

**Herman Schuler
125 Meadow Brook Road
Oxford Connecticut 06478**

Town of Oxford
Board of Selectmen
Attn: George R. Temple – First Selectman
S. B. Church Town Hall
486 Oxford Rd.
Oxford, Connecticut 06478

Dear Mr. Temple:

Date: 5/3/2016

Background

I have been asked to respond to a letter with attachments from a residents group calling themselves "Concerned Citizens for a Better Oxford". The letter was signed by Wayne McCormack, Peter Bunzl, Vincent Calio, Paul Coward, Jerry Fogel, Carol Vogel, Rochelle Gershenow, Robert McCarney, Margaret Polstein and Ruth Schiff. Their letter and attachments has been included in Appendix F of this document. For convenience, these residents will be referred to as "The Group" throughout the remainder of this document.

The Group has expressed concerns regarding the health, safety and financial well-being of town residents and documented their concerns and suggestions for discussion.

The Group has also requested that a motion made by Selectman Johnson tabled at the March 23rd Board of Selectman meeting be raised for discussion. The motion requested that a new negotiating committee be formed and staffed by legal and power generation experts to renegotiate new Tax Stabilization Agreements to replace the agreements that were not ratified due to the town's failure to gain approvals of previously negotiated agreements through normal charter processes.

The Group has documented a series of concerns and solutions that they believe should be included in the new Tax Stabilization Agreements when the town attempts to renegotiate those agreements in the future. The following sections will list The Groups issues and concerns and provide an official response with applicable references to the evidentiary record maintained by the regulatory agencies, town departments and town management.

I. Legal and Environmental Consultants – Perceived Need for Experts

The Group has recommended that legal and environmental consultants be retained to renegotiate the town's agreements with CPV Towantic LLC. The Group recommends that these consultants:

- a. Be funded by CPV
- b. Incorporate The Group's concerns and recommendations into new contract language that can be included in new Tax Stabilization Agreements
- c. Be retained to "independently" monitor the reporting and environmental performance of the CPV Towantic Energy Center during the construction phase and for some undisclosed period after the facility becomes operational.

Town Response – Perceived Need for Experts

The Town of Oxford already relies on numerous experts and regulatory enforcement services provided by the following organizations.

- a. Connecticut Siting Council (CSC) – Certificate Approval; supervision of the Towantic Certificate and all conditions of approval during and after construction
- b. Department of Energy & Environmental Protection (DEEP) – Air Permits, supervision of all emissions reporting and operational compliance. Administration of 401 Water Quality Permit.
- c. Federal Aviation Administration (FAA) and Connecticut Airport Authority (CAA) – airport and aircraft operational procedures and the airport emergency response procedures
- d. Oxford Town Engineer – engineering approval and inspection of all town construction projects
- e. Inland Wetland Commission and Planning & Zoning Enforcement Officials – erosion control, storm water management compliance and wetland inspection and compliance
- f. Oxford WPCA – sewer design, sewer installation, inspections and compliance
- g. Oxford Building Department – on-site building inspections and code compliance
- h. Oxford Assessors Department – asset valuation and Tax Stabilization Agreement negotiation
- i. Town Attorney and First Selectman – Towantic Contracts and relationship management – *Note: the original contract and facility valuations were negotiated in 2000 by the Town Attorney and the consultant George Sansoucy P.E.*
- j. Heritage Water – waterline design approvals, installation inspections and approvals
- k. Eversource - Electrical & Natural Gas Vendors. Engineering Specifications, Inspections and Approvals

The following documents govern the activities of the town experts, regulatory staff and town stakeholders and are used to administer compliance with project terms and conditions and reporting requirements during and after construction.

- l. CSC Certificate – Council's Findings of Fact, Council's Opinion, and Decision & Order with conditions of approval (see CSC Docket 192B)
- m. Development and Management Plan (see D&M Plan in CSC Docket 192B)
- n. Emergency Response Plan (Appendix A, ERP & Appendix B, CSC Approval)
- o. DEEP Air Permits (Appendix C) contains authorized emissions and all reporting requirements

- p. Tax Stabilization Agreement, March 1, 2000 as amended in December 13, 2004, September 17, 2007, January 29, 2009, February 1, 2010 & February 15, 2014. E-Commerce Drive Construction Engineering and Roadway Specification included in the Omnibus Amendment dated 9/17/2007.
- q. FAA No Hazard Determination & Lighting Requirements 6/15/2015 (see CSC Docket 192B)
- r. Established Town Policies and Enforcement Procedures governing approval and inspection of roads, buildings, sewers, waterlines, power lines, gas lines and communications facilities.

Town Response – Need for consultants to negotiate new Tax Stabilization Agreements

Since an expert established the original value of the Towantic Project in 2000, e.g. \$44.5 million, and developed the original Tax Stabilization Agreement, the current value of the project can be derived by applying the cumulative inflation rate for the intervening 15 year period and adding the additional per megawatt capacity increment to the future payment schedule beginning on the Commercial Operations Date. Revenue from this calculation is nominally \$100 million. The Town has already negotiated \$112.2 million in new Tax Stabilization Agreements that failed to be ratified.

The current Tax Stabilization Agreement as amended yields \$56.5 million. All payments to date have been received and E-Commerce Drive is under construction. Assuming a new agreement can be negotiated with CPV Towantic, it will have to be ratified, either through, 1) the Town's normal charter process or, 2) through a litigation process that would establish the new Tax Stabilization revenue and payment schedule as determined by a court.

There is significant risk associated with the litigation option as described. Asking for more than \$112.2 million will not be acceptable to CPV because their bank financing is based on the previously negotiated amount – they will either not negotiate or challenge the request in litigation.

Responding to CPV's legal challenge, the court might, 1) utilize the inflation and capacity increase calculation described above to determine the value of the new agreements or, 2) require the town to settle for the value of the existing agreements with or without the capacity increment defined in Section 7. Both of these outcomes will result in less than \$112.2 million in future revenue. Whatever the outcome, the town will have to discount the total revenue by the legal fees incurred for litigation.

To date, CPV Towantic has not agreed to renegotiate new agreements with the town, however, at a recent meeting that was attended by a Selectman, a CPV representative made it clear that their patience with the town in this matter was wearing thin – the comment, "there are only so many bites left in an apple" is insightful.

If The Group is truly concerned about the financial well-being of town residents, The Group needs to acknowledge that, 1) the project is under construction, 2) will not be stopped or delayed by the absence of Tax Stabilization Agreements, 3) and that new negotiations are not likely to generate new Tax Stabilization Agreements yielding more than \$112.2 million.

If the town is successful in renegotiating new agreements, The Group could best serve town residents by committing to support the new agreements and actively promoting their adoption on their websites, Op-Eds, media communications and at the final town meeting.

If The Group is unable to reconcile their position with the town need to establish new agreements, the town will be forced to accept the risk and cost to litigate the matter.

II. Safety Concerns (excluding traffic issues)

The following safety concerns were documented by The Group.

- a. Fire
- b. Gas Leaks from compressor station (California?)
- c. Explosion (Middletown)
- d. Terrorist (power plant security)
- e. Light Aircraft Accident
- f. Hazardous materials (hydrogen, ammonia etc.)
- g. Oil Spill
- h. Evacuation Procedures – Residents
- i. Community Alert System – accident or abnormal plant event when they occur

The following solutions were suggested

- j. First responder training each year for 20 years
- k. Purchase of a dry-chemical fire vehicle
- l. Purchase of a foam firefighting vehicle
- m. Emergency Response Fund in escrow to support any and all costs related to power plant incidents requiring town involvement

Town Response – Safety Concerns

All of the safety concerns have been addressed in the Emergency Response Plan (ERP) which is part of the Development & Management Plan approved by CSC on September 4, 2015. Copies of the ERP and the D & M Approval and Staff report are included in Appendix A & B respectively.

Specifically, the ERP describes all Towantic Energy Center emergency assets including

- a. Integrated plant security systems managed from a central control room manned 24/7
- b. Onsite deluge foam firefighting system in the fuel delivery and storage areas
- c. CO2 fire suppression systems in the turbine enclosures
- d. Onsite firefighting system with onsite water supply, hydrants and backup diesel pumping system
- e. Backup electrical generator
- f. Integrated alarm systems utilizing natural gas and chemical leak and spill sensors
- g. Containment facilities for all hazardous materials stored onsite
- h. Procedures and facilities to manage all minor spills and major events such as fire, leak, intruder threats, vehicle accidents and other events that might occur during plant operation
- i. Initial and annual recurring training for all on-site and offsite responders and participants

- j. Coordinated annual training and testing of all procedures with local first responders
- k. Implementation of a CODE RED notification system to alert local agencies and participants when a facility event occurs.
- l. Oxford Ladder Truck donated by Towantic Energy LLC in 2008. (value \$900,000)
- m. Integration of firefighting assets based at the airport and surrounding communities into local first responder procedures.

Town Response – Emergency Response Fund & Evacuation Procedures

Based on DEEP Memo that documents responses to commenters from the September 17th Informational Hearing at the Oxford High School, there is no need for an Emergency Response Fund or Community Evacuation Procedure. The following quotes from the DEEP document are provided here to support the Town's position. (see Appendix D, Page 14)

"What the commenter is requesting is similar to the Emergency Planning and Community Right-To-Know-Act(EPCRA), Comprehensive Environmental Response Compensation and Liability Act(CERCLA) and Section122(r) of the Clean Air Act for which there is a list of hazardous, toxic chemicals and regulated chemicals for accidental release prevention that are required to be made public for facilities that use these substances in quantities at or above certain thresholds. CPV will not be subject to these regulatory requirements and there is no regulatory requirement to include a community alert system."

"Combined cycle generating technology is one of the safest and most reliable electric generating options available today and these plants have significant histories of permit compliance and safety. It is unlikely that there would be an imminent threat to local citizens from occasional upsets or deviations from permit terms and conditions. There are permit requirements to notify the department of emission exceedances within 24 hours for hazardous air pollutants and ten days for any other regulated air pollutants. These reporting requirements are required by regulation."

"The plant is not allowed to continue to operate when there is an exceedance of an emission limit. These limits were set with a sufficient margin of safety. Therefore, air permits do not require CPV to inform the local community on a real-time basis of adverse events at the facility."

III. Traffic, Roadway Use issues, Police Protection & Decommissioning Costs

The Group expressed concern over the volume of heavy construction traffic that would traverse local roads. The Group suggested that all construction traffic be restricted to E-Commerce Drive and that all roads be resurfaced and/or reconstructed at the conclusion of construction.

The Group also suggested that the project be charged for additional police protection during and after construction.

Town Response – E-Commerce Drive

E-Commerce Drive is currently under construction and should be complete and available for use by June 30, 2016. All engineering for the roadway plus permits and easements have been established, performance bonds have been submitted to the town and CAA and construction of the roadway was started in December of 2015. The engineering specification and requirements are documented in the Omnibus Amendment to the Tax Stabilization Agreement dated January 29, 2009.

Town Response – Other Town Roadways

CPV has agreed to resurface Woodruff Hill Road, Julianno Drive and E-Commerce Drive to newly paved status at the conclusion of construction activities - currently scheduled for June, 2018. After the facility becomes operational, traffic activity will be limited to fuel delivery, normal plant resupply and employee(25) commuting traffic.

Town Response – Police Protection

All residents and taxpayers have equal access to public safety services provided by the town. Surely, a company that is paying at least \$2.35 million in taxes to the town during and after construction is entitled to the protection of our police department, fire department and emergency ambulance and public health services.

Town Response – Decommissioning Costs

Section 5 of the Amended and Restated Development Agreement provides \$6 million dollars for decommissioning costs. On the Implementation Date, Towantic LLC will provide an investment grade letter of credit or surety bond to secure the decommissioning costs until they are needed.

IV. Mitigation of ULSD (Oil) Operation

The Group suggests that since operations using ULSD emits higher levels of all emissions the Town should discourage use of ULSD by requiring a payment to the town of \$1000 dollars per hour for every hour that the facility uses fuel oil during the year.

Town Response - Mitigation

Duel fuel capability is a positive attribute of the Towantic facility and not a problem to be "mitigated" by the town. According to the DEEP Memo Page 12 (see Appendix D) and the Air Permits (see Appendix C), fuel oil use is permitted by DEEP for a maximum of 720 hours per year.

However, actual use is restricted to specific conditions within the permit. Fuel Oil is allowed if 1) ISO-NE declares an Energy Emergency, 2) the natural gas supply is curtailed by the gas supplier, 3) a physical blockage or breakage of the gas pipeline occurs, 4) during the commissioning and performance testing period, 5) during routine maintenance and readiness testing, 6) if the last fuel delivery was greater than 6 months ago to maintain turnover of fuel inventory and prevent wastage. By state statute, fuel oil cannot be used to provide an economic advantage if oil becomes cheaper than natural gas.

Therefore, use of fuel oil is already “mitigated” by use restrictions and need not be further “mitigated” by adding up to \$720,000 in annual operating costs to discourage its use.

Town Response – Emission while using ULSD

As a matter of verifiable fact, all emissions from the Towantic facility are a small fraction of the emissions authorized by USEPA and DEEP regulations.

As required by the Clean Air Act, USEPA sets the National Ambient Air Quality Standards (NAAQS) through a rigorous scientific process at levels determined to be protective of the health of the most sensitive individuals (e.g children, the elderly, chronic asthmatics and people with pulmonary diseases), with an added safety margin.

The current regulatory standard for Particulate Matter (PM_{2.5}) is established at **12.0** micrograms per cubic meter (ug/m³).

Existing levels of PM_{2.5} in our area, e.g. background levels, range from **8.4** to **9.9** ug/m³ over the last 4 years. The current level of PM_{2.5} in our local area is reported to be **9.2** ug/m³.

A dispersion model submitted to CSC in January, 2015 shows the impact from oil fired operations on the local environment (see Appendix E, Diversion Model Exhibit). At a point very close to the facility's eastern fence line, e.g. the Point of Maximum Impact (PMI), the maximum modeled impact is shown as **0.21** ug/m³.

According to the model, PM_{2.5} declines rapidly with distance from the PMI, e.g Middlebury Town Line - 0.15ug/m³, closest Oxford Greens home - 0.12ug/m³, Naugatuck Forest - 0.07ug/m³, Westover School- 0.03ug/m³.

It should be noted that this model assumes ULSD firing for 365 days per year. Since oil fired operations are limited to 30 days per year, actual emissions from the plant would decrease significantly for the 11 months that the plant must be fired with natural gas and any day that ULSD was not used during the days that ULSD was permitted.

The actual allowable emission limits for ULSD and Natural Gas fired operations are shown in the Air Permits in micrograms, parts per million, pounds per hour and tons per year (see Appendix C). Since these limits are in compliance with USEPA and DEEP standards, they are considered acceptable, safe and not harmful in any way to the population and environment.

V. Environmental and Health Issues – Request to Install Air Monitors

The Group has documented a long list of health issues and opinions obtained from various websites and studies. These issues are too lengthy to be repeated here but can be reviewed in detail by reading Appendix F of this document.

The remaining actionable requests that are documented in The Group's Memo and Attachment are summarized as follows;

- a. CPV Towantic LLC should pay into a fund to support environmental and health projects in Oxford similar to PSEG's agreement with Bridgeport
- b. CPV Towantic should fund installation of Environmental Air Monitors that would be sited by the town's consultant. Waterbury-Oxford Airport, Oxford Greens, Oxford High School, Oxford Center School, Pomperaug High School should be considered by the town consultant. Ongoing consulting services should be retained to process the Air Monitor data streams and correlate that data with Towantic's operational data so that Towantic's emissions compliance could be independently determined.
- c. CPV Towantic should fund the town's consultant to review Towantic's operational reports as required by the DEEP Air Permits to independently verify compliance or variances in facility performance.

Town Response – Opinions regarding health issues, emissions, and other listed items

Most of the health issues and emissions issues listed in the Attachment are part of the evidentiary record maintained by both CSC and the DEEP.

The DEEP Memo (see Appendix D) provides an exhaustive response to all emission and health issues. Specifically, the DEEP devotes 17 pages of detailed and cross referenced responses to every commenter that attended the August 2015 OHS meeting.

To summarize the evening, the DEEP stated that emissions standards are set with consideration for the health and safety of the entire population. They state unequivocally that USEPA emissions standards ensure a safe environment for everyone and that CPV Towantic's emissions are statistically insignificant if the facility is maintained and operated in accordance with their permit.

Town Response – Environmental Health Fund

Towantic will have the lowest emission levels of any New England power plant and Towantic's efficiency can be expected to drive less efficient plants into retirement. The Town has negotiated a community development agreement that is currently targeted for youth oriented projects.

The town is not currently in a negotiating position that would allow improvement of that agreement.

Town Response – Air Monitors, Ongoing Data Analysis and Reporting Review

This is clearly an issue that requires a cost benefit analysis. Specifically, what is the value added to the town to incur costs to duplicate monitoring and reporting that is already completed by Towantic to preserve their operating license and monitored by DEEP to ensure air permit compliance?

DEEP has already weighed in on this issue by responding to commenter 13 on page 10 and 11 of the DEEP Memo (see Appendix D). Specifically, the DEEP ruled out continuous emissions monitoring (CEM) for PM_{2.5} stating that no sensor was available that was capable of accurately measuring PM_{2.5} emissions.

In addition, DEEP ruled out a “PM test every three months” stating that;

“The Air Bureau’s experience with particulate emissions from combustion turbines is such that these units operate with reliable consistency and meet their PM emissions limits routinely during performance testing. It would be considered an excessive requirement for a source to conduct a test every three months provided the permittee maintains and operates the equipment in accordance with their permit”.

In response to commenter 13 - request to install outside air monitors in close proximity to the plant instead of relying on regional monitors, DEEP responded as follows.

“DEEP maintains ambient air monitors in Danbury, Waterbury, Bridgeport and New Haven and believes that these monitors are sufficient to monitor background concentrations of PM. Computer modeling was conducted to determine the impact from the source at multiple locations and operating scenarios. A monitor can only determine concentrations at the single point where it is located and may miss the source plume most of the time. Therefore, analyzer monitors are not suitable for determining source specific impacts.”

Finally, in the interest of determining CPV Towantic’s position on the Air Monitoring issue, this request was shared with a CPV representative during a recent meeting. CPV shared the opinion of DEEP as presented above, stating that the town would have to pay for and install the monitors and then retain a subject matter expert to correlate the output from the monitors with events in the surroundings that might explain spikes and anomalies. They estimated that the cost of a single monitor could range from \$50,000 - \$300,000 depending on features and the monitoring and report correlation function might require a full time person.

To summarize, it would appear that installing Air Monitors would require significant investment and incur a continuing operational expense. Based on the DEEP input, these monitors would not necessarily measure Towantic’s air permit compliance due to the many sources of criteria emissions that would be emitted from emission sources other than Towantic.

It would appear that little added value would accrue to the town to justify the investment and ongoing expense.

Appendix A

Emergency Response Plan (Draft) CPV Towantic Energy Center

DRAFT

EMERGENCY RESPONSE PLAN

CPV TOWANTIC ENERGY CENTER

***PLEASE NOTE THAT RED-LINED EDITS REFLECT
INFORMATION THAT HAS BEEN ADDED OR WILL BE ADDED
TO THE EMERGENCY RESPONSE PLAN AS REQUESTED BY
STATE AND LOCAL OFFICIALS DURING MEETING WITH CPV
TOWANTIC, LLC.***

[Insert Logo]

June 2015

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1.0 INTRODUCTION

This Emergency Response Plan (ERP or Plan) has been developed to direct response actions at the CPV Towantic Energy Center (the Facility) in the event of an emergency in accordance with condition number 1h and item number 2, Development and Management Plan (D&M Plan), of the Connecticut Siting Council's (CSC) final Decision and Order (D&O) for Docket 192B dated May 14, 2015. The Facility is located within the Town of Oxford in New Haven County, just south of the Middlebury, Connecticut town line. The Facility footprint is situated along the eastern side of Woodruff Hill Road, just south of an Algonquin Gas Transmission right of way. Figure 1-1 in Appendix A presents the Towantic Site Location Map.

The ERP covers responses to natural phenomena, fires, medical emergencies, oil and hazardous material (OHM) spills/releases, and any other reasonably foreseeable incidents that would affect the health and safety of the plant personnel and/or the general public.

1.1 Purpose

The purpose of this ERP is to establish the responsibility for handling emergency situations promptly, minimizing hazards, and disseminating information to all plant personnel and regulatory authorities (as required). This program will be annually reviewed and updated as appropriate by CPV Towantic's Plant Manager and Compliance Coordinator after seeking input from local public safety officials, Waterbury-Oxford Airport (OXA) and the Department of Emergency Services and Public Protection (DESPP).

Plant personnel will review this ERP at least annually during routine health and safety training.

After an actual emergency or drill, a critique of the emergency response will be conducted to evaluate and improve this plan, as needed.

1.2 Companion Plans & Procedures

This ERP is designed to be utilized in conjunction with current versions of the following CPV Towantic plans:

- *Spill Prevention Control and Countermeasure Plan.*
- *Stormwater Pollution Prevention Plan.*
- *Site Emergency Response Procedures.*

These Plans and Procedures will be fully developed and implemented in accordance with condition number 1h and item number 2 of the final D&O for Docket 192B prior the commencement of commercial operation.

The following figures are attached to this Plan.

- Figure 1-1, Towantic Site Location Map.
- Figure 1-2, Project Location Map.

Comment [KK1]: Figures to be finalized and submitted to council in accordance with D&O condition 1.h.

- Figure 1-3, Aerial Photograph.
- Figure 1-4, Facility Layout (as provided in item A of CPV Towantic D&M Plan).
- Figure 1-5, Stormwater Management Plan
(as provided in items E, I, J, O and R of the CPV Towantic D&M Plan).
- Figure 1-6, Emergency Response Site Plan - Emergency Equipment, Emergency Exit Routes, Emergency Evacuation Meeting Point.

Comment [KK2]: To include color-coded spill routing, per request from Oxford Fire Department.

1.3 Facility Organization, Trained Staff, Security

The Facility will be manned 24 hours per day, 7 days per week. The operational labor force will consist of trained employees who will be on-site at all times that will be available to provide initial emergency response support.

The perimeter of the Facility site will be secured with a chain link fence, sliding gates and surveillance equipment so as to permit only authorized access to the facility's service drive, structures and operations. One gate would provide access into the project site, thereby restricting access to this area. The gate would be locked during normal operations with access provided by facility personnel. Normal plant lighting and emergency temporary lighting would be provided throughout the facility. The Facility security will be controlled by the Facility's operators in the control room 24 hours per day, 7 days per week, and 365 days per year. All site security personnel will be equipped with communication equipment to maintain contact with construction and operations management personnel and/or the Oxford Police and Fire Departments, OXA, the DESPP and [INSERT OTHER RELEVANT PARTIES].

