdiction over such issues. It is therefore reasonable to limit the scope of the

alternatives analysis required by §22a-174-3a(l)(2) to those factors which advance or hinder the goals and policy objectives of the non-attainment portion of Connecticut's SIP.

The applicant conducted a site alternatives analysis that considered such cumulative and secondary impact factors as existing environmental contamination, proximity to residential neighborhoods, degree of ozone non-attainment, and issues of environmental equity. In addition, the applicant and staff have determined the LAER for the non-attainment pollutants and have analyzed the available alternative environmental control techniques and technologies that will meet that LAER and further the water conservation requirements established by the CSC. The applicant has also purchased ERCs that are sufficient to offset the allowable increase in NOx emissions from the facility and create a net air quality benefit. §22a-174-3a(l)(4)(B)(iv).

The benefits of the proposed project include its potential to augment the existing reliability and quantity of electrical power available to New England region and its ability to improve air quality by supplanting power generation from facilities that presently contribute to the degradation of air quality in the region. The Town of Oxford and the region will benefit by having a road constructed in an industrial-zoned area, funding for community programs and stabilized tax revenues from Towantic.

The applicant has evaluated other environmental impacts and social costs beyond the impacts of increased air pollution and water consumption. The applicant has considered such other secondary factors as the effects of increased traffic flow in the vicinity and the potential hazards associated with aqueous ammonia and has proposed measures to mitigate those impacts. Moreover, the applicant has demonstrated that the controlled emissions from the proposed project will not contribute significantly to further degradation of air quality in the region.

The applicant conducted the requisite alternatives analysis. The stringent emissions limitation established as LAER coupled with the net air quality benefit of the ERCs and the opportunity to reduce reliance on higher emitting generators contribute to

the goals and objectives of the non-attainment portion of the SIP. The proposed project will meet all state and federal regulatory standards. The proposed measures to conserve water and to safeguard against other hazards associated with the project further mitigate environmental impacts and social costs. In addition to furthering the industrial development of the area , the project will provide economic benefits of increased tax revenues and community funds that can support other social programs. The purpose for the project is to provide a reliable supply of electrical power while contributing to a net improvement to regional air resources. Given that purpose, the analysis demonstrates that the benefits of the project will significantly outweigh its adverse environmental impacts, including secondary and cumulative impacts, and the social costs imposed as a result of its location and construction. See *In re Campo,* supra, 522 – 523.

bb

Emissions Reductions Credits

The Coalition has suggested that the commissioner require the applicant to purchase additional emission reduction credits that were created recently within the state. Because Connecticut is nonattainment for ozone and its precursors, NO_x and VOCs, the Coalition argues that the commissioner should exercise his discretion and impose a ratio greater than 1:2 to 1 for NOx emission offsets for this project. The Coalition also maintains that the ERCs identified in the permits are too remote in time and proximity to benefit the state.

EPA-approved permitting programs for sources in nonattainment areas must require an applicant to obtain sufficient offsetting emissions "such that total allowable emissions from existing sources in the region, from new or modified sources which are not major emitting facilities, and from the proposed source will be sufficiently less than total emissions from existing sources …so as to represent … reasonable further progress" toward attainment. 42 USC §7503(a)(1)(A).

The owner or operator of a new major stationary source may comply with this offset requirement "only by obtaining emission reductions of such air pollutant from the same source or other sources in the same nonattainment area, except that the State may allow the owner or operator of a source to obtain such emission reductions in another nonattainment area if (A) the other area has an equal or higher nonattainment classification than the area in which the source is located and (B) emissions from such other area contribute to a violation of the national ambient air quality standard in the nonattainment area in which the source is located." The emission reductions must be in effect and enforceable and of a sufficient amount to ensure "that the total tonnage of increased emissions of the air pollutant from the new …source shall be offset by an equal or greater reduction, as applicable, in the actual emissions of such air pollutant from the same or other sources in the area. 42 USC §7503(c)(1).

The Regulations of Connecticut State Agencies provide very specific criteria to satisfy the requirements that ERCs be in effect and enforceable. The ERCs must have occurred no earlier than November 15, 1990. They must be surplus and not required by any permit, SIP or regulation. ERCs must be identified in an emissions inventory maintained or approved by the commissioner. They have to be quantifiable and permanent. The ERCs have to be for the same criteria pollutant and from the same nonattainment area or another nonattainment area with an equal or higher classification that contributes to a violation of the same pollutant in the proposed area. The ERCs have to offset actual emissions at a ration of 1.2 to 1 in any serious nonattainment area for ozone. §22a-174-3a(l)(4) and (5).

The applicant has obtained ERCs sufficient to offset NO_x emissions at a ratio of 1.2 to 1. The ERCs are surplus, quantifiable, and inventoried and result from a reduction of actual emissions that occurred in 1994 and 1995. The source of the ERCs is located in a nonattainment area with a higher classification than the proposed project site. The reciprocity agreement between Connecticut and New York ensures compliance with state and federal transfer requirements. The ERCs will create a net air quality benefit and will be incorporated into the permits. They will therefore be federally enforceable.