Table 1-1: Preliminary Operations Staffing Plan			
Job Title/ Staff	Emergency Response Job Function	Training	Total
Plant Manager	Alternate Emergency Coordinator	40-hour OSHA, 8-hour Site Supervisor	1
Compliance Coordinator	Emergency Coordinator, Training	40-hour OSHA, 8-hour Site Supervisor	1
Production Manager	Alternate Emergency Coordinator	40-hour OSHA, 8-hour Facility Hazard Awareness	1
Plant Engineer	None	40-hour OSHA, 8-hour Facility Hazard Awareness	1
Business Manager	None	8-hour Facility Hazard Awareness	1
Control Room Operators	Alternate Emergency Coordinator	40-hour OSHA, 8-hour Site Supervisor	4
Operators	Response Team Member	24-Hour OSHA	8
Maintenance and I&C Technicians	Response Team Member	24-Hour OSHA	4
Administrative Support	None	8-hour Facility Hazard Awareness	1
Totals			22
40-hour OSHA: Training designed for workers who are involved in clean-up operations, voluntary clean-up operations, emergency response operations, and storage, disposal, or treatment of hazardous substances or uncontrolled hazardous waste sites in accordance with 29 CFR 1910.120. 24-hour OSHA: Training designed for personnel that may approach a spill in an emergency response with intentions of stopping the spill and containing the spread of the material. 8-hour Supervisor: Specialized training in safety management and facility specific safety programs. 8-hour Facility Hazard Awareness: Training designed for personnel that may be present at an initial incident who will not take direct action to contain or control the incident.			

1.3 ERP Distribution

At a minimum, this ERP shall be located in the following locations:

- ☐ Facility Emergency Evacuation Meeting Point
- ☐ Facility Administration Office

In addition, this Plan will be provided to:

- ☐ Connecticut Siting Council
- ☐ Department of Emergency Services and Public Protection
- ☐ Waterbury-Oxford Airport
- ☐ Oxford Fire Department
- ☐ Oxford Police Department

- ☐ Oxford First Selectman
- ☐ [INSERT OTHER PARTIES AS NEEDED]

1.4 Plan Updates

This Plan will be updated as necessary and reviewed annually, at a minimum, by the Facility's Plant Manager and Compliance Coordinator after seeking input from local public safety officials, Waterbury-Oxford Airport (OXA) and the Department of Emergency Services and Public Protection (DESPP), however each agency that receives the plan will be requested to provide input on subsequent updates to the plan. The Oxford Fire and Police Departments will have "hands on" input during annual training exercises planned at the Facility. A record of all revisions and amendments will be documented in subsequent revisions to this Plan.

2.0 GENERAL FACILITY INFORMATION

2.1 Existing Site and Surrounding Conditions

The CPV Towantic Energy Center is located in the northern portion of the Town of Oxford, near the boundary with the Town of Middlebury. The Facility is bounded by Woodruff Hill road and a Connecticut Light and Power transmission right-of-way to the west; the Algonquin interstate natural gas pipeline system owned by Spectra to the north; a Spectra-owned gas compression station to the east and lot 9B and Spectra's gas compression station access road to the south. Figure 2-1 shows the site boundary on the United States Geological Survey (USGS) map for the general area. Figure 2-2 provides the site boundary and area on an aerial photograph. Figure 2-3 illustrates the general facility information described in this section.

2.2 Facility Description

All Facility equipment described in this section is presented on the Site Plan, Figure 2-3.

The combined-cycle facility can generate a peak of 785 megawatts (MW) of electricity. On an average ambient day (59°F ambient dry bulb temperature) approximately 524.5 MW of this power is produced using two combustion turbine generator sets. Exhaust heat from the combustion turbines is sent to a heat recovery steam generators (HRSGs) to produce steam to drive a steam turbine generator. The steam turbine generator provides approximately 280.5 MW, the balance of the Facility's gross output. Approximately 20 MW are consumed within the Facility to power necessary Facility systems, which leaves a net Facility electric output of 785 MW.

The HRSGs include a natural gas-fired "duct burner" (supplemental firing system). The duct burners would allow for additional electrical production during select periods. For environmental purposes, the Facility is equipped with state of the art emissions control technology. This equipment includes selective catalytic reduction technology (SCR) and an oxidation catalyst would be used to control oxides of nitrogen (NO_x) and carbon monoxide (CO) emissions, respectively. Exhaust steam from the steam turbine is cooled and condensed and then returned to the HRSG using an air-cooled condenser.

2.3 Structures

The Generation Building contains the following equipment:

- Steam turbine and the steam turbine generator;
- Other mechanical equipment, such as pumps, piping and electrical equipment needed for plant operation.

The plant site has overhead gantry cranes to facilitate major equipment maintenance activities. Elevated platforms are installed to provide for access to equipment and piping. The roof of the structure is designed to support metal decking and insulating panels. The walls are insulated

metal siding supported on a steel frame. Also enclosed within the main generation building are office space, a meeting room, a kitchen, storage areas and restroom facilities.

The two (2) gas turbines and associated generators are installed directly adjacent to the Generation Building.

Approximate building dimensions and heights for major Facility components are as follows:

- | | |
|-------------------------------------|--|
| • Generation Building | 161 feet by 92 feet by 37 feet height |
| • Admin/Control/Electrical Building | 186 feet by 59 feet by 52 feet height |
| • Steam Turbine Generator Enclosure | 110 feet by 44 feet by 27 feet height |
| • Gas Turbine Generator Enclosure | 129 feet by 37 feet by 37 feet height |
| • HRSG | 138 feet by 48 feet by 110 feet height |
| • HRSG Stack | 22 foot diameter with 150 foot height |
| • Glycol Fin Fan Cooler | 100 feet by 60 feet by 20 feet height |
| • Gas Compression Area | TBD |
| • Generator Step Up Transformers | 48 feet by 30 feet by 20 feet height |
| • Ammonia Storage Tank | 13 foot diameter by 25 foot height |
| • Maintenance/Warehouse Building | included inside Admin/Control Building |
| • Gas Meter Enclosure | 100 feet by 50 feet by 10 feet height |
| • Air Cooled Condenser | 268 feet by 250 feet by 85 feet height |
| • Demin Water Storage Tank(s) | 60 foot diameter with 42 foot height |
| • Service/Fire Water Storage Tank | 40 foot diameter with 40 foot height |
| • Fuel Oil Storage Tank | 73 foot diameter with 48 foot height |
| • Fuel Oil Delivery Facilities | 125 feet by 38 feet by 16 foot height |

2.4 Power Generation Equipment

The major pieces of equipment include two combustion turbine generators with an evaporative inlet air cooler, two HRSGs with duct burner, a steam turbine, an air-cooled condenser (main cooling system), a fin-fan cooler (auxiliary cooling system), an electric and emergency diesel fire pumps, and a combustion turbine exhaust stack. Additional support systems and equipment include, but are not limited to, the following:

- Feed-water systems;
- Condensate system;
- Water treatment system comprised of demineralized water trailers;
- Selective catalytic reduction (SCR) system;
- Oxidation (CO) catalyst;
- Chemical storage and injection system;
- Sanitary waste collection and discharge system;
- Fire protection system (including detection and alarm system);
- Domestic (potable) water distribution system;
- Instrument and service air systems;
- Heating, ventilating and air conditioning systems;

- Wastewater collection, treatment and discharge systems;
- Oil-water separators;
- On-site natural gas interconnection;
- On-site natural gas compressor and conditioning station;
- 115 kV overhead electrical transmission line;
- 115 kV switchyard; and
- Controls and instrumentation.

2.5 Auxiliary Equipment

Auxiliary equipment at the Facility includes the following:

- Combustion turbine inlet air evaporative cooler;
- Power transformers;
- Water demineralization system;
- Electric fire pump; and,
- Emergency diesel fire pump (back-up power to the electric fire pump)
- Emergency diesel generator
- Auxiliary Boiler

2.6 Fuel

Natural gas is the primary fuel with ultra-ultra-low sulfur distillate oil serving as a back-up fuel. Storage for the back-up fuel is in a 1,500,000-gallon fuel oil storage tank. The storage tank is equipped with secondary containment capable of retaining 110 percent of the storage tank capacity. Fuel delivery piping outside of the containment area is double walled with interstitial monitoring for leak detection. The fuel off-loading facilities would be capable of handling four tanker trucks simultaneously and has its own containment.

2.7 Key Facility Components

2.7.1 Combustion Turbine Generator

The two combustion turbine generators are internal combustion engines that operate with rotary motion (rotates a shaft to generate electricity). The turbines are composed of three major components: the compressor, combustor, and power turbine. In the compressor section, ambient air is drawn in and compressed up to 21 times ambient pressure and directed to the combustor section where fuel is introduced, ignited, and burned. Hot gases from the combustion section are diluted with additional air from the compressor section and directed to the power turbine section at high temperature. Energy from the hot exhaust gases, which expand in the power turbine section, is then recovered in the form of shaft horsepower (i.e., horsepower present at turbine shaft). More than 50 percent of the shaft horsepower is needed to drive the internal compressor and the balance of recovered shaft horsepower is available to drive the turbine and generate electricity.

Additional auxiliary systems provided with the combustion turbine generator package include: static excitation system, electric starting system, inlet silencer, evaporative inlet air cooler, packaged electrical/control systems, carbon dioxide fire protection systems, vibration monitoring, compressor water wash skids, and engine lubricating oil systems.

2.7.2 Heat Recovery Steam Generators (HRSGS)

High temperature exhaust gases exit the combustion turbine generators and are routed to the two HRSGs via ductwork. In the HRSGs, the heat from the exhaust gases is transferred to water/steam tubes that are immersed in the HRSG gas flow, first to boil the water into steam and then to superheat the steam for use in the steam turbine. The exhaust gases from the HRSG are routed to the stack.

The HRSGs would have supplemental fuel firing provided by an approximately 315×10^6 Btu/hr natural gas-fired duct burner.

2.7.3 Steam Turbine Generator

Steam generated in the HRSGs is expanded through a steam turbine coupled with a generator (steam turbine generator) to generate additional electricity. The steam turbine generator is a multi-stage, reheat, condensing turbine and that produces approximately 263 MW of electric power at an average ambient temperature of 59° F, in the non-duct fired mode of operation. The steam turbine generator is designed to exhaust to an air-cooled condenser. The steam turbine generator would be designed to run continuously, but is also be capable of operating as a cycling unit. The steam turbine generator is located in the generation building.

Provisions have been made in the design to minimize thermal expansion, stresses, distortion and vibration. The steam turbine is designed to shut down under any of the following conditions: overspeed, high vibration, high thrust, high differential expansion, low lube oil pressure and high back pressure. A 100 percent high pressure/low pressure turbine steam bypass system is provided to dump steam to the condenser, if necessary. The turbine bypass system would be utilized for temperature matching on warm and hot starts in addition to keeping the gas turbine in operation in the event of a steam turbine trip.

2.7.4 Gas Compression System

Transmission-pressure gas (390 to 750 psig) will be supplied by a lateral off of the Algonquin Gas Transmission line owned and operated by Spectra Energy. The lateral enters the metering and regulation (M&R) station where gas is first filtered, then metered, heated and regulated. Gas compression facilities are also provided inside the power plant fence line to boost gas pressure in the event that inlet pressure is lower than required for the power plant gas turbines. The M&R station will be designed for a maximum flow rate of 132,000 dekatherms/day (5,400 Mscfh), with a maximum allowable operating pressure (MAOP) of 750 psig.

The Gas Compression System will be comprised of 3 gas compression skids, each capable of supporting 50% of the Facility's maximum flow rate of 132,000 dekatherms/day.

2.7.5 Main System Cooling (Air-Cooled Condenser)

An air-cooled condenser is located adjacent to the generation building to provide cooling for the steam exhausted from the steam turbine. The air-cooled condenser is designed to operate with ambient air as a direct steam-cycle heat sink. Steam is routed from the steam turbine exhaust through ducts to a series of fin tube heat exchangers. The steam flows through the tubes and condenses inside the tubes forming condensate while air flows over the outer tube surface. Condensate is discharged from the air-cooled condenser and returned to the HRSG after the latent heat of vaporization is transferred from the turbine steam directly to the air stream. Air is moved through the air-cooled condensers by a series of fans, with ambient air drawn from below the condenser and the heated warmer air discharged from the top of the condenser.

2.7.6 Auxiliary System Cooling (Fin-Fan Cooler)

A fin-fan cooler (auxiliary cooling system), separate and distinct of the air-cooled condenser, would be provided for cooling of plant equipment and sub-systems. The fin-fan cooler is an air-cooled heat exchanger that rejects heat from a fluid directly to ambient air using a series of tubes, fins and fans similar to an automobile radiator. Propylene glycol / water mixture is used as a coolant. The fin-fan cooling system is designed to support base load capability of the plant up to an ambient temperature of 105° F. This system would be controlled remotely from the plant control room.

The following equipment and sub-systems are served by the fin-fan cooler:

- Steam Turbine Generator (STG) Coolers;
- Combustion Turbine Generator (CTG) Coolers;
- STG and CTG Lube Oil Coolers;
- STG and CTG Auxiliaries;
- STG Hydraulic Power Unit Coolers
- Sample Coolers;
- Service and Instrument Air Compressors and Aftercoolers (if water-cooled); and
- HRSG Feed Pump Oil Coolers;

2.7.7 Evaporative Cooler

The inlet air cooler operates when temperatures exceed approximately 59° F in order to maximize plant efficiency and output. Water is pumped into the evaporative cooling media, which is a cellulose-based material. It is mounted at the inlet of the inlet filter house. The water trickles down and soaks the media, while inlet air is passed through. This causes evaporation of water, causing cooling of the air passing through.

2.7.8 Emergency Diesel Fire Pump

An emergency diesel fuel pump is used only to maintain on-site firefighting capability if electric power was not available from the utility grid.

2.7.9 Stack

Exhaust gas from the HRSGs flow into the two, above grade, stacks located south of the gas turbine generator enclosures.

2.7.10 Aqueous Ammonia Storage

The selective catalytic reduction requires aqueous ammonia injection for NO_x emissions control. A 19 percent aqueous ammonia solution is stored in a 20,000-gallon tank. The 13 foot diameter by 25 foot high tank is a welded of steel construction. The tank is located within a concrete containment area capable of storing 110 percent of the tank contents. The tank has a leak detection system with an audible alarm in the control room. The storage tank and containment design would include provisions for overfill detection and prevention.

2.7.11 Water Tanks

The primary source of water for fire protection is the 500,000 gallon raw water that contains a dedicated capacity of 300,000 gallons specific for the fire protection system. The plant personnel are trained as an on-site fire brigade, working cooperatively with the Oxford Fire Department, to function as the first line of defense in the event of a fire at the plant.

The two (2) demineralized water tanks will both store approximately 875,000 gallons of treated water and both tanks are approximately 60 feet in diameter and 42 feet high. The tanks are located on the south side of the demineralized water treatment area.

A 500 gallon off-line turbine/compressor wash water holdup tank would be installed on-site to manage wastewater generated during off-line CT washes. The waste stream is trucked off-site for appropriate treatment and disposal at a licensed treatment facility.

2.7.12 Indoor Material Storage Areas

Facility operations require limited amounts of lubricating oils and certain other industrial chemicals, stored in specially designed, covered containment areas. All on-site chemical storage areas are situated indoors with appropriate containment.

The combustion and steam turbine generator sets contain lube oil. The oil is stored in steel tanks. The lube oil reservoirs have secondary containment designed to contain 110 percent of the oil volume in the unlikely event of a catastrophic failure. Visual and automated leak detection would be provided by the level and pressure indicating control system.

Chemicals, used oils and lubricants are stored in designated areas with secondary containment. Any incompatible materials (e.g., acid and caustic) are separate containment areas. The portable containers within the storage enclosure would not be stacked more than two high without using a properly designed storage rack for that purpose.

3.0 HAZARD ANALYSIS

This section analyzes the hazards at the Facility and details actions Facility personnel should take in the event of an incident. This analysis is not intended to detail every emergency response procedures, rather, potential hazards were identified that required detailed analysis. Potential resources and receptors categories were selected and analyzed in Section 3.1 and specific hazard analysis was completed for the following categories:

- Section 3.2, Fires and Explosions;
- Section 3.3, Spills;
- Section 3.4, Aqueous Ammonia;
- Section 3.5, Natural Gas;
- Section 3.6, Oil and Hazardous Materials Delivery
- Section 3.7, Blood-Borne Pathogens; and,
- Section 3.8, Severe Storms.

3.1 Resources and Receptors

The potential resources and receptors requiring analysis include:

- Facility personnel;
- Delivery personnel;
- Visitors and contractors;
- Adjacent community; and,
- Surface water and wetlands.

During hazard analysis, these resources and receptors will be addressed, as necessary. A brief summary of each is described below.

3.1.1 Personnel, Visitors, and Contractors

The Facility personnel shall be trained to respond to an event at the Facility. All employees, visitors, and contractors must sign-in/sign-out in the logbook at the Administration/Control Building during routine workdays. Visitors may be asked to read a brief description of the facility and understand the evacuation procedure. During an emergency, the Emergency Coordinator is responsible for obtaining this logbook directly or via a designated individual (e.g., office personnel). This will allow for all personnel to be accounted for in an emergency.

3.1.2 Adjacent Land Uses

Existing adjacent land uses are presented on Figure 3-1-2 and are described below.

The northwestern quadrant of the 1-mile study area consists of developed and undeveloped commercial/industrial parcels, OXA and some residential areas. The northeastern quadrant includes Spectra's gas compression station and primarily undeveloped commercial/industrial and residential areas. The southeastern quadrant consists of primarily commercial/industrial undeveloped land and residential areas, including portions of the fifty-five plus golf course community of Oxford Greens. The southwest quadrant is nearly entirely commercial/industrial property and OXA.

3.1.3 Wetlands and Ecological Resources

Existing wetland features occurring on or near the project site are depicted in Figure 3-1-3 and described below.

Wetland 1 ($\pm 10,322$ SF) is a dense glacial till hillside seep wetland meadow wetland system with scattered shrubs characterized by a relatively narrow clearing surrounded to the north and south by mature upland forest located in the central-west portion of the Site. Water is conveyed west, originating at a stone wall at the edge of a large open field. This wetland feature terminates as it approaches the Woodruff Hill cul-de-sac. Evidence of mechanical compaction in the form of tire ruts is prevalent throughout this wetland seep system along with disturbed wetland soil profiles.

The majority of Wetland 2 ($\pm 10,561$ SF on site) is off-site, with only its western edge located in the northwest corner of the Site. Wetland 2 is a complex of forested, scrub/shrub, and emergent seep wetland habitats formed in dense glacial till. An overhead electrical distribution ROW running north/south along the Site's western property boundary, north of the CL&P ROW, bisects the eastern upper reaches of this wetland system. Evidence of mechanical compaction in the form of tire ruts and gravel surfaces is prevalent throughout this utility ROW resulting in shallow ponding water at the time of inspection. Wetland 2 generally drains east to west across a moderately west-facing slope, formed in dense glacial till.

Wetland 3, located entirely off Site along the west property boundary and connected to Wetland 2 further off Site to the west, is a small hillside seep wetland system that has experienced high levels of anthropogenic activity. Wetland 3 is generally located at the confluence of a CL&P ROW and Woodruff Hill Road cul-de-sac. As such, the hydrology and nature of Wetland 3 has been highly altered from previous filling activities associated with CL&P maintenance and upgrading of this electrical transmission ROW, resulting in disturbed wetland soil profiles, surface compaction and altered vegetation communities. This wetland system receives hydrology from the surrounding uplands to the north and east via seasonal overland flow and groundwater exfiltration, as well as a PVC pipe conveying flows from a dug drainage swale located along the east side of Woodruff Hill Road on the Site.

Wetland 4 (± 178 SF) is a very small, isolated man-made depressional wetland feature located in a generally flat, forested upland area located in the central-north portion of the Site. This depression was artificially created in dense well drained glacial till soils, apparently the result of a dug test pit that was improperly backfilled. This anthropogenic feature has formed a small depression that intercepts the seasonally high groundwater table as evident by a review of disturbed hydric soil profiles.

3.2 Fires and Explosions

The use of flammable materials at the Facility results in the potential for fires and/or explosions. As a result, fire prevention systems have been designed into the facility and are detailed below.

3.2.1 Fire Incident Prevention

Good housekeeping is an essential element of fire prevention. Waste paper, rags, and other combustible material shall not be allowed to accumulate. Emergency exits and passageways shall be free of obstructions at all times. Employees shall eliminate such hazards if possible and in any event, report them to supervisors.

All employees will be informed of the following:

- 1) Smoking is allowed only in designated areas within the Facility;
- 2) Where the nearest fire exit is located in regard to the work area;
- 3) What to do when a fire alarm sounds;
- 4) How to sound a fire alarm;
- 5) The location of fire extinguishers nearest the work area;
- 6) The meaning of identification markings on fire extinguishers; and
- 7) The emergency evacuation site meeting point location and evacuation routes.

3.2.2 Fire Protection Equipment

This section describes the onsite equipment and systems to be provided to prevent or handle fire emergencies and hazardous substance incidents during operation.

The Facility shall have multiple safety systems, including on-Site fire protection systems and onsite emergency response equipment. These systems will include pull boxes, on-Site fire hydrants, fire suppression systems, portable fire extinguishers, an internal public address system, emergency lighting, first-aid kits, spill response kits, eyewashes, safety showers, and personal protective equipment such as hard hats, safety shoes, and safety glasses. On-site Facility personnel shall be trained in fire safety.

The Facility fire protection system shall be designed in accordance with the State Fire Safety Code, and the NFPA Standard 101 Life Safety Code, latest edition. A complete onsite fire protection system shall be installed for emergency use. The source of fire suppression water will be from onsite storage supplied by an interconnection to the Heritage Village Water Company potable water system.

This fire protection system will be highly protective of the Facility workers and, as a result, is also protective of the neighborhood. Component specific fire safety systems are described below.

3.2.3 Combustion Turbine Generating Sets

The combustion turbine generator will include controls to detect fire, unsafe temperatures, or explosive atmospheres in the equipment. The enclosure will be equipped with pre-engineered carbon dioxide (CO₂) fire suppression systems controlled by fire and heat detectors.

3.2.4 Gas Compressor Building

The enclosure will be provided with smoke and gas detectors, hand-held fire extinguishers, and a remote shutoff of the gas feed.

3.2.5 Fuel Tank Area

A foam deluge system will be provided at the ultra-low sulfur diesel fuel storage tank and unloading area.

3.2.6 Main Step-up Transformer

Fire walls will be provided for protection of structures.

3.2.7 Yard Fire Hydrants and Fire Water Supply

Hydrants will be provided throughout the Facility, including a hydrant at the Facility's primary response entrance.

3.3 Spills

Spill prediction, prevention, and control shall be achieved through the use of proper unloading procedures, the use of spill control devices, and the practice of regular maintenance and inspections of the tanks and/or the storage systems.