Acquisition of recently occurring ERCs from an in-state source may provide a more direct net benefit to Connecticut. However, the relevant federal and state regulations and the collaborative agreements that exist between states working toward attainment indicate that permitting authorities clearly contemplate a regional solution. The CAA and §22a-174-3a(l)(4) and (5) provide for acquisition of ERCs *between* similarly designated nonattainment areas. There is no evidence in the record that supports a conclusion that the ERCs acquired from the Astoria source do not comply with the regulatory requirements or are not federally enforceable. The applicant has demonstrated that the ERCs comply with the regulatory criteria and has obtained sufficient certified ERCs to offset the allowable NO_x emissions increase from the proposed facility.

cc

VOC Emission Limit

The applicant initially conducted a BACT analysis for VOC emissions from the CTGs. The applicant did not conduct a LAER analysis. VOC emissions are subject to a LAER determination as Ozone precursors if there is a potential for the source(s) to emit greater than a total of 25 tons per year. §22a-174-3a(l). The combined BACT emissions rates for VOCs from the small sources is 0.5 tons per year. The applicant agreed to an emissions limit of 23.4 tons per year from the two CTGs. The total potential emissions from all sources (23.9 tpy) are therefore less than the significant threshold amount of 25 tpy that triggers the LAER review for a major stationary source.

The classification of a source as “major” or “minor’ is a function of that source’s potential to emit a regulated pollutant. §22a-174-1(57). The potential to emit can be influenced by operational limits that are “practicably enforceable”. §22a-174-1(86)(B). A limitation or restriction is “practicably enforceable”, if it is specified in a permit issued by the commissioner and identifies the stationary source, incorporates a short term emissions rate or concentration level sufficient to calculate actual emissions, specifies appropriate monitoring to determine compliance with the emissions limit, specifically

continuous emissions monitoring or its equivalent where a twelve-month rolling average is used to determine the actual emissions from the source. §22a-174-1(87)(B).

The draft permits for the CTGs do not contain a practicably enforceable emissions limit. Staff has recommended that the permits be modified to include a method that uses a twelve-month rolling average of actual emissions including periods of start-up and shutdown. Given that that the regulations require continuous emissions monitoring or its equivalent when a twelve-month rolling average is used to demonstrate compliance with the emissions limit, staff has proposed that the permits require periodic emissions testing and annual stack testing to demonstrate compliance.

In order to ensure that the VOC emissions limit agreed to by the applicant complies with the requirements for practicable enforceability, the permits must be modified to incorporate the requirements of a short-term emissions rate and emissions monitoring as required by the regulations. (See Exhibit 1.)

(5)

Unreasonable Pollution

The Coalition claims that the proposed facility will result in unreasonable pollution or impairment of the environment given its location in a designated nonattainment area and that there are feasible and prudent alternatives to the project including the "no build" alternative. This claim formed the basis for the allegations in the Coalition's petition to intervene as required under the provision §22a-19 of the Connecticut Environmental Protection Act (CEPA). General Statutes §§22a-14-22a-20.

It is well settled that in order to prevail on their CEPA claim, the Coalition has the burden of demonstrating that the operation of the proposed facility will unreasonably pollute, impair or destroy a natural resource. *Manchester Coalition v. Stockton,* 184 Conn. 51, 58-60 (1981). The term "unreasonable pollution" is not defined in §22a-19. Historically, the courts have evaluated the strength of a CEPA claim on a case-by-case

basis. Recently, however, the Connecticut Supreme Court has determined that the concept of unreasonable impairment should be evaluated in the context of the regulatory scheme designed to govern the particular conduct that is the subject of the claim. The Court held that "[w]hen … the legislature has enacted an environmental legislative and regulatory scheme specifically designed to govern the particular conduct that is the target of the action, that scheme gives substantive content to the meaning of the word 'unreasonable' …." *City of Waterbury v. Town of Washington*, 260 Conn. 506, 557 (2002). The Court concluded that "when there is an environmental legislative and regulatory scheme in place that specifically governs the conduct that the plaintiff claims constitutes an unreasonable impairment under CEPA, whether the conduct is unreasonable under CEPA will depend on whether it complies with that scheme." Id.

In this case, there is an environmental legislative and regulatory scheme in place that specifically governs the operations of the proposed project. The Coalition's CEPA claim of unreasonable pollution or impairment must therefore be evaluated under that scheme. The emissions limits and other terms and conditions specified in the draft permits, as modified herein, have been appropriately determined in accordance with state and federal regulatory requirements. In order to ensure continued operation of the proposed facility, the applicant will be required to comply with those emissions limits and other permit terms and conditions. The record demonstrates that the proposed facility will be operated in compliance with the regulatory scheme that has been designed to govern its operations.