Implementation of the standard fueling procedures, spill control devices, inspections and security measures at the Facility shall minimize the potential for a spill or release associated with storage tanks, chemical storage areas, and oil storage systems.

The potential chemical hazards at the Facility are associated with the various oil/petroleum products and chemical materials used at the Facility. In the event of an oil or chemical spill, only appropriately trained Facility personnel are allowed to provide emergency response. Potential Facility worker exposure to these chemicals could occur through inhalation, ingestion, or absorption.

Ingestion and absorption will be controlled through the use of personal protective clothing and decontamination procedures. Inhalation hazards will be controlled through the use of respiratory protection. Skin and eye contact of all media containing contaminants shall be avoided.

A summary of chemical hazards and safety information is provided on Table 3-3. A detailed presentation of chemical hazards and safety information is presented on the material safety data sheets provided in Appendix B.

Table 3-3: Oil and Hazardous Material Response and Safety Information					
Chemical Name	Federal RQs 40 CFR 302 TPQ/ CERCLA National Response Center	Any quantity.	Exposure Controls	Physical Properties	Exposure Symptom/ First Aid
Bearing Oil	None/None. (Report to NRC if release reaches surface water).	Any quantity.	TLV= 5 mg/ m3 Use NIOSH respirator if mist is involved.	UEL: ND LEL: ND F.P.: 300 <input type="checkbox"/> F B.P.: 600 <input type="checkbox"/> F S.G.: ND Amber color, sweet odor.	Mild irritant to eyes, skin. Irrigate immediately with water.
Transformer and Auxiliary Transformer Oil	None/None. (Report to NRC if release reaches surface water).	Any quantity.	TLV = ND Stay upwind; use NIOSH respirator	UEL: ND LEL: ND F.P.: >295 <input type="checkbox"/> F B.P.: >300 <input type="checkbox"/> F S.G.: 0.88 White liquid with petroleum odor.	Irritation to eyes, skin. Irrigate immediately with water.
Generator and Gas Compressor Lube Oil	None/None. (Report to NRC if release reaches surface water).	Any quantity.	PEL: 5 ppm TLV: 5 ppm (as oil mist) Use NIOSH respirator if mist is present	UEL: ND LEL: ND F.P.: 300 <input type="checkbox"/> F B.P.: 425 <input type="checkbox"/> F S.G.: 0.89 Clear and Bright liquid.	Mild irritation to skin. Irrigate immediately with water.
Turbine Lube Oil	None/None. (Report to NRC if release reaches surface water).	Any quantity.	PEL: 5 ppm TLV: 5 ppm (as oil mist) Use NIOSH respirator if mist is present	UEL: ND LEL: ND F.P.: >392 <input type="checkbox"/> F B.P.: >527 <input type="checkbox"/> F S.G.: 0.953 Brown oily liquid with petroleum odor.	Mild irritant to eyes, skin. Irrigate immediately with water.
Fuel Oil	None/None (Report to NRC if release reaches surface water).	Any quantity.	Use NIOSH respirator if mist is present.	UEL: 5 % LEL: 0.7% F.P.: 100-162 <input type="checkbox"/> F B.P.: 347-617 <input type="checkbox"/> F S.G.: ND Colorless to yellowish, oily liquid with a strong odor.	Irritation to eyes, skin, respiratory system; nausea, headache. Irrigate immediately with water.

Table 3-3: Oil and Hazardous Material Response and Safety Information					
Chemical Name	Federal RQs 40 CFR 302 TPQ/ CERCLA National Response Center	1,000 lbs (110 gallons) to air or 100 lbs (11 Gallons) to land.	Exposure Controls	Physical Properties	Exposure Symptom/ First Aid
Aqueous Ammonia (19 percent)/1336-21-6	None/1,000 lbs (110 gallons) report to NRC.	1,000 lbs (110 gallons) to air or 100 lbs (11 Gallons) to land.	PEL: 50 ppm TLV: 25ppm IDLH: 300 ppm With SCBA only at >250 ppm	UEL: 25% LEL: 16% F.P.: Autoignition 1204°F B.P.: 97 °F S.G.: 0.9 Colorless offgasses with pungent, suffocating odor.	Irritation to eyes, skin, respiratory system; potentially toxic if ingested. Irrigate immediately with water.
Dielectric Fluid	None/None (Report to NRC if release reaches surface water).	Any quantity.	Use NIOSH respirator if mist is present	UEL: ND LEL: ND F.P.: 370 °F B.P.: 644 °F S.G.: ND Clear liquid with a mild sweet odor.	None
Natural Gas	Report significant incident to NRC.	None.	TLV: simple asphyxiant	UEL: 15% LEL: 5% F.P.: unknown, autoignition >1,000°F Colorless gas, lighter than air.	Absorb/inhalation risk. Can lower oxygen content in confined area. Rapid evaporation may cause frostbite. Move to fresh air.

3.4 Aqueous Ammonia

Aqueous ammonia will be stored on site for use in the Selective Catalytic Reduction (SCR) emissions control system for nitrogen oxides. An aqueous ammonia solution containing less than 20 percent ammonia by weight will be stored in a 20,000-gallon tank. The tank will be an approximate diameter of 13 feet and an approximate height of 25 feet.

The tank will be located within an impermeable concrete containment area. The containment area will be approximately 50 feet long and 20 feet wide. The containment basin is designed to contain 110% of the tank contents in the event of a total tank failure that would release the tank contents.

Facilities such as the CPV Towantic Energy Center that store aqueous ammonia solutions containing less than 20 percent ammonia by weight are not subject to the United States Environmental Protection Agency (EPA) Risk Management Planning (RMP) Rule.

3.5 Natural Gas

The Facility utilizes clean burning natural gas as its primary source of fuel. Fuel gas handling and use shall comply with the safety measures mandated in the wake of i) the Final Report entitled "Governor's Commission Re: Kleen Energy Explosion -- Final Report" issued by the Nevas Commission on June 3, 2010; and ii) the Executive Report issued by the Thomas Commission on September 21, 2010.

The following standard operating procedures will be incorporated to minimize the risk associated with natural gas use:

- The pipeline interconnection operation and management will be performed in accordance with the Office Pipeline Safety standards;
- Equipment will be cathodically protected to reduce corrosion;
- Natural gas systems will be operated with direct monitoring sensors;
- Monitoring data will be collected in the Control Room and alarms shall be set to alert the operator of possible safety concerns and alerts;
- The Control Room shall be able to notify the Fire Department of the site conditions and provide guidance on response, if needed;
- Monitoring instruments and sensors shall be placed on a preventative maintenance schedule that includes calibration and alarm testing;
- Site alarms shall notify workers of an emergency condition. These shall be tested periodically to verify operation;

- The operator shall be monitoring onsite gas usage and conditions and initiate shut down during an unusual event; and
- Routine training of personnel shall be conducted and coordinated with the Fire Department in order to provide effective response during emergencies.

All procedures shall conform to the Office of Pipeline Safety, OSHA, and NFPA standards. Programs and systems shall be reviewed and updated in the Facility Operating Procedures as part of the Facility's "Management of Change" program, if new procedures or equipment are introduced.

3.6 Oil and Hazardous Materials Delivery

All operators of heavy equipment shall maintain appropriate licenses for the use of heavy equipment. The operation of all vehicles shall be performed in accordance with State and Federal Department of Transportation requirements. Vehicles entering the Facility will be visually inspected by the Technician overseeing the intended operation. Any visible safety defect shall prevent the vehicle from entering the Facility until it is repaired.

Drivers transporting hazardous materials must have a current Commercial Driver's License and completed (up-to-date) log books. The vehicles must be properly placarded. It is the responsibility of all drivers to comply with all transportation regulations including obeying posted speed limits, covering loads and utilizing designated transportation routes.

The potential for an OHM release from a vehicle at the Facility exists during routine operation of the Facility. All unloading procedures shall be completed in areas of secondary containment. Any release of OHM due to a vehicle accident shall require immediate notification and spill response outlined herein.

3.7 Blood-Borne Pathogens

"Blood-borne pathogens" refers to pathogenic microorganisms that are present in human blood and can cause disease in humans. These pathogens include, but are not limited to, Hepatitis B virus, Human Immunodeficiency Virus, Clostridium tetani (tetanus), and Clostridium perfringens (gas gangrene).

The only Facility personnel who might be exposed to this hazard under normal conditions is the initial emergency responder, in the event he or she is required to render first aid to an injured worker while waiting for emergency personnel. First aid kits shall be available throughout the Facility and contain gloves, surgical mask, and safety goggles to be used whenever contact with bodily fluids is possible. The kits shall also be equipped with a CPR mask that has a one-way valve in the event mouth-to-mouth resuscitation of a worker is required. Antibiotic cleansers shall be included in the kit, as will special bags for the containment of medical waste.

3.8 Severe Storms

In order to ensure adequate coverage in the event of a severe storm, such as a hurricane or blizzard, the Plant Manager or Compliance Coordinator will determine a list of essential personnel required regardless of the operating status of the units. All employees scheduled to work will be expected to arrive for work as scheduled unless previous arrangements have been made with their supervisor. Non-essential personnel will be released from duty well in advance of the storm's arrival. All essential personnel will be expected to report to work early enough to avoid being detained by the arrival of storm conditions. Essential personnel should come prepared to stay at the plant for a period as long as two days in the event that a severe storm prevents other employees from returning to work as scheduled.

4.0 EMERGENCY RESPONSE

This section details emergency response actions Facility personnel shall conduct in the event of an incident. Any incident will be recorded on an Incident Report Form. These actions are presented in the following subsections:

- Section 4.1, Discovery, which includes Key Personnel and Job Functions, Spill Reporting and Documentation, and Activation of the On-Site Emergency Operations Center;
- Section 4.2, Facility Evacuation Plan;
- Section 4.3, Initial Response Actions, which includes procedures for a Medical Emergency, Power Outages, OHM Spill, Natural Gas Release, Severe Weather, Hostile Threats, and Vehicular Accidents;
- Section 4.4, Sustained Actions; and
- Section 4.5, Termination, Decontamination, Waste Management, and Follow-up Actions.

4.1 Discovery

The Emergency Coordinator (or Alternate) is responsible for determining the proper response to an incident at the Facility. If an employee discovers a fire, spill, malfunctioning equipment, or other emergency, immediately contact the Control Room or Emergency Coordinator (see Table 4-1). Prior to the completion of construction and mobilization of operations personnel to the site, the Engineering Procurement and Construction Contractor (EPC Contractor) will hold primary responsibility for compliance with this Plan in the event of an emergency. Construction phase emergency contacts can be found in Table 4-1(a).

A release or threat of release of OHM to the environment, including a release to a secondary containment structure, is considered a potential emergency. Facility personnel should be able to recognize when a situation evolves beyond his or her ability to control or mitigate the spill, leak, or other emergency incident without help.

The following information should be provided to the Control Room or Emergency Coordinator:

- Nature of emergency;
- Location of emergency;
- Size and extent of emergency;
- Materials involved; and
- Extent of injuries to personnel, if any.

For situations where there is a release of OHM to the environment, the Control Room or Emergency Coordinator shall be contacted **as soon as possible**. The Emergency Coordinator has command authority until relieved by management and shall direct the appropriate emergency response. If emergency services arrive at the Facility in the event of an incident, the Emergency Coordinator will transfer command to the emergency services lead.

CPV Towantic shall implement a Code Red (or similar) notification system to ensure timely notification of local agencies and other organizations. Notification, and the resulting mobilization of resources, **will not be delayed** pending collection of all information. Missing information shall be supplied during follow-up calls to the agencies.

In the event of a fire or discharge of oil or other hazardous material, rapid notification of responsible Facility personnel, oil spill and/or hazardous material removal organizations, and federal, State, and local regulatory agencies or emergency response personnel is essential to protecting the environment. Table 4-1 provides the contact telephone numbers of all persons or groups that may require notification.

Table 4-1: Contacts			
Contact	Name	Phone Number	Secondary Info
Plant Manager	TBD	TBD	TBD
Compliance Coordinator	TBD	TBD	TBD
Production Manager	TBD	TBD	TBD
Control Room	TBD	TBD	TBD
Key Air / Waterbury-Oxford Airport	TBD	TBD	TBD
Oxford Fire Department	TBD	TBD	TBD
Oxford Hazardous Materials Response Team	TBD	TBD	TBD
Oxford Police Department	TBD	TBD	TBD
Connecticut State Troopers	TBD	TBD	TBD
National Response Center	TBD	TBD	TBD
CT DEEP Spill Hotline	TBD	TBD	TBD
Regional Medical Center Emergency Department	TBD	TBD	TBD
State Emergency Response Commission	TBD	TBD	TBD
EPA Region I - After Hours Emergencies	TBD	TBD	TBD

Table 4-1(a): Contacts			
Contact	Name	Phone Number	Secondary Info
EPC Project Manager (Title TBD)	TBD	TBD	TBD
EPC Safety Manager (Title TBD)	TBD	TBD	TBD
CPV Asset Manager (Title TBD)	TBD	TBD	TBD
Key Air / Waterbury-Oxford Airport	TBD	TBD	TBD
Oxford Fire Department	TBD	TBD	TBD
Oxford Hazardous Materials Response Team	TBD	TBD	TBD
Oxford Police Department	TBD	TBD	TBD

Table 4-1(a): Contacts			
Contact	Name	Phone Number	Secondary Info
Connecticut State Troopers	TBD	TBD	TBD
National Response Center	TBD	TBD	TBD
CT DEEP Spill Hotline	TBD	TBD	TBD
Regional Medical Center Emergency Department	TBD	TBD	TBD
State Emergency Response Commission	TBD	TBD	TBD
EPA Region 1 -- After Hours Emergencies	TBD	TBD	TBD

4.1.1 Key Personnel and Job Functions

The Plant Manager or Compliance Coordinator is responsible for ensuring implementation of the following:

- Emergency command center management;
- Communications;
- Fire fighting;
- Site Security;
- Rescue operations;
- Emergency medical services;
- Damage assessment;
- Mitigation and investigation;
- Corporate notification for public information;
- On-scene safety functions at the emergency site;
- Warning and evacuation of plant;
- Sheltering, feeding, and counseling functions;
- Accounting for personnel;
- Securing entrance gates; and
- Issuing the "ALL CLEAR."

During a large scale response effort, multiple response coordination is proposed to be organized among Facility management and/or staff, the federal government, local officials, and emergency response officials, state representatives and other organizations, as necessary. Appropriate officials from each organization and the Facility shall participate in a coordinated decision-making process during the response.

This system, based on the national incident command system, uses the basic principles of planning, directing, organizing, coordinating, communicating, delegating and evaluating during a response. This system assigns these tasks to five functional areas under the direction of this joint command staff. The functional areas include: *Command, Operations, Planning, Logistics, and Finance*, presented and described below. The Compliance Coordinator (Table 4-2) shall assign

individuals to roles described below as they become necessary. It is not necessary to assign a separate individual to each role. One person may assume two or more roles as necessary. Response actions will be managed by the following corporate organizational structure:

Table Individual Roles		4-2:
Command and Control:	Plant Manager, Compliance Coordinator or designated representative	
Liaison with Government:	Plant Manager	
Safety:	Compliance Coordinator or designated representative	
Spill Operations:	Compliance Coordinator or designated representative	
Planning:	Compliance Coordinator or designated representative	
Public Information:	Plant Manager or designated representative	
Logistics:	Plant Manager	
Finance:	Plant Manager	

4.1.2 Spill Reporting and Documentation

In the event of a release of OHM, rapid notification of responsible facility personnel, oil spill removal organizations and state and federal regulatory agencies may be essential to protecting the environment in the vicinity of the Facility. Each employee shall be trained to recognize emergency situations and shall understand when and how to make the appropriate notifications.

CPV Towantic shall be responsible for all reporting and documenting reportable quantities of spilled oil and/or hazardous materials. The following actions are to be taken by the Compliance Coordinator in the event of a reportable quantity release:

- *National Response Center* (NRC) will be notified by calling (800) 424-8802 in accordance with the requirements of 40 CFR Part 117 and 40 CFR Part 302 as soon as they have knowledge of the release.
- *State of Connecticut*, under CGS Chapter 446k, Section 22a-450, requires that all releases and spills of petroleum and most hazardous materials be reported to the following:

CT DEEP Emergency Response Unit (Spill Hotline)

1-866-DEP-SPIL (1-866-337-7745) toll free

Or

1-860-424-3338

Local authorities (e.g., fire department) will be notified of any major spills. Prompt reporting allows quick response, which may reduce any adverse impacts to human health and the environment.

Under CGS Ch. 446k, Sec. 22a-450, the person in charge of any terminal for the loading of any oil or petroleum or chemical liquids or solid, liquid or gaseous products or hazardous wastes, which by accident, negligence or otherwise causes the discharge, spillage, uncontrolled loss, seepage or filtration of oil or petroleum or chemical liquids or solid, liquid or gaseous products or hazardous wastes, shall immediately report facts such as:

- the location;
- the quantity and type of substance, material or waste;
- the date and the cause of the incident;
- the name and address of the owner; and
- the name and address of the person making the report and his relationship to the owner.

In the unlikely event that a spill has reached navigable waters in "harmful quantities" (40 CFR Section 110.6), the Emergency Coordinator or person with any knowledge of such conditions must immediately notify the federal NRC at:

National Response Center
(800) 424-8802 (24 hours per day)

When contacting the NRC, the following information should be provided:

- time, location, and source of the spill;
- type and quantity of material spilled;
- cause and circumstances of the spill;
- hazards associated with the spill;
- personal injuries;
- corrective action taken or planned to be taken;
- name and telephone number of individual reporting the spill; and
- any additional pertinent information.

In addition, the EPA Region I Response Center should be contacted immediately for any spill that reaches navigable waters (per 40 CFR Section 110.6) at the following number:

EPA Region I Hotline
(888) 372-7341 (24 hours per day)

4.1.3 Activation of the On-Site Emergency Operations Center

The location designated for the on-site Emergency Operations Center is the Control Room or other designated area within the Facility. In the event of an incident in the Control Room, the remote Emergency Operation Center shall be at the Emergency Evacuation Meeting Point.

The Plant Manager or Compliance Coordinator will decide on the activation of the Emergency Operations Center. The Emergency Operations Center includes detailed drawings of the Facility, standard and emergency communication equipment, contact information, and this Plan.

4.1.4 List of Emergency Equipment

Facility personnel shall act as first responders, with a primary function to identify the source and control where possible. Spill kits shall be located throughout the Facility and specifically in areas of oil and/or hazardous material use to support this first response. In each spill kit, a Department of Transportation, *Emergency Response Guidebook*, shall be placed on top. This guidebook shall be designed to support first responders during the initial phase of the hazardous materials incident.

At minimum, each spill kit will be designed to respond to at least a 20-gallon spill for oil, water, coolant, non-aggressive chemical, and will be contained in a water proof container with the following:

- 4- 10 foot absorbent socks;
- 10-Mat pads;
- Temporary disposal bags;
- labels;
- Emergency Response Guidebook;
- 1-Nitrile suit; and
- 2-pairs Nitrile gloves.

Additional personnel protective equipment shall be available in the Warehouse.

4.1.5 Onsite Medical Equipment and Supplies

First aid/CPR kits shall be located at the following locations:

- Emergency Evacuation Meeting Point;
- Control Room;
- Maintenance Building;
- Turbine Building; and
- Water Treatment Building.

AED stations shall be located throughout the Facility at the following locations:

- Location 1 TBD;
- Location 2 TBD; and
- Location 3 TBD.

4.2 Evacuation Plan

4.1.64.2.1 Facility Evacuation Plan

In all emergencies, the Compliance Coordinator will remain in direct charge, unless superseded by the alternate.

Emergency notifications and/or instructions will be relayed over the Facility public address system.

All personnel, visitors, and contractors must safely make their way to the Emergency Evacuation Meeting Point: [INSERT MEETING POINT TBD] All must wait for an accountability check and release by the Compliance Coordinator.

The Facility shall be equipped with distinct audible and visual emergency signaling devices (flashing lights and audible steady or intermittent tone) as follows: [INSERT SIGNALING DEVICES AS NEEDED]

- **Steady tone** – alert employees to immediately evacuate the building; and
- **Flashing warning lights** – alert employees of an emergency in high noise level areas.

The emergency signal (siren) will alarm for a minimum of five (5) minutes.

Any time the alarm system has been activated, the Compliance Coordinator will record a "Fire/Alarm Report" in the Control Room Logbook and a notice will be forwarded to the Facility personnel.

Employees can activate the alarm system by 1) pulling a manual fire alarm station; or, 2) contacting the control room and asking that the alarm be sounded.

NOTE:

Any employees can report an emergency to the Fire Department via a Facility phone by dialing 911, then notifying the Compliance Coordinator as to the extent of the emergency.

4.1.6.14.2.1.1 Responsibilities

Facility personnel, visitors, and contractors who are ordered to evacuate shall be responsible for following directions given by management, supervisors or the Compliance Coordinator and for reporting to the Emergency Evacuation Meeting Point. The route map to the Emergency Evacuation Meeting Point shall be posted at the Emergency Exits of all Facility buildings.

Supervisors shall be responsible for evacuating personnel and visitors and knowing the location of all individuals evacuated.

The Plant Manager or Compliance Coordinator will be responsible for determining that an evacuation is required, performing the head count and accounting for all personnel, and for directing the evacuation.

If there is potential for off-site impacts (i.e., smoke) which may pose a nuisance to the public, the Fire Department will become the lead for any community notification/evacuation plan. CPV Towantic will support the Fire Department with pre-incident planning as part of routine site familiarization and training with key Fire Department staff.

4.1.6.24.2.1.2 *Precautions and Requirements*

Facility personnel who have been ordered to evacuate must report to the Emergency Evacuation Meeting Point. If this is not done, unnecessary risks may be imposed on those designated to conduct searches for those persons that remain unaccounted.

Facility personnel should escort visitors and private contractors during an evacuation. Equipment operators should ensure all equipment is in a safe (i.e., shut down) condition prior to evacuation, if conditions allow.

If emergency conditions threaten the Emergency Evacuation Meeting Point, the Compliance Coordinator must designate an appropriate alternate area.

4.1.6.34.2.1.3 *Accountability*

Accountability is the process whereby the location and status of all site personnel, visitors, and contractors is determined during an emergency. This is necessary to determine if anyone is missing or in trouble. It may also prevent a search effort being made for an employee believed to be missing onsite who is actually safely away from the hazard area. All employees, visitors, and contractors must sign-in/-sign-out of the logbook at the Administration and Control Room Building during routine workdays. During an emergency, the Compliance Coordinator is responsible for obtaining this logbook directly or via a designated individual (e.g. office personnel).

Upon receipt of an order to evacuate, personnel will follow the evacuation procedures for the building to the Emergency Evacuation Meeting Point. Based on information obtained regarding potential threats, personnel will select the appropriate evacuation route at the time of the incident.