The Coalition presented evidence of alternatives that were intended to support a conclusion of unreasonable pollution. I am not persuaded that this evidence demonstrates that the emissions from this facility will cause or are likely to cause unreasonable pollution or impairment of a natural resource. The Coalition has not made the prima facie showing of unreasonable pollution that is necessary to require the applicant to conduct any additional alternatives analysis to demonstrate that there is no feasible and prudent alternative to the proposed project as required by §22a-19(b).

4

RECOMMENDATION

The record shows that a number of modifications to the draft permits are necessary to incorporate the most current emissions information and limitations, proper stack testing and monitoring requirements and to ensure the enforceability of permit terms and conditions. The applicant has agreed to accept a permit condition that requires future consideration of the solid ammonia, Urea, to determine if it is a feasible alternative to aqueous ammonia. The applicant has also agreed to accept a permit condition to construct the CTG systems such that the bypass feature will be automatically activated when the turbines are set to burn oil.

I recommend that the proposed permit modifications be incorporated into the appropriate permits as additional terms and conditions. In addition, the CTG permits should include a condition that provides an opportunity for the applicant to evaluate the benefits and feasibility of using the alternative form of ammonia, Urea. I also recommend that the CTG permits include a condition for automatic activation of the bypass when the turbines will burn oil.

B

WASTEWATER DISCHARGE APPLICATION

1

Findings of Fact

a

Application

1. On July 14, 1999, the applicant submitted its initial application for a pretreatment permit to discharge wastewater to the Naugatuck Wastewater Treatment Facility. The application included an executive summary, general description of the applicant's business, site and floor plans, topographical maps, discharge quantities, and stored hazardous substances. The applicant also submitted proposed plans for spill

prevention, resource conservation, operations and management, and solvent management. The application included descriptions of the proposed wastewater collection, treatment and disposal systems, specific discharge information including the source of each discharge and an engineering evaluation of the characteristics of each discharge. (Ex. APP-64; exs. PERD[31]-1, 3; test. R. Schafish, 6/4/01, p. 123.)

2. During the period September 23, 1999 through September, 2000, the applicant submitted several revisions and supplements to its original application. The revisions and supplements were provided in response to comments from staff, and to account for changes in the location of the facility on the site and in the ownership of the applicant. The application was determined to be administratively sufficient on October 5, 1999. (Exs. PERD-3-6, 10, 11, 15-17, 19; test. R. Schafish, 6/4/01, pp. 123-133.)

3. The applicant has prepared a preliminary Spill Prevention Control and Countermeasure Plan (SPCCP) based on criteria established by the DEP. The applicant considered the spill potential associated with chemical storage and fuel transfer. Transfer activities will be conducted in areas protected by secondary containment or diversionary structures. The fuel oil transfer station will be equipped with a containment vault with a capacity to hold the entire contents of a tank truck. Chemical transfer areas will be provided with a berm to contain the entire contents of a chemical tank truck. Additional prevention standards include provisions for stormwater drainage, security measures, personnel training, appointment of a spill control officer, reporting requirements, equipment inventory and spill cleanup guidelines. (Exs. PERD-3, 4.)

4. The preliminary SPCCP does not specify certain plan elements. The plan does not provide the details of such elements as inspection procedures, training programs and schedules, emergency response equipment and procedures, and certain spill prevention procedures. (Exs. PERD-1, 4; test. S. Edwards, 6/19/01, pp. 1460-1461.)

5. The applicant provided information pertaining to its resource conservation strategies. These strategies include reduced steam loss, waste recycling, and reduced frequency of chemical transfer. A number of water conservation measures will be used at the facility such as air cooling, steam recirculation, and recycled boiler blowdown. (Exs. PERD-1, 3, 4.)

[31] PERD - Bureau of Water Management staff exhibits.

6. The DEP Natural Resources Center reviewed the Natural Diversity Data Base maps and files pertaining to the project site and surrounding area. The database showed that there are no known extant populations of federal or state endangered, threatened or special concern species in the area. (Exs. PERD-1, 3.)

7. The applicant has certified that no total toxic organic compounds will be used or generated on the site. Small amounts of solvents (fifty pounds per month or less) may be handled on-site for maintenance purposes. An approved vendor will supply and dispose of the solvents. (Exs. PERD-3, 4.)

8. The compliance information submitted with the application indicates that the applicant has no prior history of violation of environmental laws. (Exs. PERD-1, 3, 4, 6; test. S. Edwards, 7/13/01, pp. 3044-3045.)