Once the evacuation is complete, the Compliance Coordinator will account for personnel. Arrangements will be made with the Oxford Fire Department for search and rescue, if it becomes necessary.

4.1.74.2.2 *Local Area Evacuation Plan*

In the event of an emergency that may require evacuation of the nearby areas surrounding the Facility, the Compliance Coordinator shall immediately contact the Oxford Fire Department to provide notification of:

- Time and nature of emergency;
- Health risks resulting from emergency;
- [Placeholder - TBD INFORMATION REQUIRED]; and

- [Placeholder - TBD INFORMATION REQUIRED].

4.24.3 Initial Response Actions

Upon being notified of the emergency situation, the Compliance Coordinator will determine the following:

- Hazards involved;
- Extent of the incident;
- Resources threatened;
- Exclusion zones needed;
- Facility evacuation required; and
- Outside emergency response assistance needed.

More detailed information is provided below. It is understood that modification to these procedures may be instituted during an emergency if the Compliance Coordinator determines a better response action.

4.2.14.3.1 Medical Emergency

The response actions to be taken by Facility personnel in the event of a medical emergency, personal injury, industrial accident, exposure to hazardous materials, and/or fire are as follows:

1. Identify the nature of the medical emergency, determine the cause if possible, and take precautionary measures to protect other Facility personnel from further injury;
2. If time allows, notify or designate a person to notify the Emergency Coordinator. If the situation is life threatening any personnel may contact emergency aid from outside the Facility;
3. The Compliance Coordinator will summon emergency aid from outside the Facility, as necessary;
4. Only professional medical response personnel should move victims of head, neck, or back injuries unless the situation is life threatening. Facility personnel are not required to administer first aid. Any employee who does administer first aid does so at his/her own risk;
5. Facility response personnel will eliminate and continue to restrict any medical hazard;
6. In the event of a chemical exposure, the Emergency Coordinator will immediately forward the appropriate Material Safety Data Sheet to on-site emergency response personnel and to the appropriate hospital;
7. Facility personnel will not enter confined spaces during emergencies at any time. Such entry will not be completed until the Compliance Coordinator has cleared the area via the confined space entry requirements of 29 CFR 1910.146 or the trained confined space

officials of the Fire Department and/or the Facility's Emergency Response Contractor have given the all clear signal; and

8. The Compliance Coordinator will complete a follow-up incident report.

4.2.24.3.2 Emergency Procedures for Power Outages

In the event of a power outage at the Facility, personnel should contact the Control Room begin shutdown procedures in accordance with the operations manual.

The Compliance Coordinator will directly notify personnel of specific procedures over the Facility intercom system (battery backup) of the status of the outage and incident specific procedural tasks.

4.2.34.3.3 Emergency Procedures for Oil and/or Hazardous Materials Spills

All spills due to container failure must be reported to the Compliance Coordinator. All non-container failure spills of 1 gallon or less that cannot be cleaned up within 30 minutes must be reported to the Compliance Coordinator.

Specifically, should a Facility employee observe a release from an aboveground storage tank, petroleum storage system, or associated tank truck unloading activities, the employee will immediately notify the control room and the Compliance Coordinator.

If the individual identifying the release is a trained emergency responder and the individual can control the spill at the time of the release without endangering themselves or any other person in any way, then the individual shall take action to mitigate the release. However, in most circumstances, the release shall be fully evaluated by the Compliance Coordinator prior to implementing response actions.

4.2.3.14.3.3.1 Oil and/or Hazardous Material Spill Response

In the event of an oil and/or hazardous (OHM) materials spill, personnel should take the following steps:

1. If an immediate threat to acute exposure or life is involved, personnel must immediately evacuate the area;
2. If it can be completed safely, attempt to control or stop the source of the spill. Satellite spill kits are located in every building using or storing OHM.
3. If possible, attempt to control the migration of the spill;
4. Prevent other personnel from entering the area of the spill, unless they are trained in emergency response and are present to assist;
5. Contact the Compliance Coordinator;

6. The Compliance Coordinator is responsible for identifying the extent of the incident and notifying the local officials and regulatory authorities; and
7. The Compliance Coordinator will determine if the Facility trained response team should be mobilized to the area and/or if the Facility's 24-hour emergency response contractor should be contacted. The Compliance Coordinator will determine if the Fire Department should be notified. The Compliance Coordinator will determine the method of response for the team (e.g., level of PPE, shutting off of feed systems, shutting off of electrical power to the area).

For a spill or leak of OHM which is small enough to be absorbed, neutralized, or otherwise controlled at the time of release by employees in the immediate release area or by maintenance personnel, and which does not pose an adverse exposure hazard to employees, then the spill will be handled in the following manner:

1. Make sure all unnecessary persons are removed from the hazard area. Workers involved in the cleanup shall put on protective clothing and equipment;
2. If flammable material is involved, remove all ignition sources, and use spark and explosion proof equipment and clothing;
3. If possible, try to stop the leak;
4. Use absorbent pads, booms, earth, bagged absorbent to contain, divert, neutralize and clean up the spill. Prevent the spilled material from leaving the containment area and reaching a storm drain;
5. Following source and release control, place all containment and cleanup materials in drums for proper disposal; and
6. Place all recovered liquid wastes in drums for removal to an approved disposal facility.

Following cleanup, all emergency equipment and spill containment equipment shall be returned to ready status (restocked).

If the OHM spill is large, the Facility's emergency response contractor and/or the Fire Department will be delegated the authority for directing the locations of the following:

- Exclusion Zone;
- Contaminant Reduction Zone;
- Support Zone; and
- Staging Area.

During this activity, the Compliance Coordinator will provide site security and qualified Facility staff to support the Emergency Response Contractor and/or the Fire Department.

4.2.3.2.3.2 Aqueous Ammonia Spill Response

For a release of aqueous ammonia, stay up wind, close transfer valves if possible, keep others out of the area, and notify the Compliance Coordinator.

If the source of the aqueous ammonia release has not been controlled or the release is greater than 1 gallon, or the incident is accompanied by a fire at any quantity, the Compliance Coordinator will immediately contact the Fire Department and the Facility's Emergency Response Contractor.

If the source of aqueous ammonia is controlled and the total released is 1 gallon or less, and fire does not accompany the incident, the Facility emergency response team should do the following:

1. Prepare an exclusion zone and allow the area to ventilate;
2. Approach the exclusion zone with full face respirators fitted with ammonia/ methylamine cartridges and neoprene and nitrile protective equipment. **WARNING:** Air purifying respirators do not protect workers in oxygen-deficient atmospheres;
3. Monitor air concentrations of ammonia with a portable ammonia detector;
4. No personnel will advance into the area;
5. Contain and recover the liquid where possible. Do not flush to sewer system. Containerize, close lid tightly, label, and place in the hazardous waste storage area; and
6. Absorb as necessary with clay or other bagged inert absorbent in the spill kit, and containerize, close lid tightly, label, and place in the hazardous waste storage area.

4.2.4.3.4 Emergency Procedures for Natural Gas

Possible signs of a natural gas leak at the Facility include the following:

- A blowing or hissing sound;
- Dust blowing from a hole in the ground;
- A gaseous or hydrocarbon odor;
- A spot of dead or discolored vegetation in an otherwise green area;
- Abnormally dry or hardened soil; and
- Flames, if a leak has ignited.

In the event an employee suspects a natural gas leak, complete the following:

- Avoid any open flames or other sources of ignition;
- Do not start up or shut down motor vehicles or electrical equipment;

- Evacuate the area and try to prevent unsuspecting people from entering;
- Abandon any equipment being used in or near the area. Your personal safety should be your first concern;
- Notify the Control Room and the Compliance Coordinator immediately so the leak can be verified and necessary corrective measures taken;
- Do not attempt to extinguish a natural gas fire; and
- Do not attempt to operate any pipeline valves without explicit direction from the Control Room Operator.

If a natural gas leak monitor, sensor, or operating parameter indicates a potential natural gas leak and/or if an employee notifies the Control Room of a leak, the Operator or Technician will immediately attempt to isolate the leak area and will contact the Compliance Coordinator. If necessary based on site conditions, this may include system shutdown.

If fire accompanies the leak detection, the Compliance Coordinator or the Control Room will immediately contact the Fire Department.

If the source of the leak cannot be identified or controlled by the Operator or Technician, the Compliance Coordinator or the Control Room will immediately contact the Fire Department and automatic shut down of the interconnection.

4.2.54.3.5 Emergency Procedures for Severe Weather

During a severe storm (e.g., hurricane, blizzard, etc.), a site-specific emergency may be realized. General emergency response procedures required as a result of the severe weather are addressed in other sections of this plan (e.g., spill, power outage). In the event of severe weather, Facility personnel shall initiate the following procedures.

1. Notify the Plant Manager and Compliance Coordinator as soon as a severe weather warning has been announced.
2. The Compliance Coordinator will monitor the severe storm warning and alert the Facility personnel of the situation.
3. The Compliance Coordinator will request all loose equipment be secured to minimize damage from high winds.
4. As time permits and as determined by the Compliance Coordinator for the specific situations, tanks will be filled to design capacity to reduce lift load.
5. Exterior storage of materials will be relocated to interior locations where possible, and as needed.
6. A decision for key staff only operations will be made at least 12 hours in advance when possible.

7. The Compliance Coordinator will coordinate any required shut down procedures necessary based on a key staff only schedule.
8. The Compliance Coordinator will perform a safety inspection following the implementation of this plan.
9. Once complete, the Compliance Coordinator will notify the Facility personnel of the status of this operation.
10. Following the severe weather emergency, the Compliance Coordinator will complete a safety inspection of the Facility and implement and direct any necessary remedial actions.

4.2.64.3.6 Emergency Procedures for Hostile Threat

The Facility shall be designed to prevent unauthorized access. However, a hostile threat may be delivered via in-person, off-site, by telephone, package delivery, or internet.

A hostile threat constitutes a site-specific emergency. In the event of a hostile threat, Facility personnel will respond as follows:

1. Get detailed information on the source of the threat as may be available, including the description of the suspicious items, markings, or identifying addresses, **BUT DO NOT TOUCH OR MOVE ANY SUSPICIOUS PACKAGE OR ITEM.** Save any e-mail threat;
2. Notify the Plant Manager and Compliance Coordinator;
3. The Compliance Coordinator will immediately contact the Fire Department and the State Troopers;
4. The Plant Manager or Compliance Coordinator will make the decision whether to evacuate all or a portion of the Facility and immediately inform Facility personnel via the in-plant public address system. This response action will be coordinated with the Fire Department and the State Troopers. All employees will follow the Emergency Evacuation Procedures outlined in Section 4.2 and proceed to the Emergency Evacuation Meeting Point;
5. At this point, the primary responsibility for the situation will be delegated to the Fire Department and the State Troopers;
6. The Compliance Coordinator will be in direct contact with the emergency responders; and,
7. Facility personnel will not re-enter the Facility unless directed by the Compliance Coordinator. The Compliance Coordinator will not allow Facility personnel to re-enter the Facility until the Fire Department and/or the State Troopers give the all clear signal.

4.2.74.3.7 Vehicular Accidents

Vehicles transporting OHM will only be unloaded in areas designed for OHM unloading, with secondary containment systems.

In the event of a release in or out of the unloading area, but on the Facility property, Facility personnel will immediately contact the Control Room and Compliance Coordinator. The Compliance Coordinator will manage the spill in accordance with the spill control procedures outline above in Section 4.3.

4.34.4 Sustained Actions

If sustained response actions are required, CPV Towantic will contract the activity to the Emergency Response Contractor. The Facility staff will support the sustained response action by providing the following:

- **Personnel.** Facility response team members will be directed by the Compliance Coordinator to complete 8-hour oversight shifts. Due to the limited size of the Facility response team, alternating 8-hour shifts may be required;
- **Equipment and Supplies.** The Emergency Response Contractor shall have sufficient equipment and supplies for a sustained response. The Compliance Coordinator will coordinate with Facility staff to provide equipment laydown areas and to integrate site security;
- **Financial.** The Compliance Coordinator will involve the Plant Manager for funding to support the sustained response action;
- **Business Interruption.** The Compliance Coordinator will identify any impacts to day-to-day operations and report to the Plant Manager. Any impacts to staff schedule will be directed by the Plant Manager; and
- **Public Relations.** The Plant Manager will provide information to the local press and will be regularly updated by the Compliance Coordinator.

4.44.5 Termination, Decontamination, Waste Management, and Follow-up Actions

Following completion of the response action, the Compliance Coordinator will direct the completion of the following activities:

1. Ensure proper characterization and temporary storage of any containerized waste material.
2. Arrange for waste disposal.
3. Ensure Facility workers following the decontamination procedures for personnel equipment and tools. The Emergency Response Contractor will follow their company specific decontamination plan
4. Replace and restock response equipment;
5. Confirm all officials have been contacted, as required;

6. Review the response action with the Facility's Emergency Response Team, file meeting notes, modify this Plan as necessary;
7. Completion of an internal Incident Report form and maintain these reports on file.
8. As needed, prepare the required OSHA documentation, including the OSHA 300 log if personal injury was part of the incident;
9. Review the response action with the Plant Manager and area supervisor(s); and
10. Notify all response team members that they are entitled to seek a medical examination anytime there is a possibility of exposure resulting from the response to an incident.

5.0 TRAINING AND EXERCISES

CPV Towantic will complete OSHA emergency response training of its emergency response team members and will continue working with the Fire Department to develop an understanding of Facility processes, OHM storage, and confined space entry.

CPV Towantic will provide emergency response training (minimum of 24 hours) to all new (non-administrative) employees, job specific training, and annual emergency response refresher training. Additionally, training will be provided whenever the following occurs:

- There are changes to materials or equipment within the Facility;
- When the this Plan is updated;
- When Employee's responsibility or designated actions under this plan change; and
- Whenever exercises and drills indicate that employees do not understand their responsibilities.

The Compliance Coordinator, Plant Manager, and Operators will be trained to OSHA 40 hour level and will undergo 8-hour Site Supervisor Training.

All trained emergency response employees will be provided with 8-hours of annual refresher training.

CPV Towantic shall make AED training available to all employees who desire to be certified. At least one AED-certified employee will be on-site at all times.

CPV Towantic will complete specific emergency response exercises to test, enforce, and refine the procedures outlined in this Plan. CPV Towantic will also conduct annual on-site exercises with the Oxford Fire Department as part of pre-incident planning and Facility awareness training.

6.0 MEDICAL SURVEILLANCE

Facility Response Team members will receive a baseline physical examination and undergo routine medical surveillance.

6.1 Employees Included in the Medical Surveillance Program

The medical surveillance program shall be instituted for the following employees:

- All employees who are or may be exposed to hazardous substances or health hazards at or above the established permissible exposure limit, above the published exposure levels for these substances, without regard to the use of respirators, for 30 days or more a year;
- All employees who wear a respirator for 30 days or more a year or as required by 1910.134;
- All employees who are injured, become ill or develop signs or symptoms due to possible overexposure involving hazardous substances or health hazards from an emergency response or hazardous waste operation; and
- Designated employees expected to perform work to handle and control actual or potential leaks or spills of hazardous substances requiring possible close approach to the substance.

6.2 Frequency of Medical Examinations and Consultations

Medical examinations and consultations shall be made available to each employee designated as an emergency responder on the following schedules:

- Prior to assignment;
- At least once every twelve months for each employee covered unless the attending physician believes a longer interval (not greater than biennially) is appropriate;
- At termination of employment or reassignment to an area where the employee would not be covered if the employee has not had an examination within the last six months;
- As soon as possible upon notification by an employee that the employee has developed signs or symptoms indicating possible overexposure to hazardous substances or health hazards, or that the employee has been injured or exposed above the permissible exposure limits or published exposure levels in an emergency situation during the course of an emergency incident; and
- At more frequent times, if the examining physician determines that an increased frequency of examination is medically necessary.

6.3 Physicians Opinion

Each employee designated as an emergency responder shall be furnished with a copy of a written opinion from the attending physician containing the following:

- The physician's opinion as to whether the employee has any detected medical conditions which would place the employee at increased risk of material impairment of the employee's health from work in hazardous waste operations or emergency response, or from respirator use;
- The physician's recommended limitations upon the employee's assigned work;
- The results of the medical examination and tests if requested by the employee; and
- A statement that the employee has been informed by the physician of the results of the medical examination and any medical conditions, which require further examination or treatment.

The written opinion obtained by the employer shall not reveal specific findings or diagnoses unrelated to occupational exposures.

6.4 Recordkeeping

An accurate record of the medical surveillance shall be retained. This record shall be retained for the period specified and meet the criteria of 29 CFR 1910.20. This shall include at least the following information:

- The name and social security number of the employee;
- Physician's written opinions, recommended limitations, and results of examinations and tests;
- Any employee medical complaints related to exposure to hazardous substances; and
- A copy of the information provided to the examining physician by the employer, with the exception of the standard and its appendices.

7.0 PLAN CRITIQUE AND MODIFICATIONS

After any event which requires activation of this Plan, a formal critique will be performed. At a minimum, the Compliance Coordinator will evaluate the effectiveness of this Plan and the employee's actions.

Additionally, the Facility will offer each outside agency which was involved in the event, to take part in this critique. The results of the critique will be formalized and submitted to the Plant Manager with any recommendation for improvement. Improvement areas will be incorporated into the formal plan review and modification process.

A documented review and evaluation of this Plan, including a Facility walk through, shall be completed at least once per year from the date of commercial operation. As a result of this review and evaluation, the owner or operator shall amend this Plan to include more effective prevention and control technologies if existing practices are determined to be insufficient in controlling or minimizing risk. The Compliance Coordinator will maintain results of the annual site evaluation.

Based on the annual comprehensive evaluation, any necessary changes to the measures implemented at the Facility will be incorporated into this Plan. If the evaluation indicates that changes in good housekeeping or materials management practices are necessary, they will be implemented in a timely manner but not more that six months from the date the evaluation was completed.

APPENDIX A

FIGURES

Comment [KK3]: Figures to be finalized and submitted to council in accordance with D&O condition 1.h.

APPENDIX B

OHM STORAGE AND MATERIAL SAFETY DATA SHEETS

Comment [K4]: Figures to be finalized and submitted to council in accordance with D&O condition 1.h.

Appendix B

CSC Development & Management Plan Approval Staff Report & Conditions of Approval



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2930

E-Mail: siting.council@ct.gov

www.ct.gov/csc

September 4, 2015

Franca L. DeRosa, Esq.

Philip M. Small, Esq.

Brown Rudnick LLP

185 Asylum Street

Hartford, CT 06103

RE: **DOCKET 192B-** CPV Towantic, LLC Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a 785 MW dual-fuel combined cycle electric generating facility located north of the Prokop Road and Towantic Hill Road intersection in the Town of Oxford, Connecticut.

Dear Attorneys DeRosa and Small:

At a public meeting of the Connecticut Siting Council (Council) held on September 3, 2015, the Council considered and approved the Development and Management Plan (D&M Plan) submitted for this project on July 17, 2015, except for section (e) which pertains to the Erosion and Sedimentation Control Plan. The partial approval of the D&M Plan includes the conditions noted in the staff report.

This approval applies only to the D&M Plan submitted on July 17, 2015, and other supplemental information dated August 12, 2015, except for section (e) which pertains to the Erosion and Sedimentation Control Plan. Requests for any changes to the approved portion of the D&M Plan shall be approved by Council staff in accordance RCSA §16-50j-62(b). Furthermore, the Certificate Holder is responsible for reporting requirements pursuant to Regulations of Connecticut State Agencies Section 16-50j-62.

Please be advised that changes and deviations from the approved portions of this plan are enforceable under the provisions of the Connecticut General Statutes § 16-50u. Enclosed is a copy of the staff report on this D&M Plan, dated September 3, 2015.

Thank you for your attention and cooperation.

Very truly yours,

Robert Stein ^{MMB}

Robert Stein

Chairman

RS/MP/cm

Enclosure: Staff Report, dated September 3, 2015

c: Parties and Intervenors



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

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Docket No. 192B

CPV Towantic, LLC

Development and Management Plan

Staff Report

September 3, 2015

On July 17, 2015, CPV Towantic, LLC (CPV) submitted a Development and Management (D&M) Plan for the construction of a 785 MW (net) natural gas fired combined-cycle electric generating facility located north of the intersection of Prokop Road and Towantic Hill Road in Oxford, Connecticut. CPV submitted additional information on August 12, 2015 in response to Council interrogatories.

The facility would include but not be limited to the stacks; combustion turbines; combustion turbine generators; steam turbine with generator; step-up transformers for all three generators; backup diesel-fueled generator; building for electrical/battery rooms, warehouse/maintenance shop, and office and control rooms; air cooled condenser, auxiliary cooling unit, ultra-low sulfur distillate fuel (ULSD) tank, ULSD unloading area, demineralized water storage tanks, water demineralization trailers, natural gas metering and regulation station, natural gas compressors, and two stormwater detention ponds.

The Council approved the revised facility on May 14, 2015, ordering that a D&M Plan addressing the Council's conditions be submitted to and approved by the Council prior to commencement of construction. Item 2 of the Decision and Order stipulated the D&M plan contain 22 elements, the requirements of which are summarized in bold type below. A description of CPV's compliance with each element is included. Additional project conditions set forth in the Council's Decision & Order (D&O) that are addressed in the D&M Plan are provided where applicable.

- a) **A final site plan showing all roads, structures and other improvements on the site. The final site plan shall, where possible, preserve existing vegetation on the site;**

CPV submitted drawing C305, the Site Plan, as part of the D&M Plan. This drawing depicts all roads (including paved access off of Woodruff Hill Road), structures, and other improvements to the site. In response to the Council interrogatories, CPV submitted a drawing depicting where CPV will preserve existing vegetation on the site. In general, CPV will preserve approximately four acres of existing vegetation in the far northern portion of the site.

- b) **A detailed plan for the gas transmission interconnection showing gas metering and compressor station if applicable;**

CPV filed its natural gas interconnection plan and included the gas metering and compressor station. Natural gas will be supplied from a lateral off of the existing Algonquin Gas Transmission line and connect to a metering and regulation station on the subject property where the gas is first filtered, then metered, heated, and regulated. The natural gas would then be fed to the compression area to three on-site compressors connected in parallel. The compressed gas would then be supplied to the power plant.

c) Water and sewer connection routes;

CPV notes that water and sewer connections have already been stubbed into both the 20.3-acre primary parcel and the 6.2-acre secondary parcel known as Lot 9A. CPV expects that the piping for water will run north along the western border of the site and then turn east where it reaches the demineralization and storage area. The sewer piping is expected to follow a similar route, except it will likely turn east at the admin building due north of the water demineralization and storage area.

In addition to those connections, CPV will be providing for the design and construction of a water pump station to be located on Lot 5 of the Woodruff Hill Industrial Park subdivision. The Town of Oxford, as property owner of Lot 5, and CPV are in the process of obtaining appropriate approvals and authorizations for the water pump station.

d) Detailed project schedules for all work activities and proposed construction hours;

CPV provided a project schedule and proposed construction hours. Specifically, upon receipt of all final construction permits and completing financing, CPV expects to begin clearing, grubbing, and grading approximately January 2016. Construction and start-up testing is expected to be completed by June 2018.

Normal work hours will be from 6:30 a.m. to 5:30 p.m. from Monday through Friday. However, there may be times when specific construction activities, including, but not limited to concrete placement, receiving/unloading the major equipment, commissioning and testing, could require a longer working day. Additionally, some weekend work may become necessary at times in order to maintain the critical path schedule. Council staff recommends that changes to the D&M Plan, including but not limited to changes to construction hours be delegated to staff (i.e. Council Executive Director).

e) Erosion and sedimentation control plans that reflect the complexity of developing the site;

CPV has provided its detailed erosion and sedimentation control plans in three phases and detailed such information in drawings C315 through C317 and C330 through C331. These plans include but would not be limited to CPV installing an anti-tracking pad at the construction entrance, as well as water bars and haybale barriers as necessary to control drainage along the entry drive. Hay bales will initially be placed along the southeastern and southwest corners of the site, and silt fence will be placed around the southern portion of the site prior to the start of any construction. Topsoil and seed will be placed on all disturbed areas that are not subject to future construction. Erosion control blankets will be placed on any slopes steeper than 3:1 and all disturbed areas with slopes of 3:1 or less that are not subject to future construction disturbance. All erosion and sedimentation control measures shall remain in place until the construction area is permanently stabilized.

f) Emergency response/safety plan per Condition No. 1(h) of the Decision;

Condition No. 1(h) of the Council's Decision and Order dated May 14, 2015 requires the submission of an Emergency Response/Safety Plan developed in consultation with state and local officials. Accordingly, CPV has included its draft Emergency Response Plan (ERP) with red-line edits that reflect discussions with such officials.

The plan will be updated as necessary and reviewed annually, at a minimum by the facility's Plant Manager and Compliance Coordinator after seeking input from local safety officials, Waterbury-Oxford Airport, and the Connecticut Department of Emergency Services and Public Protection. However, each agency that receives the plan will be requested to provide input on subsequent updates to the plan. The Oxford Fire and Police Departments will have "hands on" input during annual training exercises planned at the facility. A record of all revisions and amendments will be documented in subsequent revisions to this ERP.

Council staff recommends including a condition that a copy of any future updated or revised Emergency Response Plans be submitted to the Council.

g) Final noise mitigation measures and plans to demonstrate compliance with DEEP noise standards;

CPV provided an updated noise analysis to reflect the current site layout. The various mitigation measures in the plant design include but are not limited to combustion turbine air inlet silencing, stack silencing, and low-noise auxiliary fin fan cooler. The gas compressors have been incorporated into the analysis as well. The project is expected to meet the 70 dBA Class C to Class C noise control standard at the nearest industrial location and the 51 dBA (nighttime) Class C to Class A noise control standard at the nearest residential location.

Once construction is completed and prior to the release of the engineering, procurement, and construction contractor from its obligation to conform with noise performance guarantees, a compliance test will be undertaken to verify that the anticipated levels of design have been met and the resulting project meets applicable noise standards. Measurements will be completed at several project property line locations and other locations as deemed necessary to ensure compliance.

An Operational Noise Measurement Protocol plan will be prepared and submitted 120 days prior to the commencement of the field program. A noise monitoring test report will be submitted to the Council and include a comparison of specified and measured sound levels with a statement of compliance.

Council staff recommends that the final noise monitoring test report be submitted to the Council no later than 30 days after commercial operation. This timeframe may be extended by written request to the Council.

h) Final determination on black start capability and such design if applicable;

CPV issued its final determination on black start capability. Specifically, CPV notes that 16 MW of diesel generators would be required for black start capability. Such a configuration would require four 4 MW units or two 8 MW units. However, the current site plan cannot accommodate the footprint of these generators. In addition, a new air permit application would have to be filed and would result in a six-month delay, thus reducing the probability of reaching ISO-NE's commercial operation deadline of June 1, 2018. Therefore, CPV has no plans to install black start capability at the plant at this time.

i) Stormwater pollution protection plan outlining best management practices;

CPV submitted its detailed Stormwater Pollution Protection Plan (SPPP) prepared by Civil 1. The SPPP includes best management practices, and the SPPP drawings are stamped by a Professional Engineer duly licensed in the State of Connecticut.

j) Final stormwater design including evaluating the feasibility of not introducing stormwater into the wastewater;

CPV incorporated the feedback from the Naugatuck Water Pollution Control Authority into the stormwater design. Accordingly, the stormwater design does not call for any disposal of stormwater via the sanitary sewer. Any water collected in the transformer pit and/or oil tank containment area will pass through an oil/water separator prior to discharge into the project's normal stormwater management system.

k) Updated Water Supply/Management Plan;

CPV provided its updated Water Supply/Management Plan (WSMP). The plant has been designed to minimize water use by utilizing a dry, fin fan design for the air cooled condenser and auxiliary cooling unit; eliminating blowdown waste streams; and installing low flow toilets and domestic fixtures. In aggregate, there would be a 90 percent reduction in average water usage. CPV will periodically review its water usage profile in an effort to capture the benefit of any advances in water saving technology and best practices. CPV also commits to proactively engage with key water-related stakeholders.

CPV's proposed water consumption is consistent with its committed amounts detailed in the record of the proceeding. Specifically, CPV's peak daily water demand between mid-April through mid-October would be 150,000 gallons per day (gpd). During the colder months from mid-October through mid-April, CPV's peak daily water demand would be 218,000 gpd to reflect the possibility of operation on ULSD in the event of natural gas unavailability. These peak water consumption amounts are also consistent with the Heritage Village Water Company's (HVWC) committed amounts. There would be two demineralization trailers on site, each individually capable of supporting more than the peak water draw of 218,000 gpd. The on-site water storage of 1.75M gallons plus the peak water draw from HVWC of 218,000 gpd would provide approximately 52 consecutive hours of operation at ULSD. In the event that a ULSD operation event exceeds 52 hours, CPV would seek additional uncommitted water from HVWC if possible. If HVWC is unable to supply additional water (beyond its original commitment), CPV would be forced to shut down its plant after 52 hours of ULSD operation.

On July 29, 2015, Pomperaug River Watershed Coalition (PRWC) submitted comments on the D&M Plan. These comments focus on the WSMP. Although the PRWC letter was discussed at the Town of Southbury's August 6, 2015, Board of Selectman meeting, on August 11, 2015, the Town of Southbury requested the Council postpone its review and decision on the WSMP until the PRWC Executive Director returns from vacation and is able to attend the August 20, 2015 Board of Selectman meeting. Specifically, PRWC requests that the Council not approve the D&M Plan until such time as water/supply resource matters are fully resolved. PRWC is concerned about the future

of a water supply interconnection between HVWC and CWC, which has permits that will expire in 2017 and 2020. However, Council staff notes that page 5 of the Council's May 14, 2015 Opinion document states that, "While the Council is concerned about the future sale of water from CWC to HVWC, the Council believes that this is an issue to be resolved between the two water companies."

PRWC is also concerned that the water supply plan lacks accountability relative to actual water usage. Council staff notes that CPV's water consumption, in general, is limited to a peak of 218,000 gpd per the commitment from HVWC. However, Council staff shares PRWC concerns relative to the possibility of exceeding 218,000 gpd during an extended ULSD operation event. Accordingly, Council staff suggests including a condition that the Council be notified in writing when CPV's daily water usage exceeds 218,000 gpd. The water usage and length of such ULSD operation event should be included to keep the Council apprised of any patterns of excessive water consumption.

PRWC is also requesting a drought management plan (DMP). However, Council staff notes that a DMP is not a specific D&M Plan requirement listed on the Council's May 14, 2015 Decision and Order nor was a DMP a subject of discussion during the proceedings.

PRWC is also concerned that the WSMP does not provide any indication that CPV is collaborating with stakeholders such as Department of Energy and Environmental Protection (DEEP), Department of Public Health, HVWC, PRWC and others regarding studies of water flow of the Pomperaug River. Council staff notes that, while these consultations are highly encouraged, details of such consultations are not a D&M Plan requirement per the Decision and Order. However, CPV states that it is committed to engaging key water-related stakeholders.

PRWC also is concerned that the WSMP lacks any commitment to the funding of the two stream flow gauges. While the details are not strictly a D&M Plan requirement, Condition 1(d) of the Council's Decision and Order states that, "The Certificate Holder shall continue to fund and maintain two stream gauge stations on the Pomperaug River." Accordingly, Council staff recommends that CPV provide the most current status of CPV's funding and maintenance of the two stream gauge stations.

1) Decommissioning Plan;

CPV provided a decommissioning plan. Assuming a roughly 35-year operational life of the plant and expected technological advances will drive the replacement of existing equipment, CPV has assembled a plan for permanent closure of the combined cycle facility.

CPV has entered into a development agreement with the Town of Oxford that generally requires CPV to decommission, dismantle and dispose of the facility in good workmanlike fashion by the end of the facility's useful life as determined by CPV. The Development Agreement also calls for CPV to maintain financial assurance in the amount of \$6M to ensure that adequate funds are available to allow for the proper restoration of the site.

The decommissioning process would include removal and proper disposal or recycling of all project components. Access roads, fencing, and electrical power would remain for use until no longer needed by the decommissioning and site restoration workers. Underground conduits and cables would

be cut to an appropriate depth below ground surface, unless required for future development. Access roads that would not be used will be restored to pre-construction conditions by removal of the aggregate base material, fill of the compacted base section with locally imported soil to match existing on-site soils, and hydroseeded with a seed mix to match existing onsite ground cover. The chain link fence would remain if beneficial for a future use. Otherwise, it would be removed and holes left behind will be backfilled. The natural gas interconnection line and metering station would remain in place if beneficial for a future use. If it will not be used, it would be removed in accordance with Spectra Energy's guidelines.

m) Updated fuel storage and handling plan including containment and other measures to protect against spillage when the ULSD tank is being refilled;

CPV provided an updated fuel storage and handling plan relative to ultra-low sulfur distillate fuel (ULSD). Specifically, CPV would store ULSD in a 1.5M-gallon 48-foot tall double-walled storage tank. Such storage tank would have secondary containment designed to hold 110 percent of the tank's capacity. The adjacent ULSD unloading station will have a curbed unloading area for trucks to contain any spills. Spills or leaks will be immediately contained and reported in accordance with DEEP regulations and CPV's Spill Prevention/Containment/Control Plan (SPCC).

n) Containment and/or protective measures for the safe delivery and storage of hydrogen and aqueous ammonia;

Aqueous ammonia (19 percent by weight as opposed to household ammonia, which is on the order of 5 to 10 percent) will be stored in an aboveground storage tank. The ammonia truck unloading area will be paved with concrete, sloped and curbed with a sump to contain a potential spill. The on-site ammonia storage tank consists of a 20,000-gallon tank located above a secondary containment area capable of holding 110 percent of the tank's volume. Tank alarms will immediately notify facility personnel in the event of an accidental release. Proper training in emergency procedures and emergency respirators will be available for use by trained personnel. The curbing and containment are expected to prevent accidental release of ammonia during ammonia deliveries. In addition, by keeping the concentration under 20 percent, the aqueous ammonia solution is not subject to the Accidental Release requirements contained in Section 112r of the Federal Clean Air Act.

Hydrogen gas will be used as a generator coolant and will be stored in trailers near the generators, but away from potential ignition sources as required by applicable building and fire codes. The hydrogen trailers will be protected from vehicular impact by installation of crash posts or other protective measures.

o) Maintenance of detention basins;

All-Points Technology Corporation, P.C. (APT) will serve as the project wetland monitor (PWM) to ensure that placement of topsoil and planting of the extended detention shallow wetland basins (EDSWB) are implemented properly. The PWM will be notified a minimum of seven business days prior to any phase of the EDSWB project including excavation and grading, soil transfer, and planting. The EDSWB will only be constructed after the contributing drainage areas have been completely stabilized since these areas will be used as temporary sediment basins during the

construction phase of the project. The basins shall be de-watered, dredged and re-graded as necessary to design dimensions after the contributing drainage areas have been completely stabilized.

Topsoil will be placed within the EDSWB and stabilized with an erosion control blanket. The PWM will inspect planting stock specimens for health, pests, and suitability for use within the EDSWB. Only plant materials native and indigenous to Connecticut shall be used. Erosion and sedimentation controls will remain until the site is stable.

Protection of the newly planted wetland vegetation from predation by waterfowl (e.g. Canada Geese) is critical. Waterfowl protection such as netting, webbing, or string installed in a crisscross pattern over the surface area of the EDSWB will be utilized, above the level of the emergent plants.

The EDSWB will be monitored by the PWM during construction and for a period of five growing seasons following construction.

p) Backup generator design and containment measures for fuel, oil, and coolant;

CPV provided the backup generator design and fluid containment measures. Specifically, CPV will install a 1,500-kilowatt (or 1.5 MW) diesel backup generator to provide emergency backup power to the facility. The generator will not connect to the electric grid and would only be for internal use.

The generator unit will be located inside an outside enclosure with dimensions of approximately 11.25 feet tall, 11.25 inches wide, and 34.25 inches long. The enclosure will minimize the risk of oil or coolant leakage from the engine. Underneath the engine, is a 2,630-gallon belly fuel tank. The fuel tank will be double-walled to contain all of the diesel fuel and prevent leakage.

q) Final report on wildlife surveys performed in 2015 and any recommended measures to mitigate wildlife impacts due to construction and/or habitat loss;

CPV submitted its Wildlife Survey Results Report (WSRR) dated July 14, 2015 and prepared by Eric Davison of Davison Environmental. The WSRR discusses the wildlife field surveys that were conducted in the spring of 2015. Survey methods for amphibians and reptiles included cover searching (e.g. turning of rocks, logs and other surface debris), visually searching for egg masses, dip-netting for larvae and audial surveys for calling frogs and toads. Survey methods for birds included audial and visual surveys during late May and early June when the migratory birds have returned to Connecticut for the breeding season. Eastern box turtle surveys were conducted in May and June and included visual surveys concentrated in low density vegetation where box turtles bask on sunny days during the spring. Basking surveys were performed with multiple observers in May before groundcover vegetation becomes dense and obstructs visual surveys.

A total of 51 birds, 5 reptiles, and 12 amphibians were found within or adjacent to the study area. Of the wildlife observed, the two state listed species observed were the American kestrel and the eastern box turtle. The kestrel was present only temporarily during migration and did not breed in the study area. A single eastern box turtle was observed within the Algonquin natural gas right-of-way. (This is not inconsistent with Finding of Fact #257 that notes that the likelihood of finding an eastern box turtle at the power plant site are low because they are not typically found at such elevations.) No

vernal pools were located within the study area. However, the study area lies within a known Critical Terrestrial Habitat zone (Calhoun and Klemens, 2002).

To protect against the direct loss of wildlife during construction, the WSRR has several recommendations listed below.

- a) All tree clearing shall take place from August 16th through April 30th to protect the vast majority of nesting birds and summer roosting bats from direct impact during the breeding season.
- b) Targeted turtle sweeps shall be performed prior to construction to search for and remove any eastern box turtles (and other low motility reptiles and amphibians) from the construction area per the DEEP 401 Water Quality Certification Programmatic General Permit (PGP) approval conditions. These sweeps should be conducted according to the protocol outlined in the Eastern Box Turtle Protection Plan (EBTPP) included in the WSRR.
- c) The WSRR also recommends that an initial eastern box turtle survey be conducted one day prior to barrier installation, followed by one week of sweeps after installation and prior to construction, and periodic sweeps during construction as detailed in the implementation schedule of the EBTPP.
- d) It is recommended that the perimeter security fence be buried to a depth of 12 inches and have a maximum mesh size of two inches to prevent turtles and other wildlife from entering the site post-construction.
- e) Installation of erosion and sedimentation controls, if installed during amphibians' inactive period (November to March), should be constructed in a synchopated manner to allow for amphibian passage to the vernal pool during the spring.
- f) Post-construction, restoration of forest cover within the laydown areas should be considered to restore habitat for off-site vernal pool indicator species and of the forest dwelling wildlife.

According to the WSRR, the primary impacts associated with a project of this scale are permanent habitat loss and temporary disturbance associated with noise from construction activities. While no mitigation measures are available for habitat loss, the WSRR notes that, "[B]ased on the results of this study, no critical habitats (i.e. rare or unique) or significant populations of rare or notable species will be directly impacted."

Relative to the issue of construction noise impacts on wildlife, such temporal impacts are greatest during the active wildlife season from March through November. Therefore, the WSRR notes that any activities conducted outside of this season would minimize disturbance to wildlife adjacent to the construction area. Post-construction, the species diversity within the habitats adjacent to the site

would be expected to recover to near pre-construction levels, as has already been demonstrated and observed within habitats surround the adjacent Spectra Energy site.

Council staff notes that, per the project schedule, the project site will be "cleared and grubbed" between December 16, 2015 and March 7, 2016, which is consistent with the seasonal restriction on tree clearing. Council staff further notes that the fence mesh size is proposed at two inches; however, the fence design plans do not appear to include burying the lower portion of the chain link fence as suggested in the above recommendation (d). The bottom of the chain link sections are approximately at grade. Council staff also notes that it may not be feasible to prevent all significant construction noise during the March to November season given CPV's time schedule to complete the project and meet its ISO-NE Forward Capacity Auction commitment.

Council staff recommends that CPV implement the recommendations of the WSRR to the extent reasonably feasible except for burying the bottom section of the chain link fence and imposing seasonal restrictions on construction noise. Staff suggests that CPV minimize the gap between the fence and grade to reduce the risk of turtle entry into the fenced area.

r) Dewatering plan to address groundwater issues during construction;

CPV filed a dewatering plan on sheet C318. The largest area anticipated to require dewatering is the power block excavation area. Sump pits will be placed in the southeast and southwest corners of the excavation. The water will be transported via discharge hoses to the temporary sediment traps 2A and 2B on the southern portion of the site. Should additional dewatering of the construction site be required, then additional dewatering basins will be located on the site by the design engineer.

s) Final construction traffic route plans;

CPV provided its final construction route plans. Specifically, on behalf of the Town of Oxford, CPV seeks to construct a new Town-owned road, to be known as E-Commerce Drive, which will connect the eastern end of Juliano Drive directly to Woodruff Hill Road. The detailed construction plans for E-Commerce Drive are complete, and the permit application is almost complete. It is anticipated that this new road will be completed by the middle of 2016, before the labor force and heavy haul material deliveries reach their peak. The use of this new section of road will minimize the need for traffic to travel the Christian Street, Jacks Hill Road, and Riggs Street route.

However, during initial phases of construction, relatively few workforce cars and trucks will be traveling to and from the site. The traffic is expected to use Christian Street, Jacks Hill Road, Riggs Street, and Prokop Street to gain access to Woodruff Hill Road until construction of E-Commerce Drive is completed.

As noted in Section (d), the workday begins at 6:30 a.m. to avoid the morning peak rush hour traffic that occurs between 7:00 a.m. and 8:00 p.m. The workday would end by 5:30 p.m. to allow construction traffic to leave the site after 5:00 p.m. and avoid the 4:00 p.m. to 5:00 p.m. rush hour.

t) Fence design and other site security measures;

CPV would install a seven-foot chain link fence with three strands of barbed wire on top (for a total height of eight feet). Such fence would surround the facility. The proposed chain link size is 2 inches. A smaller chain link size is a special order fence that would result in additional cost. CPV respectfully requests Council approval of the 2-inch chain link design. CPV would also install a 24-foot wide security gate at the entrance of the facility.

u) Federal Aviation Administration lighting design for the stacks;

The Federal Aviation Administration (FAA) has completed its review of the two 150-foot exhaust stacks and issued a Determination of No Hazard to Air Navigation to each. Accordingly, CPV has included the lighting design in accordance with FAA Advisory Circular 70/7460-1K, Change 2, dated February 2, 2015. Such lighting design has red lights for nighttime operation and medium intensity flashing white lights for daytime and twilight operation.

v) Full geotechnical study performed on Lot 9A prior to finalizing construction plans.

CPV had a full geotechnical study (Geotech Report) of Lot 9A performed and included such plans in the D&M Plan. Specifically, the Geotech Report notes that four borings were performed in late April/early May 2015. Two of the borings were performed in the northern drainage basin location. Two were performed in the southern drainage basin.

Groundwater was initially measured at depth of 12.8 to 26.1 feet below grade. However, in deep glacial till, water levels may take some time to stabilize in a boring hole, and thus, the actual depth of the water may be more shallow or deeper. Accordingly, stabilized groundwater levels were taken during June 2015. Such stabilized groundwater levels vary between 2.4 and 14.8 feet below ground surface.

Ultimately, the following conclusions were reached in the Geotech Report:

- a) Site soils consist of a thick layer of glacial till as demonstrated by testing in the basins and review of prior borings.
- b) Site soils have low permeability.
- c) Bottom of basins will be below groundwater levels.
- d) Stormwater basins will be below seasonal high groundwater and will intercept water from the excavated geometry and will contribute some flow to the basins.
- e) Due to the low permeability of the site soils, it is anticipated that the rate of groundwater flow into the basins will be relatively low; thus, the loss of stormwater due to infiltration will be minimized.
- f) The North Slope will be cut at a 3H to 1V slope partially below the groundwater levels.
- g) An approximated vegetated 3H:1V cut slope is anticipated to be stable, however it must be monitored during construction to allow evaluation of the need for underdrains and/or a filter blanket below the vegetated surface.

Staff Recommendations

Staff recommends approval of the D&M Plan as submitted with the following conditions:

Changes to the D&M Plan shall be delegated to staff per Section 16-50j-62(b) of the Regulations of Connecticut State Agencies.

Eric Davison shall serve as the Environmental Monitor as noted in the Wildlife Survey Report.

All-Points Technology Corporation, P.C. shall act as the Project Wetland Monitor as noted in Sheet C331 of the D&M Plan.

A copy of any future updated or revised Emergency Response Plans be submitted to the Council no later than 30 days after such update or revision.

No later than 30 days after commercial operation of the plant, the final noise monitoring test report shall be submitted to the Council. This timeframe may be extended by written request to the Council.

The Council shall be notified in writing of each extended ULSD operation event when CPV's daily water usage exceeds the normal worst-case peak of 218,000 gpd. The daily water usages and the length of such ULSD operation event shall be included as well as the reason for the event, e.g. natural gas unavailability for greater than 52 hours.

CPV shall provide the most current status of the funding and maintenance of the two stream gauge stations on the Pomperaug River.

CPV shall implement the recommendations of the Wildlife Survey Results report dated July 14, 2015 to the extent reasonably feasible except for burying the bottom section of the chain link fence and imposing seasonal restrictions on construction noise.

CPV shall minimize the gap between the bottom of the chain-link security fence and grade to reduce the risk of turtle entry into the fenced area.