9. Based on the submittals of the applicant, the DEP Bureau of Water Management issued a tentative determination to issue the permit subject to the remaining requirements of the permitting process. Staff prepared a draft permit to be issued on the completion of the construction of the pretreatment system based on final plans and specifications approved by the commissioner. (Exs. PERD-37, 38; test. R. Schafish, 6/4/01, pp. 132-133; test. S. Edwards, 6/19/01, pp. 1432, 1456-1458.)

b

Wastewater Discharge

10. All water will be supplied to the proposed facility by the Heritage Water Company (HWC) public water supply system. Wastewater will be discharged to the Town of Oxford public sewer system and will be treated at the Naugatuck Wastewater Treatment Plant. The wastewaters from the proposed project are typical of electric power generating facilities. The applicant estimates an average flow of wastewater of 37,440 gallons per day (gpd) and a maximum flow of 104,000 gpd. (Exs. APP-64-67; exs. PERD-1, 3-6, 19.[32])

[32] The exhibits APP-64 - 67 are identical to the exhibits PERD-3 through PERD-6. Subsequent citations to these exhibits will only be to the PERD documents.

11. The following water and wastewater systems are proposed for the project.

- Potable water and sanitary wastewater
- Service water system and oil-water separator
- Demineralized water production system

  Inlet air fogging

  Water injection for NO_x control

  Steam cycle losses and boiler blowdown
- Neutralization Tank

  Chemical storage Area
- Wet surface air cooler (WSAC)
- Metering and sampling station for process wastewater

(Exs. PERD-3, 4, 6.)

12. Potable water will be distributed throughout the plant for use by the operating staff for drinking, showering and sanitary purposes. Daily water use and wastewater generation is estimated to be 2.1 gpm. Sanitary sewage will be conveyed to the metering and sampling station and ultimately discharged to the Town of Oxford Sewer System.[33] (Exs. PERD-1, 3, 4, 6.)

13. Plant service water is distributed throughout the plant for a variety of uses including washdown of equipment and work areas, bearing cooling, water seals, equipment cooling and the firewater system. Sections of the CTGs will be washed once monthly. A detergent solution will be used and the process generates approximately 3,600 gallons of wastewater. The wastewater will be held in a tank and tested before it is discharged. If it is determined that the wastewater does not meet pre-treatment discharge standards, it will be hauled to an appropriate off-site disposal facility. Other wastewater from the plant service system will be collected and piped to the oil-water separator. Treated water from the oil-water separator will be conveyed to the metering and sampling

[33] The discharge of 3024 gpd of sewage will be permitted under the General Permit for the Discharge of Domestic Sewage. The discharge of stormwater from the site as a result of construction and industrial activities is permitted under the General Permit for the Discharge of Stormwater and Dewatering Wastewaters Associated with Construction Activities and the General Permit for the Discharge of Stormwater Associated with Industrial Activity. The applicant will be required to apply for these permits before starting construction of the facility. (Exs. PERD-1, 11.)

station.[34] Pollutants added to the service water will consist of dirt and dust collected on equipment surfaces, small amounts of oil and grease and the detergent used to wash down the equipment. (Exs. PERD-1, 3, 4, 6.)

14. The demineralizer system will take water from the HWC and pass it through ion exchange resins that remove undesirable minerals. This purification procedure is necessary to the water injection process used when the CTGs are firing oil and for combustion turbine inlet air cooling (inlet air fogging) during hot summer operating conditions. Demineralized water will be stored in a 2,000,000 gallon treated water tank where it is available for use by the plant. (Exs. PERD-1, 3, 4, 6; test. S. Edwards, 6/19/01, p. 1429.)

15. The water supplied by the demineralizer system will replace steam generator losses to the atmosphere and the boiler blowdown, and feed the water injection system. The demineralizer system exchange units will require periodic regeneration. The regeneration is a batch process and the average amount of wastewater resulting from this process is 2.1 gpm. Regeneration wastewater will be conveyed to the neutralization tank and discharged at a constant rate to the sampling and metering station. Regeneration wastewater will contain Calcium Sulfate ($CaSO_4$), Magnesium Sulfate ($MgSO_4$), Sulfuric Acid (H_2SO_4), and several Sodium compounds. (Exs. PERD-1, 3, 4, 6; test. S. Edwards, 6/19/01, p. 1429.)

16. Continuous steam losses to the atmosphere are estimated to be 4.3 gpm. Boiler blowdown, necessary to maintain the water chemistry in the steam cycle, is estimated to be 17.4 gpm. Larger quantities may be demanded during startup, shutdown or boiler upset conditions. Under these conditions, blowdown is estimated to be 13.9 gpm. Boiler blowdown is recycled to the WSAC and will not be discharged directly as wastewater. Boiler blowdown total dissolved solids are estimated to be no more than1-2 milligrams per liter (mg/l). All of the water used for injection when firing oil will be exhausted up the stack, none will be discharged as wastewater. (Exs. PERD-1, 3, 4, 6.)

17. The neutralization tank will receive wastewater from the regeneration of the demineralizer and from drains in the chemical storage area. Drainage from the

[34] The waste oil collected by the oil-water separator will be collected and managed by a contract service. (Ex. PERD-6.)

chemical storage area, if any, will be routed to the tank for pH adjustment prior to discharge. The pH content of the tank wastewater will be adjusted to acceptable levels through the addition of sulfuric acid or sodium hydroxide. No other chemicals will be added to the neutralization tank. Wastewater from the tank will be pumped to the metering and sampling station prior to discharge. (Exs. PERD-1, 3, 4, 6.)