Appendix C

DEEP Air Permit – Turbine #1 General Electric 7HA.01

(Turbine #2, Fire Pump, Boiler & Backup Generator Available on Request)



Connecticut Department of
**ENERGY &
ENVIRONMENTAL
PROTECTION**

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NOV 30 2015

Mr. Andrew Bazinet
Director of Development
CPV Towantic, LLC
50 Braintree Hill Office Park Suite 300
Braintree, MA 02184

Dear Mr. Bazinet:

Enclosed are copies of your new permits to construct and operate a 805 MW Combined Cycle Power Plant consisting of two GE 7HA.01 combustion turbines with duct firing, one auxiliary boiler and two emergency diesel fired engines at 16 Woodruff Hill Road, Oxford, CT.

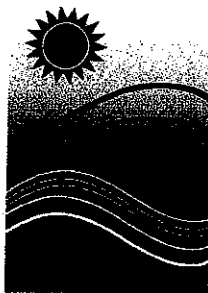
This letter does not relieve you of the responsibility to comply with the requirements of other appropriate Federal, State, and municipal agencies. These permits are not transferable from one permittee to another (without prior written approval); from one location to another, or from one piece of equipment to another. The permits must be made available at the site of operation throughout the period that such permit is in effect.

Permit renewal applications must be filed at least one hundred twenty (120) days prior to the permit expiration date, if applicable. Pursuant to Section 22a-174-3a of the Regulations of Connecticut State Agencies, CPV Towantic, LLC must apply for a permit modification/revision in writing if it plans any physical change, change in method of operation, or addition to this source which constitutes a modification or revision pursuant to Section 22a-174-1 and 22a-174-2a, respectively. Any such changes should first be discussed with Mr. James Grillo of the Bureau of Air Management, by calling (860) 424-4152. Such changes shall not commence prior to the issuance of a permit modification.

Sincerely,

Gary S. Rose
Director
Engineering & Enforcement Division
Bureau of Air Management

GSR:JAG:jad
Enclosure



Connecticut Department of

**ENERGY &
ENVIRONMENTAL
PROTECTION**

**BUREAU OF AIR MANAGEMENT
NEW SOURCE REVIEW PERMIT
TO CONSTRUCT AND OPERATE A STATIONARY SOURCE**

Issued pursuant to Title 22a of the Connecticut General Statutes (CGS) and Section 22a-174-3a of the Regulations of Connecticut State Agencies (RCSA).

Owner/Operator	CPV Towantic, LLC
Address	50 Braintree Hill Office Park, Suite 300 Braintree, MA 02184
Equipment Location	16 Woodruff Hill Road, Oxford, CT
Equipment Description	General Electric 7HA.01 Gas Turbine with DLN combustors, Duct Burners and Heat Recovery Steam Generator (Unit 1)
Collateral Conditions	Part VII of this permit contains collateral conditions with other NSR permits affecting the Greenhouse Gas requirements and the certified NOx emissions reduction offsets for the entire facility.
Town-Permit Numbers	144-0023
Premises Number	14
Stack Number	7
Permit Issue Date	NOV 30 2015
Expiration Date	None

Michael Sullivan
Deputy Commissioner

November 30, 2015

Date

This permit specifies necessary terms and conditions for the operation of this equipment to comply with state and federal air quality standards. The Permittee shall at all times comply with the terms and conditions stated herein.

PART I. DESIGN SPECIFICATIONS

A. General Description

CPV Towantic, LLC operates a power generation facility consisting of two (2) General Electric 7HA.01 combustion turbines with DLN combustors and a combined nominal gross electrical output of 805 MW in Oxford, CT. The turbines are dual fuel fired combined cycle units, each with a separate heat recovery steam generator (HRSG) that includes natural gas supplementary firing (duct burners) to power a single steam turbine generator. Oil firing for the turbines is limited to ultra-low sulfur distillate (ULSD) No. 2 fuel oil during periods of natural gas curtailment or as allowed in Part VII of this permit. Pollution control equipment will include selective catalytic reduction (SCR), oxidation catalyst, and water injection (ULSD firing only) to control NO_x, CO and VOC emissions. The turbine, duct burner and HRSG are designated as Unit 1 for this permit.

B. Equipment Design Specifications

1. Turbine

The design gross heat input to the turbine is 2,544 MMBtu/hr while firing natural gas and 2,511 MMBtu/hr while firing ULSD oil. These heat inputs are based on an ambient temperature of 59°F and result in firing rates of 2,435,742 scf of natural gas (HHV 996 Btu/scf) and 17,326 gallons of ULSD (HHV 138,000 Btu/gal) per hour. Heat input will vary by approximately $\pm 5\%$ over the typical range of temperatures expected, with higher heat input occurring at lower ambient temperatures.

2. Duct Burner

The design gross heat input to the duct burner is 962 MMBtu/hr while firing natural gas. The heat input is based on an assumed HHV of 996 Btu/scf and results in a firing rate of 965,863 scfh.

C. Stack Parameters

1. Minimum Stack Height (ft): 150 (above base elevation)
2. Minimum Exhaust Gas Flow Rate at minimum operating load, turbine only (acfm): 663,327 (gas); 860,408 (ULSD)
3. Minimum Stack Exit Temperature at 100% load (°F): 170
4. Minimum Distance from Stack to Property Line (ft): 188

D. Definitions

1. "Steady-state" operation shall be defined as all periods other than transient operation.
2. "Transient" operation shall be all modes of operation at loads less than 30%, including periods of startup, shutdown, fuel switching and equipment cleaning. "Load" shall be defined as the net electrical output of the turbine. No period of transient operation shall exceed 60 consecutive minutes.

3. "Shakedown" shall be defined as turbine operations including, but not limited to, the first firing of the turbine, proof of interlocks, steam blowing, chemical cleaning and initial turbine roll. The shakedown period shall not extend to or beyond the required date for the initial performance tests specified in Part V.B of this permit.

PART II. OPERATIONAL CONDITIONS and REQUIREMENTS

A. Equipment

1. Turbine

- a. Allowable Fuel Types: Natural Gas; Ultra-Low Sulfur Distillate (ULSD)
- b. Maximum Heat Input over any Consecutive 12 Month Period: 2.12×10^7 MMBtu (gas); 1.72×10^6 MMBtu (ULSD)
- c. Maximum Distillate Fuel Oil Sulfur Content (% by weight, dry basis): 0.0015
- d. Natural gas shall be the primary fuel combusted in this unit. Firing of ULSD is allowed only in the following scenarios:
 - i. ISO-NE declares an Energy Emergency as defined in ISO New England's Operating Procedure No. 21 and requests the firing of ULSD.
 - ii. The natural gas supply is curtailed by an entity through which gas supply and/or transportation is contracted,
 - iii. There exists a physical blockage or breakage in the natural gas pipeline,
 - iv. During all periods of commissioning of the plant including performance testing,
 - v. During routine maintenance and readiness testing.
 - vi. In order to maintain an appropriate turnover of the on-site fuel inventory, to prevent wastage of oil, the owner/operator can fire ULSD when the last delivery of oil was more than six months ago.
- e. The Permittee shall not operate the duct burner while firing ULSD in the turbine.

2. Duct Burner

- a. Allowable Fuel: Natural Gas
- b. Maximum Heat Input over any Consecutive 12 Month Period: 4.09×10^6 MMBtu

- B. The Permittee shall operate this equipment, including the SCR, oxidation catalyst, and water injection in a manner to comply with the emissions limits in Part III of this permit.
- C. The Permittee shall operate and maintain this equipment, air pollution control equipment, and monitoring equipment in a manner consistent with good air pollution control practices for minimizing emissions at all times including during startup and shutdown.
- D. The Permittee shall operate and maintain this equipment in accordance with the manufacturer's specifications and written recommendations.
- E. The Permittee shall minimize emissions during periods of startup and shutdown and shall start the ammonia injection as soon as the SCR vendor's recommended minimum catalyst temperature is reached.
- F. The Permittee shall not operate the auxiliary boiler, Permit No. 144-0025, simultaneously with the combustion turbines for more than 500 hours in any calendar year.
- G. The Permittee shall not exceed a maximum allowable heat rate at full operating load while firing natural gas, without duct firing, of 7,220 Btu/kW-hr (HHV, net plant), on a 12-month rolling average for Units 1 and 2 combined.

H. The Permittee shall immediately institute shutdown of the turbine in the event where emissions are in excess of a limit in Part III of this permit that cannot be corrected within three hours of when the emissions exceedance was identified.

I. The Permittee shall not exceed 250 startup events per calendar year for this unit.

PART III. ALLOWABLE EMISSION LIMITS

A. Steady State

Except during the initial shakedown period, the Permittee shall not cause or allow this equipment to exceed the emission limits stated herein at any time during steady state operation.

1. Turbine Operating on Natural Gas without Duct Firing

Pollutant	lb/hr	ppmvd @ 15% O₂	lb/MMBtu
PM	9.73		6.5E-3
PM _{10/2.5}	9.73		6.5E-3
SO ₂	4.49		1.5E-3
NO _x	19.4	2.0	
VOC	3.37	1.0	
CO	5.31	0.9	
Lead	1.3E-03		
H ₂ SO ₄	2.11		
Ammonia		2.0	

2. Turbine Operating on Natural Gas with Duct Firing

Pollutant	lb/hr	ppmvd @ 15% O₂	lb/MMBtu
PM	20.4		8.1E-3
PM _{10/2.5}	20.4		8.1E-3
SO ₂	6.2		1.5E-3
NO _x	26.8	2.0	
VOC	8.82	2.0	
CO	13.8	1.7	
Lead	1.7E-03		
H ₂ SO ₄	2.7		
Ammonia		2.0	

3. Turbine Operating on ULSD

Pollutant	lb/hr	ppmvd @ 15% O ₂	lb/MMBtu
PM	42.6		3.19E-2
PM _{10/2.5}	42.6		3.19E-2
SO ₂	4.92		1.53E-3
NO _x	52.0	5.0	
VOC	6.2	2.0	
CO	12.7	2.0	
Lead	3.7E-02		
H ₂ SO ₄	2.31		
Ammonia		5.0	

B. Transient Emissions

- Except during the initial shakedown period, the Permittee shall not cause or allow this equipment to exceed these limits during startup and shutdown events. No startup or shutdown event shall last longer than 1 hour in duration.

	Type of Event			
	Startup		Shutdown	
	Natural Gas	ULSD	Natural Gas	ULSD
NO _x (lb/hr)	93	104	19	34
VOC (lb/hr)	37	90	60	23
CO (lb/hr)	242	231	121	18

- Ammonia (NH₃) emissions shall not exceed 5 ppmvd @ 15% O₂ (both fuels) during transient operation.

C. Total Allowable Annual Emission Limits (per unit)

The Permittee shall not cause or allow this equipment to exceed the emission limits stated herein at any time.

- Pollutants

Pollutant	tons per 12 consecutive months
PM	76.7
PM _{10/2.5}	76.7
SO ₂	19.7
NO _x	94.7
VOC	24.5
CO	64.5
Pb	1.9E-02
H ₂ SO ₄	9.1
NH ₃	35

D. Greenhouse Gas Emissions

1. The Permittee shall not exceed a combined annual CO₂e emissions limit of 2,675,185 tons/yr for this unit in combination with the units operating under permit numbers 144-0024, 144-0025, 144-0026, and 144-0027. Compliance with this limitation shall be determined on a consecutive 12-month rolling basis. The Permittee shall make and keep monthly records of CO₂e emissions with the following methodologies:
 - a. CO₂ emissions from the combustion turbines, operating under permit numbers 144-0023 and 144-0024, shall be determined by the methodology found in 40 CFR Part 75, Appendix G, Equation G-4.
 - b. CO₂ emissions from the boiler and two diesel engines, operating under permit numbers 144-0025, 144-0026, and 144-0027, shall be determined using the default emissions factors found in 40 CFR Part 98, Subpart C, Table C-1.
 - c. Methane (CH₄) and nitrous oxide (N₂O) for all combustion sources shall be determined using the default emissions factors found in 40 CFR Part 98, Subpart C, Table C-2.
 - d. Estimated fugitive emissions of sulfur hexafluoride (SF₆) from the electrical circuit breakers shall be determined using mass balance.
 - e. Estimated fugitive emissions of CH₄ from the natural gas pipeline and associated components shall be determined using default emissions factors found in 40 CFR Part 98, Subpart W, Table W-7.

E. Hazardous Air Pollutants (HAP)

This equipment shall not cause an exceedance of the Maximum Allowable Stack Concentration (MASC) for any hazardous air pollutant (HAP) emitted and listed in RCRA Section 22a-174-29. [STATE ONLY REQUIREMENT]

F. Opacity

This equipment shall not exceed 10% opacity during any six minute block average as measured by 40 CFR 60, Appendix A, Reference Method 9.

- G. Demonstration of compliance with the above emission limits may be met by calculating emissions based on emission factors from the following sources:**

- PM/PM₁₀/PM_{2.5}, VOC, H₂SO₄: Stack test data
- SO₂: Sulfur content in fuel
- NO_x & CO (steady state): CEM data
- NO_x, VOC, & CO (transient): Manufacturer's recommended uncontrolled emission factors
- HAP: AP-42, Fifth Edition, Volume I Chapter 3.1, April 2000 except for those HAP with required stack test found in Part V of this permit.

- H. The Permittee is not required to demonstrate compliance with the short-term emission limits stated herein prior to the completion of the Shakedown period. Emissions prior to the completion of the Shakedown period shall be counted towards the annual emission limits stated herein.**
- I. The commissioner may require other means (e.g. stack testing) to demonstrate compliance with the above emission limits, as allowed by state or federal statute, law or regulation.**

PART IV. MONITORING, RECORD KEEPING AND REPORTING REQUIREMENTS

A. Monitoring

1. The Permittee shall comply with the CEM requirements as set forth in RCSA Section 22a-174-4, RCSA §22a-174-22, 40 CFR 60 Subpart KKKK and 40 CFR Parts 72-78, as applicable. Continuous Emissions Monitoring (CEM) is required for the following pollutants and enforced on the following basis:

Pollutant	Averaging Times	Emission Limit (ppmvd @15% O ₂)
Opacity (ULSD only)	six minute block	10%
NO _x	1 hour block	See Part III.A
CO	1 hour block	See Part III.A
NH ₃	1 hour block	See Part III.A

2. The Permittee shall continuously monitor the following parameters:

Operational Parameter	Averaging Times
O ₂	1 hour block
Fuel Flow	1 hour block
Net Electrical Output	Continuous

3. At least sixty (60) days prior to the initial stack test, the Permittee shall submit a CEM monitoring plan to the Commissioner in accordance with RCSA 22a-174-4(c)(3).
4. The Permittee shall use fuel flow meters, certified in accordance with 40 CFR Part 75 Appendix D to measure and record the flow rate of fuels to the turbine and duct burner.
5. The Permittee shall perform inspections and maintenance of the SCR and oxidation catalysts as recommended by the manufacturer.
6. Prior to operation, the Permittee shall develop a written plan for the operation, inspection, maintenance, preventive and corrective measures for minimizing GHG emissions (CH₄ emissions from the natural gas pipeline components and SF₆ emissions from the insulated electrical equipment). At a minimum the plan shall provide for:
 - i. Implementation daily auditory/visual/olfactory inspections of the natural gas piping components supplying natural gas to the combustion turbine/duct burner;
 - ii. An installed leak detection system to include audible alarms to identify SF₆ leakage from the circuit breakers;
 - iii. Inspection for SF₆ emissions from the insulated electrical equipment on at least a monthly basis.

B. Record Keeping

1. For the turbine, the Permittee shall keep records of monthly and consecutive 12 month fuel consumption (for each fuel). The consecutive 12 month fuel consumption shall be determined by adding (for each fuel) the current month's fuel consumption to that of the previous 11 months. The Permittee shall make these calculations within 30 days of the end of the previous month.

2. For the duct burner, the Permittee shall keep records of monthly and consecutive 12 month natural gas consumption. The consecutive 12 month fuel consumption shall be determined by adding the current month's fuel consumption to that of the previous 11 months. The Permittee shall make these calculations within 30 days of the end of the previous month.
3. The Permittee shall keep records of the monthly and consecutive 12 month heat input to the turbine for both natural gas and ULSD firing. The records shall include sample calculations.
4. The Permittee shall keep records of the monthly and consecutive 12 month heat input to the duct burner. The records shall include sample calculations.
5. The Permittee shall keep records of the fuel certification for each delivery of fuel oil from a bulk petroleum provider or a copy of the current contract with the fuel supplier supplying the fuel used by the equipment that includes the applicable sulfur content of the fuel as a condition of each shipment. The shipping receipt or contract shall include the date of delivery, the name of the fuel supplier, type of fuel delivered, the percentage of sulfur in such fuel, by weight, dry basis, and the method used to determine the sulfur content of such fuel.
6. The Permittee shall calculate and record the monthly and consecutive 12 month PM, PM₁₀, PM_{2.5}, SO₂, NO_x, VOC, CO, H₂SO₄, NH₃, and CO_{2e} emissions in units of tons for all fuels combusted.

The consecutive 12 month emissions shall be determined by adding (for each pollutant) the current month's emissions to that of the previous 11 months. Such records shall include a sample calculation for each pollutant. The Permittee shall make these calculations within 30 days of the end of the previous month.

Emissions during startup and shutdown shall be included in the monthly and consecutive 12 month calculations.

7. The Permittee shall keep records of the number of startup events for each calendar year.
8. The Permittee shall keep records of the emissions of this turbine and duct burner during the initial shakedown period. Emissions during shakedown shall be calculated using good engineering judgment and the best data and methodology available for estimating such emissions. Emissions during shakedown shall be counted towards the annual emission limitation in Part III.C of this permit.
9. The Permittee shall keep records of the occurrence and duration of all transient operation of the unit; any malfunction of the air pollution control equipment that causes an exceedance of any emission limitation found in Part III of this permit; or any periods during which a continuous monitoring system or monitoring device is inoperative.

Such records shall contain the following information:

- a. type of event and percent load;
- b. equipment affected;
- c. date of event;
- d. duration of event (minutes);
- e. fuel being used during event; and
- f. total NO_x, CO and VOC emissions emitted (lb) during the event.

10. The Permittee shall keep records of each delivery of aqueous ammonia/urea. The records shall include:
 - a. the date of delivery;
 - b. the name of the supplier;
 - c. the quantity of aqueous ammonia delivered; and
 - d. the percentage of ammonia in solution, by weight.
11. The Permittee shall keep records of the inspection and maintenance of the SCR and oxidation catalysts. The records shall include:
 - a. the name of the person conducting the inspection/maintenance;
 - b. the date of the inspection/maintenance;
 - c. the results or actions taken; and
 - d. the date the catalyst is replaced.
12. The Permittee shall keep records of all repairs/replacement of parts and other maintenance activities for the equipment.
13. The Permittee shall keep records of the electrical output of the plant (net) and the heat rate for the turbines while firing natural gas (HHV, net plant) without duct firing, on a 12-month rolling average for the plant.
14. The Permittee shall keep records of the inspection, maintenance, preventive and corrective measures for minimizing GHG emissions from the natural gas pipeline components and the insulated electrical equipment. The records shall include:
 - a. the name of the person conducting the inspection/maintenance;
 - b. the date the inspection/maintenance;
 - c. the results or actions taken;
 - d. the leak detection methods used; and
 - e. the amount of SF₆ added (if any) to the electrical equipment
15. The Permittee shall keep monthly records of the audible alarms from the SF₆ leak detection system and inspections for the insulated electrical equipment. The records shall include:
 - a. the name of the person conducting the inspection/maintenance;
 - b. the date the inspection/maintenance;
 - c. the results or actions taken.
16. The Permittee shall make and keep records of each hour of co-firing of this unit with the auxiliary boiler for each month and consecutive 12 months.
17. The Permittee shall make and keep records of all occurrences of firing ULSD in the turbine. At a minimum these records shall contain the following information:
 - a. the duration of ULSD firing,
 - b. the reason for ULSD firing, and
 - c. the heat input to the turbine.
18. The Permittee shall keep a certified copy of this permit on the premises at all times, and shall make this copy available upon request of the Commissioner for the duration of this permit. This copy shall also be available for public inspection during regular business hours.
19. The Permittee shall keep records of the manufacturer written recommendations for operation and maintenance of the equipment found in this permit.
20. The Permittee shall keep all records required by this permit for a period of no less than five years and shall submit such records to the commissioner upon request.

C. Reporting

1. The Permittee shall notify the commissioner in writing of all exceedances of an emissions limitation, and shall identify the cause or likely cause of such exceedance, all corrective actions and preventive measures taken with respect thereto, and the dates of such actions and measures as follows:
 - a. For any hazardous air pollutant, no later than 24 hours after such exceedance was identified; and
 - b. For any other regulated air pollutant, no later than ten days after such exceedance commenced.
2. The Permittee shall notify the commissioner, in writing, of the dates of commencement of construction, completion of construction, and initial startup of this equipment. Such written notifications shall be submitted no later than 30 days after the subject event.