18. The WSAC will be used for cooling the steam turbine generator. The cooling water is collected in a basin and is recirculated. Water is lost by evaporation at an estimated rate of 21.6 gpm. Boiler blowdown will be recycled to the WSAC for reuse. Fresh water will be required at a rate of 8.0 gpm, which could increase to 21.6 gpm if blowdown wastewater is not available. WASC blowdown will be directed to the metering and sampling station at an estimated rate of 3.8 gpm. The maximum wastewater that could occur during startup or shutdown is estimated to be 82.0 gpm. The total dissolved solids in the WSAC water will be controlled to a level of approximately 2000 mg/l. (Exs. PERD-1, 6.)

19. Wastewater from the WSAC and the oil-water separator will be combined and conveyed to the metering and sampling station before it is discharged to the Town of Oxford Sewer System. The total discharge to the sewer system will be an average of 13.0 gpm daily and the maximum daily discharge will be 28.1 gpm and 61.9 gpm for thirty days when firing oil. (Ex. PERD-6.)

20. The applicant has characterized the wastewater discharge to the sewer system. The applicant estimated wastewater characteristics based on operations of similar systems at other power plants, known characteristics of the water supplied by HWC, the concentration effects of evaporation and the demineralizer process and the chemicals and pollutants that may be added as a result of plant operations. Any concentration pollutants in the wastewater will be below the state's pretreatment standards. Arsenic, beryllium, chromium, nickel and selenium have on occasion been reported as present in water supplied by HWC at very low levels. These and any other chemicals in the water supply may be concentrated by the demineralizer regeneration and the evaporation that occurs in the WSAC. These concentrations are estimated to be below the pretreatment standards. Staff has determined that concentrations of arsenic, copper, magnesium and silver in the discharge should be monitored. The draft permit

specifies a requirement that the applicant conduct an initial sample of the actual discharge characteristics and periodically monitor for these parameters. The draft permit also requires the applicant to monitor for oil and grease parameters to ensure the oil-water separator is operating properly. (Exs. PERD-1, 3-6, 38, 39; test. S. Edwards, 6/19/01, p. 1431.)

c

Impacts on the Wastewater Treatment Facility

21. The Naugatuck Wastewater Treatment Facility is considered a publicly owned treatment works (POTW). The sewer interceptor that serves the Towns of Oxford and Middlebury will convey wastewater from the project to the POTW. The POTW operates under a permit issued by the DEP. The plant design capacity is 103 mgd and the average daily inflows in 2000 were 4.5 mgd. The POTW permit contains certain discharge effluent limits[35] and sludge disposal requirements. (Ex. PERD-6.)

22. The applicant compared the characteristics of the wastewater discharge from the project with the pretreatment standards required by the POTW permit. The applicant determined that the discharge will not interfere with or pass through the POTW to cause a violation of its permit or prevent disposal or use of sludge. The applicant based its determination on the fact that the project will not use polychlorinated biphenyl compounds, metal cleaning wastes will be hauled off-site for disposal, turbine washing wastewater will be held and tested to assure it meets pre-treatment standards or hauled off-site, blowdown wastewater does not contain pollutants at levels that exceed pre-treatment standards and the project will not generate fly ash that requires water transport. (Exs. PERD-1, 6.)

23. The applicant consulted the EPA National Risk Management Research Laboratory database to determine the effectiveness of the POTW sludge processing on the chemicals expected to be present in the wastewater. The data show that the sludge process is capable of treating the pollutants expected to be present. The sludge

[35] Effluent limits are (1) numerical limits "imposed by the commissioner on quantities, discharge rates or concentrations of any water, substance or material discharged to the waters of the State or (2) any limitation imposed by the commissioner on any other measure of the quality or quantity of the discharge." Regs., Conn. State Agencies §22a-430-3(a)(3).

incineration process eliminates the possibility that a pollutant will pass through the POTW and interfere with the disposal of sludge. (Ex. PERD-6.)