PART V. STACK EMISSION TEST REQUIREMENTS

- A. Stack emission testing shall be performed in accordance with the RCSA 22a-174-5 and the Emission Test Guidelines available on the DEEP website.
- B. Initial stack emission testing is required for the following pollutant(s):

☒ PM/PM_{10/2.5} ☒ SO₂ ☒ NO_x ☒ CO ☒ CO₂
☒ VOC ☒ Opacity
☒ Other (HAPs): Sulfuric Acid, Formaldehyde, arsenic

1. Stack emissions testing firing natural gas, without duct firing, for CO₂ shall only be required during the initial performance test to show compliance with an emissions limit of 809 lbs/MW-hr (net plant), corrected to ISO conditions, as defined in the approved stack test protocol.
2. For the purposes of determining maximum heat input of the turbine during performance testing, the following equations may be used:

$$MHI_T = Q_1 - [(T - T_1)/(T_2 - T_1)] \times (Q_1 - Q_2)$$

Where,

MHI_T = Turbine maximum heat input at ambient temperature (°F)

T = Ambient Temperature

T₁ = Temperature Value from Table 1 that is below the ambient temperature

T₂ = Temperature Value from Table 1 that is above the ambient temperature

Q₁ = Heat Input at corresponding T₁

Q₂ = Heat Input at corresponding T₂

Table 1

Natural Gas Firing		ULSD Firing	
Temperature (T) °F	Heat Input (Q)	Temperature (T) °F	Heat Input (Q)
-14.2	2649	-14.2	2652
20	2672	20	2613
50	2590	50	2559
59	2544	59	2511
90	2416	90	2390
100	2409	100	2331

3. The Duct Burner shall be required to meet a minimum heat input value of 770 MMBtu/hr for all ambient temperatures during initial and recurring performance testing.
 4. The Permittee shall perform one set of tests on this turbine when burning natural gas with the duct burner and one set without duct firing. The Permittee shall perform one set of tests with the turbine burning ULSD.
- C. The Permittee shall conduct initial stack emission testing within 60 days of achieving the maximum production rate, but not later than 180 days after initial startup. The Permittee shall submit test results within 60 days after completion of testing.
- D. Recurrent stack testing of all pollutants listed in Part V.B of this permit, except for VOC and CO₂, shall be performed within five years from the date of the previous stack test. Testing shall be as described in Part V.B of this permit with the following exceptions:
1. After the initial performance test, stack testing may not be required for pollutants requiring CEM. The commissioner retains the right to require stack testing of any pollutant at any time to demonstrate compliance.
 2. More frequent testing of VOC is required to verify the correlation between VOC and the CO CEM data. Performance testing for VOC shall be performed within 18-months from the date of the previous stack test.
- E. Fuel oil analysis of the arsenic in the distillate oil may be substituted for stack testing while firing distillate oil. Arsenic testing is not required for natural gas firing.
- F. Stack Emission test results shall be reported as follows: all pollutants in units of lb/hr; NO_x, CO, VOC, formaldehyde, and ammonia in units of ppmvd at 15% O₂;

PART VI. SPECIAL REQUIREMENTS

- A. The Permittee shall possess, at least, 235 tons of external emissions reductions to offset the quantity of NO_x emitted from the sources covered under following Permit Numbers. to comply with RCSEA 22a-174-3a(l):
- 144-0023 [General Electric 7HA.01 combustion turbine/duct Burner]
 - 144-0024 [General Electric 7HA.01 combustion turbine/duct burner]
 - 144-0025 [92.4 MMBtu/hr natural gas fired auxiliary boiler]
 - 144-0026 [1,500 kW ULSD fired emergency generator]
 - 144-0027 [350 bhp ULSD fired emergency fire pump]

Such a quantity is sufficient to offset the emissions from the sources listed above at a ratio of 1.2 to

1 tons of reduction for every ton of NO_x emissions allowed under the permits listed. Specifically, the reductions are real, quantifiable, surplus, permanent, and enforceable as defined in RCSCA 22a-174-3a(1)(5). The Permittee shall maintain sole ownership and possession of these emissions reductions for the duration of this permit and any subsequent changes to the permit.

Such offsets have been obtained from the following sources:

- 106 tons from Consolidated Edison Company of New York: NY-NY-DEC-2-6301-00006-106
- 110 tons from Akeida Capital Management LLC: CT4NOX00-015-0045-7888-110
- 19 tons from Sikorsky Aircraft Corporation: CTNOX1011-178-0039-19

The Permittee may be required to obtain additional NO_x offsets and complete additional ambient air quality analysis to show that the NAAQS and PSD increments have not been violated, if observed steady state or transient emissions exceed a limit specified in Parts III.A, III.B or III.C of this permit.

- B. Total annual VOC emissions from all VOC emitting sources located at the premises shall not exceed 49.9 tons/year.

Demonstration of compliance with the annual VOC premises wide limit shall be based on each consecutive 12 month time period and shall be determined by adding the current month's VOC premises wide emissions to that of the previous 11 months. The Permittee shall make these calculations within 30 days of the end of the previous month.

Monthly premises wide VOC emissions shall be calculated using the following equations:

$$VOC_{\text{premises}} = \Sigma VOC_{\text{turbines}} + \Sigma VOC_{\text{engines}} + VOC_{\text{aux boiler}} + \Sigma VOC_{\text{storage tanks}} + \Sigma VOC_{\text{add}}$$

where,

$\Sigma VOC_{\text{turbines}}$ = The sum of VOC emissions from the two turbine trains covered by permits 144-0023 and 144-0024 determined by correlating the VOC emissions to the CO emissions using the results of a diagnostic stack test and tracked using the CO CEMS. VOC emissions from the turbine train shall be recorded on the CEMS data acquisition system.

$\Sigma VOC_{\text{engines}}$ = The sum of emissions from the emergency engines covered by permit numbers 144-0026 and 144-0027. VOC emissions shall be calculated using the following equation:

$$VOC \text{ (ton/month)} = [X \text{ (VOC lbs/hr)} * Y \text{ (hrs/month)}] * 1 \text{ ton/2000 lbs}$$

$VOC_{\text{aux boiler}}$ = The emissions from the auxiliary boiler covered by permit 144-0025. VOC emissions shall be calculated using the following equation:

$$VOC \text{ (ton/month)} = [X \text{ (VOC lbs/hr)} * Y \text{ (hrs/month)}] * 1 \text{ ton/2000 lbs}$$

$\Sigma VOC_{\text{storage tanks}}$ = The emissions from any storage tanks located on the premises shall be determined using the latest version of the EPA TANKS model or other equivalent method.

ΣVOC_{add} = The VOC emissions from any additional VOC emitting equipment that is added to the premises after the issuance of this permit. The VOC emissions from such equipment shall be calculated using good engineering practices.

The Commissioner may require other methods for determining VOC emissions from these sources as allowed by state or federal statute, law or regulation.

- C. Upon completion of construction of the turbines and control equipment regulated under Permit No. 144-0023 and 144-0024, the Permittee shall prepare and submit a written standby plan in accordance with the RCSA 22a-174-6(d)(2) through (d)(5).
- D. The Permittee shall comply with all applicable sections of the following New Source Performance Standard(s) at all times.

Title 40 CFR Part 60, Subpart: KKKK and A

Copies of the Code of Federal Regulations (CFR) are available online at the U.S. Government Printing Office website.

- E. The Permittee shall operate this facility at all times in a manner so as not to violate or contribute significantly to the violation of any applicable state noise control regulations, as set forth in RCSA Sections 22a-69-1 through 22a-69-7.4. [STATE ONLY REQUIREMENT]
- F. Unless directed otherwise by the Commissioner, if construction does not commence within eighteen (18) months from the date of issuance of this permit, the Permittee shall submit a written updated review of all prior BACT determinations for this unit. The Permittee shall submit this review to the Commissioner within 30 days of the end of such 18 month period.

PART VII. ADDITIONAL TERMS AND CONDITIONS

- A. This permit does not relieve the Permittee of the responsibility to conduct, maintain and operate the regulated activity in compliance with all applicable requirements of any federal, municipal or other state agency. Nothing in this permit shall relieve the Permittee of other obligations under applicable federal, state and local law.
- B. Any representative of the DEEP may enter the Permittee's site in accordance with constitutional limitations at all reasonable times without prior notice, for the purposes of inspecting, monitoring and enforcing the terms and conditions of this permit and applicable state law.
- C. This permit may be revoked, suspended, modified or transferred in accordance with applicable law.
- D. This permit is subject to and in no way derogates from any present or future property rights or other rights or powers of the State of Connecticut and conveys no property rights in real estate or material, nor any exclusive privileges, and is further subject to any and all public and private rights and to any federal, state or local laws or regulations pertinent to the facility or regulated activity affected thereby. This permit shall neither create nor affect any rights of persons or municipalities who are not parties to this permit.
- E. Any document, including any notice, which is required to be submitted to the commissioner under this permit shall be signed by a duly authorized representative of the Permittee and by the person who is responsible for actually preparing such document, each of whom shall certify in writing as follows: "I have personally examined and am familiar with the information submitted in this document and all attachments thereto, and I certify that based on reasonable investigation, including my inquiry of those individuals responsible for obtaining the information, the submitted information is true, accurate and complete to the best of my knowledge and belief. I understand that any false statement made in the submitted information may be punishable as a criminal offense under section 22a-175 of the Connecticut General Statutes, under section 53a-157b of the Connecticut General Statutes, and in accordance with any applicable statute."

- F.** Nothing in this permit shall affect the commissioner's authority to institute any proceeding or take any other action to prevent or abate violations of law, prevent or abate pollution, recover costs and natural resource damages, and to impose penalties for violations of law, including but not limited to violations of this or any other permit issued to the Permittee by the commissioner.
- G.** Within 15 days of the date the Permittee becomes aware of a change in any information submitted to the commissioner under this permit, or that any such information was inaccurate or misleading or that any relevant information was omitted, the Permittee shall submit the correct or omitted information to the commissioner.
- H.** The date of submission to the commissioner of any document required by this permit shall be the date such document is received by the commissioner. The date of any notice by the commissioner under this permit, including but not limited to notice of approval or disapproval of any document or other action, shall be the date such notice is personally delivered or the date three days after it is mailed by the commissioner, whichever is earlier. Except as otherwise specified in this permit, the word "day" means calendar day. Any document or action which is required by this permit to be submitted or performed by a date which falls on a Saturday, Sunday or legal holiday shall be submitted or performed by the next business day thereafter.
- I.** Any document required to be submitted to the commissioner under this permit shall, unless otherwise specified in writing by the commissioner, be directed to: Office of Director; Engineering & Enforcement Division; Bureau of Air Management; Department of Energy and Environmental Protection; 79 Elm Street, 5th Floor; Hartford, Connecticut 06106-5127.

Appendix D

DEEP Memo – August 14, 2015 Oxford High School Meeting

MEMORANDUM

TO: Jaimeson Sinclair Assistant Director, Engineering
Date Rec'd: 09/08/2014
SIMS Nos.: 201408901, -8904, -8905,
-8906, -8907

FROM: Kiernan Wholean, Supervising Air Pollution Control Engineer
James Grillo, Air Pollution Control Engineer

SUBJECT: Final Decision CPV Towantic, LLC's 805 MW combined cycle plant, permit numbers 144-0023 through 144-0027

DISCUSSION:

On July 27, 2015 CPV Towantic, LLC was issued a tentative determination for a new 805 MW combined cycle plant consisting of (2) GE 7HA.01 combustion turbines with duct burners, (1) 92.4 MMBtu natural gas fired auxiliary boiler, (1) 1,500 kW diesel emergency engine and (1) 350 bhp diesel emergency fire pump. The public notice was published in the New Haven Register newspaper on July 29, 2015. The Department published a notice of public informational hearing to be held at the Oxford High School on August 14, 2015. The hearing was held on September 17, 2015.

The Department received comments from the US EPA and the public until the close of business on September 24, 2015. The comments consist of written and oral comments that were taped during the informational hearing held on September 17th at the Oxford High School. The comments and the responses are listed below. Where appropriate, comments were grouped according to topic.

The written comments are attached for reference and the oral comments can be found on the Air Bureau's electronic archive (D:\Archives for NSR\CPV Towantic (formerly Towantic Energy)\New Units (Sept 2014)\Hearing) and on compact disk in the file. The written comments are referenced as comments numbers 1-121, while the oral comments are referenced as H1-H31. [see Appendix A for a list of commenters]

The Department received 112 written comments before the comment period ended on September 24, 2015. There were four comments in support of the project and the rest expressed opposition to the project. With one exception, DEEP did not specifically respond to comments that were received after the comment period ended on September 24, 2015. However, those comments are included as part the record. All of these late commenters expressed their dissatisfaction with the project and for the most part their concerns were similar to the timely commenters.

DEEP heard comments from thirty-one speakers at the public informational hearing. There was also an unplanned question-and-answer session which occurred immediately following the hearing. It was outside the scope of the informational hearing and was not recorded. During that session, DEEP staff and representatives from CPV Towantic responded to specific questions and tried to provide additional details or clarifications about the project.

Additionally, Wayne McCormack, David Gliserman and Paul Coward, representatives from "Stop Towantic", requested to meet with the Commissioner to discuss the project. On October 19, 2015 Gary Rose, Jaimeson Sinclair and James Grillo of the Air Bureau met with Wayne McCormack, David Gliserman and Paul Coward. The representatives emphasized many of the concerns that were brought up in the informational hearing and comments that have been received by the Department. The representatives were told that Commissioner Klee could not attend so that his impartiality as final decision maker would not be affected.

[see attached "Stop Towantic" package identified as Comment No. 121]

Twenty-nine (29) comments were sent directly to Commissioner Klee and those comments are addressed in the responses to comments below. [see commenters 18, 23, 36, 39, 40, 41, 42, 44, 48, 49, 50, 51, 52, 53, 54, 55, 56, 83, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112]

Response to Comments

A. Written Comments:

1. The US EPA, Region 1 made one official comment on the permits.

a. *"The draft new source review (NSR) permits for the gas turbines includes emission rates for "transient" operations (e.g. startup and shutdown operations) separate from the permit's steady state emission rates. However, the NSR engineering evaluation document did not include an evaluation for these transient emissions rates. Similar to the evaluation performed for the steady state emission rates, the NSR engineering evaluation should include a Best Available Control Technology (BACT) and/or Lowest Achievable Emission Rate (LAER) analysis for the transient operations that includes an explanation on why transient emission rates are necessary and how the transient operational levels and time periods were determined. The evaluation should document how the transient emission rates were established by using the five step, top-down BACT analysis documented in EPA's draft October 1990 new Source Review Workshop manual."*

Response:

Transient emissions or transient operation is defined in the permit as: **"transient operation shall be all modes of operation at loads less than 30%, including periods of startup, shutdown, fuel switching and equipment cleaning. "Load" shall be defined as the net electrical output of the turbine."**

The engineering evaluation inadvertently omitted discussing the BACT/LAER emission rates for transient operation. Nevertheless, transient operations were reviewed and are limited by the permit. The applicant did provide these emission rates in their application and the revised BACT/LAER determination gave technical justification on why the turbines would need to operate for short periods of time where NOx, CO and VOC emissions would be higher than the permitted steady state NOx, CO and VOC emission rates. For the pollutants affected by transient operations, only NOx is both subject to BACT and LAER.

The top-down BACT analysis and other sources that were evaluated for transient operation are discussed in the permit application. The transient emission rates in the draft permit were provided by the turbine manufacturer and should be considered representative of the emissions during these modes of operation.

Department's BACT Determination for transient operations: The control devices used to reduce NOx, CO and VOC emissions require a minimum operating temperature in order to achieve the steady state BACT and/or LAER emission rates for these pollutants. The draft permits have specific emission rates for transient operations that include cold, warm, hot starts along with shutdown emissions for these pollutants as well. The draft permits also have a limitation of 1 hour/event on how long transient operation can last to minimize uncontrolled emissions. As an example, the last combined cycle plant that was permitted in Connecticut in 2008 had transient operation of up to 3 hrs/event. CPV's turbines are limited to 1 hr/event for all transient modes or operation.

The draft permits have specific continuous monitoring, testing, and record keeping requirements to ensure compliance with the proposed transient limits for NOx, CO, and VOC emissions.

2. Many commenters questioned how DEEP could issue these permits believing it contrary to DEEP's mission of environmental protection, especially since DEEP is promoting a "clean and green" agenda when it comes to power and environmental issues. Specifically, several commenters reference statements made by Governor Malloy, former Commissioner Esty and Commissioner Klee concerning energy policy and plans for Connecticut.

[Commenters 3, 5, 6, 8, 13, 15, 16, 18, 23, 26, 27, 31, 33, 35, 39, 49, 50, 51, 56, 70, 72, 75, 77, 78, 83, 85, 87, 90, 101, 108, 110, H6, H7, H12, H15, H29]

Response:

The Department implements its policies and goals through regulation, enforcement and licensing procedures. The facility was reviewed and permits were drafted to assure that it would operate according to the applicable regulations. The permits require the best available control technology (BACT) and are designed to minimize emissions from this source.

3. Many commenters stated that they are very concerned about the health effects from the pollution that will be emitted from the plant, especially those from fine particulate matter (PM_{2.5}), NOx and ozone. Commenters expressed concern that the facility will increase their exposure to these pollutants and that will lead to negative health effects including increases in asthma, heart disease, lung cancer, strokes, and autism. Several commenters pointed to recent studies from the American Lung Association, World Health Organization, and Harvard School of Public Health.

[Commenters 2, 3, 7, 15, 17, 18, 19, 20, 20a, 22, 23, 24, 25, 28, 29, 30, 31, 33, 34, 36, 37, 38, 39, 40, 43, 44, 45, 46, 47, 48, 49, 50, 52, 53, 54, 55, 56, 57, 59, 62, 65, 69, 70, 71, 75, 78, 79, 80, 81, 82, 83, 84, 87, 88, 89, 91, 92, 94, 95, 96, 97, 98, 101, 102, 105, 106, 107, 108, 109, 111, 112, H1, H2, H3, H4, H5, H6, H9, H10, H13, H15, H17, H18, H19, H20, H22, H24, H25, H25]

Response:

DEEP and the USEPA recognize the public health concerns for fine particulate matter (PM_{2.5}), nitrogen oxides (NOx), and ozone. EPA defines these pollutants as criteria pollutants. They are called criteria air pollutants because they are regulated based on criteria for setting protective levels of exposure for human health and the environment. For that reason EPA and the state of Connecticut have regulations that require sources of

pollution to adhere to strict operating conditions and limitations. The regulations, specifically the National Ambient Air Quality Standards (NAAQS), are designed to protect human health and the environment.

The NAAQS secondary standards are designed to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings.

<http://www.ct.gov/deep/cwp/view.asp?a=2684&Q=321796>

EPA also establishes standards for preventing significant degradation of air quality in areas which are in attainment of the NAAQS. These are called prevention of significant deterioration (PSD) increments.

According to the ambient air impact analysis, the proposed facility will not cause or contribute significantly to any violation of a National Ambient Air Quality Standard or Prevention of Significant Deterioration (PSD) increment.

The predicted PSD multi-source ambient impacts from CPV's proposed project for nitrogen dioxide (NO₂), sulfur dioxide (SO₂) and PM₁₀ are presented in the table below:

PARAMETER	ALLOWABLE PSD INCREMENT (µg/m ³)	CPV'S MAXIMUM IMPACT (µg/m ³)
SO ₂ annual arithmetic mean	20	0.03
SO ₂ 24-hr average	91	0.5
SO ₂ 3-hr average	512	1.4
NO ₂ annual	25	2.4
PM-10 annual arithmetic mean	17	0.29
PM-10 24-hr average	30	4.2
PM-2.5 annual arithmetic mean	4	0.29
PM-2.5 24-hr average	9	4.2

Multi-source modeling to determine compliance with the applicable NAAQS was required for 24-hour PM_{2.5} annual NO₂, and 1-hour NO₂ only and are presented in the table below:

Maximum impact includes all CPV sources plus existing background concentration.

PARAMETER	ALLOWABLE NAAQS (µg/m ³)	BACKGROUND CONCENTRATION (µg/m ³)	CPV'S MAXIMUM IMPACT + BACKGROUND (µg/m ³)
NO ₂ annual	100	21	22.87
NO ₂ 1-hr	188	87	168.81
PM-10 24-hr	35	24	27.5

The above tables clearly indicate that CPV's project will operate within the allowable PSD increments and the NAAQS standards, which are designed to be protective of human health and the environment.

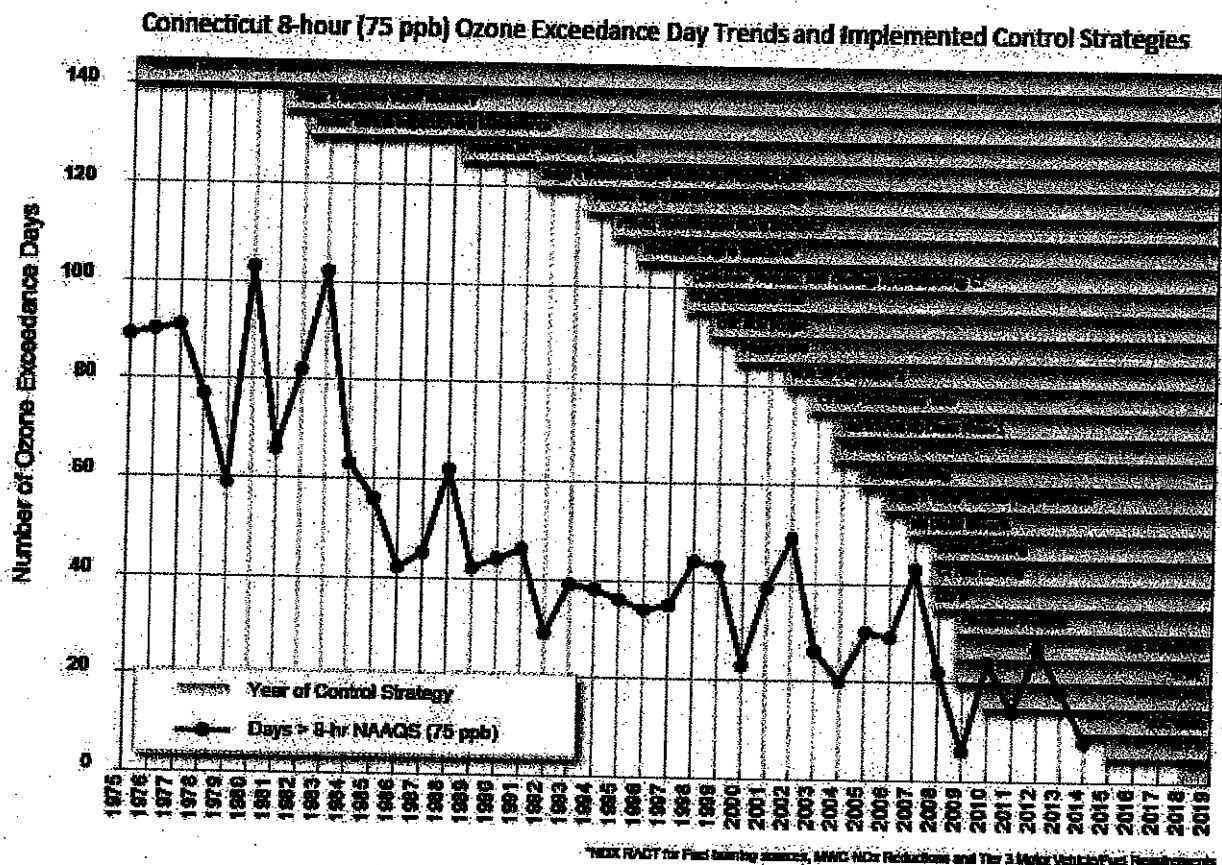
With respect to ozone, DEEP did not evaluate and it is not practical to evaluate, the individual effect of this plant through preconstruction modeling. Ozone is a regional problem and the control strategies and modeling are conducted on a regional basis. Policies and regulations implemented by DEEP, have caused a downward trend for ozone exceedances and the state continues to implement policies leading toward attainment. This facility adheres to those policies and was required to obtain emission offsets and install the most stringent controls for NO_x, an ozone precursor. Recent history shows that plants like this cleaner, newer plant have displaced older plants in the regional energy supply market, resulting in lower regional and

local emissions from older plants and facilitating the downward trend toward ozone compliance as seen in the charts below.