24. The proposed discharge is within the Town of Oxford contract allocation of 1,000,000 gpd of wastewater to the POTW. Representatives of the Town of Oxford and the POTW agree with the applicant's determination that the sewer system and the POTW have adequate hydraulic capacity to accommodate this new discharge. The wastewater from the project will not contain chemicals that might cause a fire or an explosion, corrode the sewer system or the POTW, or cause flow obstruction in the sewer system or at the POTW. Oil, chemicals or other substances will not be in concentrations or flow rates that will interfere with the POTW. There will be no toxins, vapors or fumes that might cause health or safety problems at the POTW. The wastewater will not contain pollutants in excess of the limits set by the state. The applicant will maintain the temperature of the wastewater below 150° F. to ensure that the influent of the POTW does not exceed 104° F. (Exs. PERD-1, 6, 39; test. S. Edwards, 6/19/01, p. 1430.)

d

Monitoring and Recordkeeping

25. The applicant submitted a general description of its operations and maintenance of collection and treatment systems plan. The project will use a Distributed Control System (DCS) to control operations, monitor operating systems and log/record operating data. The demineralizer water treatment system and the neutralization tank will be monitored by the DCS system. The system will monitor liquid levels and pH content, flow and conductivity in the neutralization tank, and will include a high level alarm. The WSAC will incorporate continuous monitoring for blowdown flow, pH, conductivity and temperature. The oil-water separator will be monitored by monthly grab samples[36] at the outlet and the overall wastewater discharge to the sewer system will be continuously monitored to assure compliance with the POTW and draft permit standards. (Ex. PERD-4; test. S. Edwards, 6/19/01, p. 1431.)

[36] An individual sample collected in less than fifteen minutes. Regs., Conn. State Agencies, §22a-430-(a)(3).

26. Instrument calibration and alarm testing will be ongoing maintenance activities at the facility. The applicant will maintain an inventory of essential spare parts necessary for continuous operation of the plant and continuous compliance with wastewater effluent limitations. The DCS system will include a continuous log of measured wastewater effluent parameters including flow, temperature, pH and conductivity. Daily visual checks will also be conducted to ensure that the system is operating within specifications. (Ex. PERD-4.)

27. The preliminary Operations and Maintenance of Collection and Treatment Systems plan does not contain a detailed description of certain plan elements such as a description of the system's operation, specific schedules for instrument calibration and alarm testing, lists of spare parts, identification of the chemicals to be stored at the facility, and maintenance schedules or descriptions of the records to be maintained at the facility. (Exs. PERD-1, 4; test. S. Edwards, 6/19/01, pp. 1449-1450.)

e

The Draft Permit

28. The draft permit specifies effluent limitations and monitoring requirements for three categories of process wastewater. The main discharge, designated as DSN 201-1, consists of the wastewater from a combination of all the process sources. The applicant will be required to monitor the wastewater before it mixes with the domestic sewage. The permit requires the maintenance of continuous flow and pH meters and recorders. Staff considers the WSAC to be sufficiently similar to the type of cooling tower regulated under the CWA. Staff has therefore proposed limits on the discharge from the WSAC consistent with those required under the CWA. The draft permit specifies that the discharge cannot contain polychlorinated biphenyl compounds (PCBs). The maximum daily concentrations of total chromium and total zinc cannot exceed 0.2 mg/l and 1.0 mg/l respectively. (Exs. PERD-1, 38.)

29. The applicant will be required to monitor the discharge for arsenic, copper, magnesium, nickel, oil, grease and silver. The applicant will also be required to update the discharge information for these parameters by conducting an initial post-

construction sampling and chemical analysis of the actual discharge, and periodic sampling and analyses over the life of the permit. The monitoring location for the DSN-201-1 discharge will be at the test manhole located in the plant offsite waste drain line downstream from the process sources and upstream of the sanitary sewer tie-in. (Exs. PERD-1, 16, 38, 39; test. S. Edwards, 6/19/01, p. 1431.)

30. The second discharge category, DSN-201-a, consists of wastewater from the miscellaneous plant and equipment drains. This portion of the total discharge is considered a separate category requiring a separate monitoring location to sample for oil and grease after wastewater passes through the oil-water separator and before it mixes with any other waste streams. This monitoring requirement is intended to ensure that the oil-water separator is operating properly. The monitoring will take place at the collection sump that received effluent from the oil-water separator. (Exs. PERD-1, 16, 38, 39; test. S. Edwards, 6/19/01, p. 1431.)

31. Discharge category DSN-20a-b consists of the turbine cleaning wastewater. This discharge will result from chemical metal cleaning. The permit specifies that this is to be the only chemical metal cleaning wastewater discharged into the waters of the state from this facility. There is no treatment system for this wastewater. The permit requires the applicant to collect the water in a holding tank and to analyze it for levels of copper, arsenic, chromium, silver and zinc prior to discharge. The concentration of copper in this discharge cannot exceed 1.0 mg/l. (Exs. PERD-1, 38, 39; test. S. Edwards, 6/19/01, p. 1431.)

32. The applicant is required to submit complete discharge information within ninety days after the date the DSN-201-1 is initiated. The information is to be derived from a chemical analysis of the actual wastewater discharged. This requirement will verify the discharge characteristics requirements reported in the application. (Exs. PERD-1, 38, 39; test. S. Edwards, 6/19/01, p. 1444-1450.)

33. In order to proceed with the permitting process, the applicant will be required to provide the following plans and specifications for the commissioner's review and approval.

- A final floor plan with detailed information pertaining to the location of process water and wastewater treatment equipment; all floor drains, collection sumps, and their respective discharge location; spill containment measures and raw and hazardous chemical storage areas.
- A final site plan showing all buildings, site boundaries, adjacent water bodies, catch basins/storm drains, and all outdoor virgin and waste liquid storage and handling areas.
- Plans and specifications on the wastewater collection and treatment system, flow and pH monitoring equipment, and the proposed sanitary sewer tie-in location.
- An Operation and Maintenance Plan for the wastewater collection and treatment systems in accordance with Attachment I of a discharge permit application.
- A Spill Prevention and Control Plan completed in accordance with Attachment K of a discharge permit application.
- A final detailed inventory of all chemicals to be stored on site.

(Ex. PERD-1; test. S. Edwards, 6/19/01, pp. 1432, 1456 – 1459.)

2

CONCLUSIONS OF LAW

a

Jurisdiction

The commissioner is authorized to issue a permit for any discharge of water, substance or material into the waters of the state provided the terms and conditions of the permit are consistent with the provisions of the federal Clean Water Act (33 USC 1251-1387.) General Statutes §22a-430. When the commissioner has determined that an applicant's proposed system to treat a discharge will prevent pollution of the waters of the state, he must require the applicant to submit plans and specifications for the proposed treatment system. If the commissioner finds that the plans and specifications will protect the waters of the state from pollution, he will approve the plans and following

construction of the system, issue the permit for the discharge. §22a-430(b). The commissioner has adopted regulations that specify the criteria and standards he must consider to determine whether a discharge will pollute the waters of the state and whether the applicant's proposed treatment system is adequate to protect the waters of the state. Regs., Conn. State Agencies §§22a-430-3 and 22a-430-4.

b

Standards for Granting Permits

Section 2a-430-3(e) of the Regulations of Connecticut State Agencies provides that once the permit is issued, the applicant will be under a duty to comply with its terms and conditions. The terms and conditions of the permit must incorporate all applicable regulatory provisions either expressly or by reference. §22a-430-3(b)(1)(B). Further, §22a-430-4(e)(1) provides that in arriving at a determination on an application, the commissioner must find that the following applicable regulatory requirements will be met.

- *The effluent limitations and conditions listed in subsection (l) … including any case-by-case determination made under subsection (m)…. §22a-430-4(e)(1)(A).*

The effluent limitations referenced in this provision have been established in subsection (s) of §22a-430-4 as well as in the federal pretreatment standards for new Steam Electric Power Generating sources for chemical metal cleaning wastes. 40 CFR §423.17. The draft permit has specified effluent limitations based on these standards. The record shows that the applicant's pretreatment system includes monitoring, sampling, and recording effluent limits in its process wastewaters before they are mixed or discharged, and provides for off-site disposal of chemical metal cleaning wastes that exceed acceptable effluent limits. The draft permit requires continuous and periodic monitoring to ensure compliance with these effluent limitations. The applicant is required to comply with these terms and its records are subject to DEP inspection at any time. It is reasonable to conclude that the applicant will comply with the terms and

conditions of the permit and maintain a system that will meet the requirements of this provision.

- *The prohibitions listed in subsection (t) of [§22a-430-4]. §22a-430-4(e)(1)(C).*

Subsection (t) enumerates the prohibitions for discharges to POTWs. Specifically, no discharge can interfere with the operation of the POTW; interfere with or have an adverse effect on sludge handling, cause the POTW to exceed its influent design parameters or violate its permit, or pass through any substance into the receiving waters that causes or threatens pollution. Discharges cannot contain any substance that causes or threatens a fire or explosion hazard or corrosive structural damage, causes or threatens obstruction to flow in the sewers or cause the influent to the POTW to exceed 104° F.

The applicant conducted an extensive analysis of the impacts of its discharges on the POTW. The permit terms and conditions support the premises of that analysis and representatives of the facility concur with the applicant's conclusion that its discharges will not violate the provisions of this section.

- *The sludge disposal requirements listed in subsection (g) of section 22a-430-3…. §22a-430-4(e)(1)(D).*

Under subsection (g) the applicant will be required to "dispose of screenings, sludges, chemicals and oils and any solid or liquid wastes resulting the from the wastewater treatment processes at locations approved of by the commissioner … or by means of a [licensed] waste hauler …." The evidence in the record supports a conclusion that the applicant will dispose of chemicals, oil, grease and any other wastes containing concentrations of pollutants in excess of the limits prescribed by the permit by means of a waste hauler or by the vendor of the product.

- *The bypass provisions of subsection (k) of section 22a-430-3…. §22a-430-4(e)(1)(E).*

Subsection (k) prohibits any bypass of the collection or pretreatment system unless the bypass is approved by the commissioner, or is unavoidable and there are no feasible alternatives to bypassing the system. The applicant has provided descriptions and preliminary plans and specifications of its proposed collection, treatment and disposal systems. The applicant will be required to provide final details on this equipment prior to commencing construction of the system. The applicant will be required to provide specific details regarding maintenance schedules and discharge characteristics prior to issuance of the permit to discharge. The draft permit requires the applicant to provide discharge information after the system is initiated. To ensure compliance with this provision, the permits should be modified to require the applicant to provide operations and management details after some actual operating experience that will demonstrate that the discharge will not bypass the system and that the effluent limitations specified in the permit are achieved. The permit should be modified to include this requirement to ensure compliance with this provision. (See Exhibit 2.)

- *The resource conservation requirements of subsection (o) of section 22a-430-3 …. §22a-430-4(e)(1)(F).*

The resource conservation provisions require the applicant to implement and maintain practices and facilities that will produce the minimum amount of wastewater to the maximum extent practicable and prohibit the addition of water to dilute effluent concentrations in the discharge. §22a-430-3(o). The record shows that the applicant has submitted a description of its resource conservation strategies. Water conservation efforts include certain design features of the facility including air-cooling, steam recirculation, blowdown recycling, and reduced steam losses. There is no evidence in the record that the applicant will add water to any discharge to dilute an effluent. It is therefore reasonable to conclude that the requirements of this provision will be met.

- *The spill prevention and control requirements of subsection (p) of section 22a-430-3…. §22a-430-4(e)(1)(G).*

The applicant has prepared a preliminary spill prevention and control plan that is designed to prevent and control spills, leaks or other unplanned releases of toxic or hazardous substances. The evidence indicates that the details of the applicant's plan will need to be refined and supplemented prior to issuance of the permit. After construction, and following actual experience with the system, it is reasonable to require the applicant to submit an updated spill prevention and control program to ensure that it is adequately designed to comply with this section. I therefore recommend that the permit be modified to include such a requirement. (See Exhibit 2.)

- *The instrumentation and related requirements of subsection (q) of section 22a-430-3…. §22a-430-4(e)(1)(H).*

The record reflects the details of the applicant's preliminary plan for controlling, monitoring and reporting functions of the system and characteristics of the discharge. The applicant is required to submit detailed specifications on the equipment and procedures to be used record and control the system. I have recommended a permit modification that will require the applicant to update this information after the permit has been issued. The commissioner may enter and inspect this instrumentation and the applicant's records at any time. §22a-403-3(c). Approval of the applicant's proposed instrumentation, compliance with permit terms and conditions and periodic inspection will ensure that the applicant will install and maintain the appropriate control and record-keeping equipment.

The applicant's proposed collection and treatment system will adequately treat or screen its wastewater discharges in a manner that will protect the waters of the state from pollution resulting from the project's operations. Further, the applicant is under a duty to comply with the terms and conditions of the permit. There is no evidence that the applicant has any history of noncompliance or violation of any environmental law. The

permit terms and conditions, as modified, are consistent with the state regulatory requirements and the applicable provisions of the federal Clean Water Act.

3

RECOMMENDATION

Based on the evidence in the record and the terms and conditions of the draft permit as modified herein, I recommend that the commissioner affirm the tentative determination to issue the permit, and authorize staff to require the applicant to submit final plans and specifications for the commissioner's review and approval. [37] I also recommend that the commissioner issue the permit when all such requirements have been met and the treatment system has been constructed in accordance with those approved plans and specifications.

[37] The applicant's authorized representative changed during the pendency of this proceeding. I recommend that the applicant be required to provide an updated certification of the applicant's duly authorized representative as provided by Regs., Conn. State Agencies §22a-430-3(b)(2)(C) in addition to the requisite final plans and specifications.

III

CONCLUSION

The applicant has demonstrated by a preponderance of the evidence presented that it has complied, or will comply, with the applicable provisions of the Regulations of Connecticut State Agencies governing new sources of air pollution. The draft permits provide that the applicant must conduct its operations in accordance with the relevant sections of subdivision (d) of §22a-174-3a and the CAA. The applicant has shown that the operation of its proposed facility in compliance with the permit terms and conditions will not adversely affect ambient air quality or impede attainment of any NAAQS.

The applicant has also demonstrated that its proposed wastewater pretreatment and discharge plan will protect the waters of the state from pollution. General Statutes §22a-430. The draft permit requires the applicant to comply with the relevant provisions of Regs., Conn. State Agencies §§22a-430-3 and 22a-430-4. Following approval of the applicants final plans and specifications

The Coalition, focusing primarily on the new source permit application, has not presented sufficient evidence to prove that the proposed facility is reasonably likely to cause unreasonable pollution. Therefore, there is no need to consider alternatives to the project beyond those already assessed by the applicant.

I recommend the issuance of the new source permits as modified by the recommended permit conditions outlined in this proposed decision. I also recommend that, upon completion of the permitting process and construction and approval of the wastewater treatment system, the water discharge permit be issued subject to the modifications proposed herein.

October 2, 2002
Date

/s/ Jean F. Dellamarggio
Jean F. Dellamarggio, Hearing Officer