The following discussion is taken from DEEP's website showing a continual decline in both ozone exceedances and trends due to policy and regulatory changes:

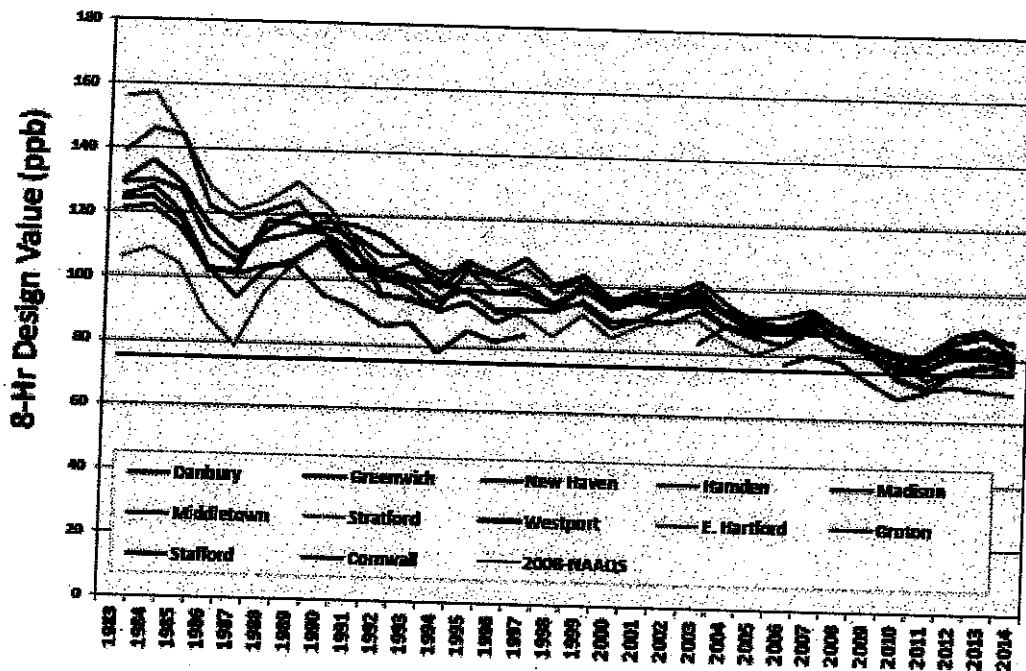
In 2008, the United States Environmental Protection Agency (EPA) adopted a more stringent ambient air quality health standard for ozone, lowering the standard from 84 ppb to 75 ppb, averaged over an 8-hour period. The first figure below shows that the number of days Connecticut exceeded the revised standard has declined considerably over the past 30 years. During the early 1980's, Connecticut experienced more than 100 days with ozone levels exceeding the revised standard. In more recent years, Connecticut has recorded around 20 exceedance days per year. This overall improvement in air quality is due to the implementation of a number of emission reduction programs aimed at automobiles, fuels and stationary sources. The second figure shows the downward trends in the 8-hour ozone design values for all the Connecticut monitoring sites each year since 1983.

[\[http://www.ct.gov/deep/cwp/view.asp?a=2684&q=322062&deepNav_GID=1744\]](http://www.ct.gov/deep/cwp/view.asp?a=2684&q=322062&deepNav_GID=1744)



Therefore, though the state does continue to exceed the ozone standard on occasions. It has made significant progress in diminishing exposure to high ozone days and the permitting of this plant is consistent with the policies that have lead to that downward trend in ozone exceedances.

Connecticut Ozone Design Value Trends



4. Several commenters stated that they do not want the plant even if all emission standards will be met. Some of the commenters believe that the standards are not safe or protective of the environment or human health and wonder what will happen when the standards are reduced in the future.

[Commenters 3, 7, 29, 36, 44, 48, 49, 53, 56, 65, 68, 71, 108, 111, H4, H7, H19, H24]

Response:

The emission limits in the permit are required to be met at all times. The permitted limits are based on the best available controls and are therefore more stringent than if set only to comply with the ambient air quality standards. The monitoring, record keeping and reporting requirements in the draft permits provides assurances that the plant will be operated within the limits of the permits. The modeling analysis reviewed by DEEP ensures that the NAAQS are not violated by the operation of this plant.

The National Ambient Air Quality Standards (NAAQS) are periodically evaluated and have been reduced over time as new information becomes available. As standards change DEEP is required to revise its state implementation plan and implement measures to assure compliance to ambient air quality standards. Any measures necessary to achieve the standards could trigger further reductions from sources such as CPV's in the future. This has occurred with the promulgation of the SO₂ 1-hr standard, where some sources were required to reduce the sulfur content of their fuel even though their license or regulatory standard for sulfur content allowed for higher concentrations of sulfur in the fuel.

Section 22a-174-29 of the Regulation of Connecticut State Agencies specifically limits hazardous air pollutant (HAP) emissions to the atmosphere. The plant shall not violate any maximum allowable stack concentrations for HAP. These maximum allowable stack concentrations were derived from occupational health-based chemical exposure limits. This is a state requirement that applies in addition to any federal requirement.

5. Commenters question why CPV did not conduct modeling below 50% load and why the Danbury meteorological data was used in the modeling rather than the Oxford Airport data. Several commenters also questioned the impact from the emissions on the vegetation, soils, and wildlife.

[Commenters 12, 13, 18, 23, 44, 46, 50, 51, 65, 75, 87, 89, 90, 99, 105, 107, 108]

One additional comment on the ambient impact analysis was received after the closing of the comment period on September 24, 2015. The comments were submitted by Ray Pietrorazio and the Town of Middlebury requesting that the Department re-model the air emissions at 30% load. The commenters requested that another model algorithm be used based on assumptions of a poorly designed stack because the model used to evaluate CPV does not properly take into account stack tip downwash.

[Commenter 115]

Response:

The Department required ambient impact analysis modeling at several loads down to 50%. Modeling below this load was not requested by the Department but CPV did conduct modeling at 30% load for natural gas at two ambient temperatures. Maximum predicted impacts from the 30% load firing case were not among the highest of the 33 operating scenarios modeled (see Tables entitled "AERMOD Scaled Pollutant Impacts 1 or 2 Turbines, ug/m3 – GE 7H 150ft Separate Stacks" in the CPV Towantic Energy Center ambient impact modeling report dated September 2014). Therefore, running several more 30% load operating scenarios for different ambient temperatures and fuel will not change the outcome of the analysis that has already been performed and reviewed.

The US EPA recommends that regulatory modeling should evaluate expected impacts for sources operating at 50%, 75% and 100% of maximum load. This is codified in the federal register at 40CFR part 51 Appendix W (Table 8-2).

The Danbury meteorological data was selected over the Oxford data because there are too many calm hours recorded at Oxford. The percent calm hours is at 19% for the years 2008-2012. The high percentage of calm hours make this site inappropriate to use in an AERMOD regulatory modeling exercise. Calm hours are treated as missing and a concentration of zero is calculated for many of those hours in the model. A high percentage of calm or missing hours in a meteorological data set can lead to the under predicting of maximum impacts. The Oxford airport meteorological data has not been recommended for use in Connecticut for several years. The Danbury airport is located in the rolling hills of inland western Connecticut approximately 32 kilometers (20 miles) west-southwest of the proposed facility. This site is the most representative meteorological data set available for the modeling of this facility. Although the meteorological data is collected at a lower elevation than the proposed Towantic site, it is located in a locally open plain not influenced by local terrain features that may bias the general wind patterns otherwise found across western Connecticut. Therefore, the data was considered the most appropriate available for the modeling of the proposed site.

A wind tunnel study would be considered an alternative approach which takes into account stack tip downwash and is acceptable under current EPA modeling guidance found in 40CFR Part 51 Appendix W. As such, a wind tunnel study would need to meet all requirements delineated in Appendix W and receive approval from the national modeling clearing house, an EPA technical team charged with evaluating the viability of alternative models. Wind tunnel studies are mostly used in research applications. Wind tunnel studies are almost never used in regulatory applications due to their severe limitations of not being able to predict concentrations over a broad area. Wind tunnel studies have been used, rarely, for situations where complex wind fields caused by severe terrain features very close to a source complicate the ability of a Gaussian model to perform as expected. This is clearly not the case with Towantic. The Department maintains that the EPA model which has been validated and designed for the very type of source being considered in Oxford is the preferred approach.

Algorithms in the model account for enhanced dispersion due to downwash effect from the physical stack itself. These algorithms have been designed, in part, based on wind tunnel studies.

The ambient impact analysis completed by DEEP specifically addresses impacts to soil and vegetation due to the emissions from the plant. The maximum hourly impacts are compared to the allowable USEPA screening concentrations for both soil and vegetation. These screening concentrations represent the minimum concentrations at which adverse growth effects or tissue injury occur in exposed vegetation. This procedure followed the recommendations in the USEPA guidance document entitled "A Screening Procedure for the Impacts of Air Pollution Sources on Plants, Soils, and Animals – Final Report", dated December 12, 1980. [See Ambient Impact Analysis from J. Catalano, dated May 28, 2015]

6. Many commenters were concerned about the siting of the facility. Commenters were concerned about locating the plant near sensitive populations such as children in nearby schools and the elderly in over-55 communities. There were also concerns for locating the plant near environmentally sensitive features such as greenfields and aquifers. Other related concerns were decreased property values, local zoning, and effects on the airport.

[Commenters 3, 4, 5, 7, 8, 12, 13, 13a, 14, 15, 16, 17, 19, 20, 20a, 21, 22, 22a, 24, 25, 26, 27, 29, 31, 35, 36, 39, 42, 43, 44, 45, 46, 48, 49, 51, 52, 54, 55, 56, 57, 58, 62, 63, 67, 68, 69, 70, 72, 73, 74, 75, 78, 79, 85, 87, 90, 99, 103, 105, 107, H1, H2, H9, H11, H13, H15, H16, H17, H18, H19, H20, H22, H27, H29]

Response:

Pursuant to RCSA 22a-174-3a(d), Standards for Granting and Renewing a Permit, the Air Bureau is required to follow specific standards for granting of permits. As part of the technical review, the non-attainment analysis requires an Analysis of Alternatives. [RCSA 22a-174-3a(j)(2)] The applicant has demonstrated that the project, as proposed, will use the most fuel efficient generating technology available at this time, will have limited secondary and cumulative impacts when compared to other technologies, and uses the cleanest fuels practicably available along with state-of-the-art pollution control technologies.

The analysis must contain an evaluation of alternative sites, sizes, production processes and all environmental control technologies for the proposed source. The analysis must demonstrate that the proposed project's benefits outweigh the adverse environmental impacts, including secondary/cumulative impacts, and social costs imposed as a result of the location and construction of the project. DEEP maintains that CPV met requirements of this analysis based on the following:

- This site is located in an area with a primary fuel source (natural gas pipeline), nearby electrical transmission line, properly zoned land in sizes suitable for a plant of this size, along with water/sewer utilities.

Three sites were identified that could support a project of this type: a former mining site in Middletown, Naugatuck industrial park, and the Oxford industrial area. The Middletown and Naugatuck sites were rejected because development of this project would cause greater environmental harm than at the Oxford site. The Middletown and Naugatuck sites were also rejected due to physical constraints for construction, topography, and location of utilities. The Oxford site was selected because the existing infrastructure and physical characteristics of the property would cause the least adverse impact to the public and the environment.

- The Oxford premises is currently approved for a 512 MW combined cycle plant and alternative size plants were evaluated to justify the proposed increase in electrical capacity to 805 MW. While this plant is approximately 57% larger on a MW basis, it remains similar in physical size and would use more efficient turbines than the currently permitted GE 7FA units. For most pollutants this results in a decrease in the pounds of pollutants emitted per megawatt produced, and for some pollutants the plant, in spite of its larger capacity, will emit less than the previously proposed 512 MW plant.
- The use of alternative generation technologies was evaluated compared to combined cycle generation. The use of wind or solar power has been shown to be unable to generate similar electrical output because of physical limitations or the required land area to generate a similar electrical output using these technologies. For an example:
 - The Ivanpah solar array in California generates approximately 400 MW but requires almost 5 square miles of land.
 - The world's largest solar array at 550 MW, also located in California, came on line in early 2015 and requires 38,000 acres of land. In comparison, CPV will generate 805 MW on approximately 26 acres of land.

The environmental impact from the use of wind or solar generation can be significant as they would affect the local ecology differently than a less land intensive combined cycle plant and are not necessarily a better choice for the environment.

Other fossil fuels such as coal or oil fired electrical generating units (EGU) would have greater air emissions and be less efficient on a Btu/kW-hr basis (heat rate). Oil and coal firing would also require a nearly constant fuel delivery traffic and require significant storage requirements most likely requiring additional land use. The proposed project's primary source of fuel is natural gas and there is a pipeline adjacent to the premises that will have limited impact on the surrounding area when compared to other fossil fuels. The project is required to have some backup fuel and the selection of ultra-low sulfur distillate (ULSD) fuel oil is the lowest emitting backup fuel available today.

- The air pollution control technology (BACT/LAER) review for this project requires the use of the most advanced pollution control systems available.

The applicant has demonstrated that the project, as proposed, will use the most fuel efficient generating technology available at this time, have limited secondary and cumulative impacts when compared to other technologies, and use the cleanest fuels practicably available along with state-of-art pollution control technologies.

Furthermore, the Connecticut Siting Council approved the siting of this facility at the proposed location on May 14, 2015 and the site was already approved for a smaller generating facility. The Connecticut Siting Council is responsible for: <http://www.ct.gov/csc/cwp/view.asp?a=895&q=248310>

- Balancing the need for adequate and reliable public utility services at the lowest reasonable cost to consumers with the need to protect the environment and ecology of the state and to minimize damage to scenic, historic, and recreational values;
- Providing environmental standards for the location, design, construction, and operation of public utility facilities that are at least as stringent as federal environmental standards and that are sufficient to assure the welfare and protection of the people of Connecticut;
- Planning for facilities needed to supply predicted demand.

The site selected by the applicant is appropriate because it is located near existing natural gas and electrical transmission infrastructure, has been approved by the Siting Council, and meets all air regulatory requirements for siting of such projects. Additionally, the land is located in an area designated by the town as an industrial zone. (see attached town zoning maps)

7. Commenters questioned why there was no control of particulate matter (PM), why there was no continuous emissions monitoring of (PM), requested that CPV install a local ambient monitor for PM, and requested more frequent stack testing than the proposed recurring 5-year test schedule.

[Commenters 13, 18, 23, 39, 44, 47, 56, 71, H21]

Response:

The allowable PM_{2.5} emissions from the turbines are 76.7 tons/yr/turbine. The ambient impact analysis clearly demonstrates that this source will comply with both the NAAQS and PSD increments:

Pollutant	Averaging Period	Impact due to CPV	Allowable Impact
PM _{2.5} (NAAQS)	24-Hour	3.5	35
	Annual	0.21	12
PM _{2.5} (PSD)	24 -Hour	4.2	9
	Annual	0.29	4

During the best available control technology (BACT) review for PM emissions, including fine particulate (PM_{2.5}), it was determined that there are no technically feasible particulate controls available for combined cycle plants. Typically for boilers burning wood, municipal solid waste, coal or heavy oil, either a baghouse or an electric static precipitator (ESP) are commonly used to control PM emissions. Neither of these technologies are useful for a combined cycle plant because of the very high gas flow rates and low PM concentrations in the exhaust stream. Natural gas is the lowest PM emitting practically available fuel for this facility with ULSD being the next lowest. These fuels were therefore elected as BACT to control particulate emissions from these turbines.

The PM emissions will not be directly measured with a continuous emissions monitor since the current technologies available to measure PM emissions have not been proven in practice to accurately measure PM emissions. Additionally, there are no known combined cycle plants operating anywhere that have particulate CEM monitors. The initial and recurring stack testing that will be conducted for the facility, will

use USEPA Method 202 which can measure the condensable fraction of PM emissions in the stack. These stack emissions test have proven to be reliable in measuring compliance with the PM emissions for other combined plants in Connecticut and there is no reason to believe that CPV's units will violate their permit limits.

Commenter 13 requested that CPV conduct a PM test every three months since reliable CEM is not available at this time. The Air Bureau's experience with particulate emissions from combustion turbine is such that these units operate with reliable consistency and meet their PM emission limits routinely during performance testing. It would be considered an excessive requirement for a source to conduct a test every three months provided the permittee maintains and operates the equipment in accordance with this permit.

Commenter 13 requested that CPV install local outside air monitors in close proximity to the plant instead of relying on regional monitors. DEEP maintains ambient air monitors in Danbury, Waterbury, Bridgeport and New Haven and believes that these monitors are sufficient to monitor the background concentrations of PM. Computer modeling was conducted to determine the impact on air quality due to CPV's sources. The modeling is more appropriate because it conservatively determines the impact from the source at multiple locations and operating scenarios. A monitor can only determine concentrations at the single point where it is located and may miss the source plume most of the time. Therefore, analyzer monitors are not suited for determining source specific maximum impacts.

Commenter 18 stated that since DEEP determined that add-on PM control devices are not technically feasible at this time, the project should be delayed until the technology becomes available. The proposed PM emissions from this plant meet all regulatory requirements at this time. Therefore, the project should not be delayed awaiting changes in particulate control technology.

8. Several commenters questioned why there was no consideration for renewable or micro-grid generation at the site.

[Commenters 13a, 15, 16, 20, 35, 39, 43, 46, 49, 56, 69, 72, 78, 85, 87, 99, H8, H12, H14, H16, H17, H22, H25, H26, H30]

Response:

The applicant was required to submit an analysis of alternative production processes as part of the application that included renewable generation as discussed in Response 6. The project CPV is proposing is for an 805 MW electric generating facility and does not include any "peaking" or "micro-grid" generation. Additionally, there is no regulatory requirement for CPV to propose micro-grid generation at the site. While solar or wind generation can be used to reduce or eliminate pollution at the site and help meet Connecticut's goals for renewable generation, there is no regulatory or statutory requirement for DEEP to impose sole use of those technologies instead of the proposed combined cycle plant. As stated in the Response 6 above, the Oxford site is not able to generate similar electrical output using alternate generating technologies due to land constraints.

9. Five commenters questioned the use of the NOx emission reduction credits (ERC) that are required to be purchased and approved by DEEP pursuant to RCSA 22a-174-3a(1)(4)(A)(ii) by CPV before the permits are issued. Commenters were concerned that the credits represented a paper exercise without reducing emissions and may only shift emissions from other locations.

[Commenters 2, 18, 70, 71, 89]

Response:

The plant is proposed to be sited in an area of the state designated as non-attainment for ozone. This designation requires all major sources of NOx and/or VOC to "offset" the total emissions increase with emission reduction credits at a ratio of 1.2:1. This means CPV must purchase additional allowances to offset the pollutant of concern beyond the permitted limits. Because CPV's project will be a major emitter of NOx at 194.7 tons/yr for all the proposed sources at the facility, it must obtain 234 tons of emission reduction credits. Emission reduction credits originate from the shutdown or curtailment of other similar sources and are based on actual emissions from that plant. Actual emissions are less than allowable or permitted emissions, thus effectively increasing the offset. Credits are purchased and sold on the open market by brokers and verified by the regulatory agencies.

CPV's offsets held from the original project were discounted from 177 tons to 106 tons due to changes in regulation. Those credits were obtained from Consolidated Edison Company of New York. The remaining credits have been obtained from the following sources:

- 110 tons from Akeida Capital Management LLC from a shutdown from PSEG Unit 2, Bridgeport, CT.
- 19 tons from Sikorsky Aircraft Corporation from a shutdown of a boiler at their Stratford, CT facility.

10. Several commenters questioned why DEEP would approve a project that would allow the use of oil in the turbines.

[Commenters 5, 6, 57, 72, 74, 89, 107]

Response:

The primary fuel allowed is natural gas with oil only allowed as a reserve fuel. The proposed oil use for CPV's turbines allows for only ultra-low sulfur distillate No. 2 fuel oil with a sulfur content of 15 ppm, by weight and is the cleanest burning liquid fuel available for these units. The emissions from the oil firing have been shown to meet all NAAQS and BACT requirements. Additionally, the permits restrict operation on oil to approximately 700 hrs/yr for each turbine at full load to the following conditions:

Natural gas shall be the primary fuel combusted in this unit. Firing of ULSD is allowed only in the following scenarios:

- i. ISO-NE declares an Energy Emergency as defined in ISO New England's Operating Procedure No. 21 and requests the firing of ULSD.*
- ii. The natural gas supply is curtailed by an entity through which gas supply and/or transportation is contracted,*
- iii. There exists a physical blockage or breakage in the natural gas pipeline,*
- iv. During all periods of commissioning of the plant including performance testing,*
- v. During routine maintenance and readiness testing.*
- vi. In order to maintain an appropriate turnover of the on-site fuel inventory, to prevent wastage of oil, the owner/operator can fire ULSD when the last delivery of oil was more than six months ago.*

These restrictions prevent the use of oil to provide an economic advantage over the use of natural gas in the event that oil becomes cheaper than natural gas on a heat input basis.

While the use of oil does increase the short-term emission rates for some pollutants when compared to natural gas, it also offers electrical generation reliability in the event of natural gas shortages during times when the electricity is most needed. Therefore, the DEEP approved limited use of ultra-low sulfur oil.

11. Several commenters voiced their concerns and opposition to the use of "fracked" natural gas because it causes more pollution.

[Commenters 11, 45, 76, 78, 78a, 85, H14, H16, H20]

Response:

DEEP has required the use of pipeline natural gas as the primary fuel for these turbines. DEEP has emissions test data from a variety of sources dating well prior to the availability of "fracked" natural gas and DEEP has not found that "fracked" gas is distinguishable from any other natural gas supplies to the pipeline. Stack testing and monitoring will verify that the source or production method associated with the natural gas does not cause a violation of emission limits.

12. Several commenters requested that DEEP staff tour the proposed site.

State Senator Joan Hartley – 15th District specifically requested in a letter to Commissioner Klee, dated September 18, 2015 that DEEP staff tour the proposed site.

[Commenters 12, 39, 103, 104, H29]

Response:

Jaimeson Sinclair (Assistant Director) and James Grillo (APCE) of the Bureau of Air Management toured the site on October 1, 2015 with CPV representative Andrew Bazinet. Additionally, DEEP staff drove through many of the local roads and neighborhoods surrounding the proposed plant without any CPV representatives being present. These included Prokop Road, Towantic Hill Road, Long Meadow Road, Country Club Road, and Putting Green Lane.

The attached zoning maps show the CPV property and the abutting properties. All of the abutting properties are either owned by the Town of Oxford or Algonquin Gas Transmission LLC. The property owner for site 8-9A is listed as Woodruff Hill View, LLC but CPV has stated that they now own this parcel.

13. Several commenters expressed their concerns over the plants potential CO₂ emissions and how it will effect climate change.

[Commenters 74, 76, 78, 85, 100, 107, H8]

Response:

The potential emissions of CO₂ from this facility is 2.6 million tons/yr. The department required a control technology analysis (BACT) for CO₂ emissions. The result of the BACT review for GHG includes efficiency standards and additional restrictions on oil firing for the turbines where CPV will only be able to use oil under very specific conditions as found in the draft permit. The permits also require monitoring and recordkeeping for natural gas leaks on the property along with sulfur hexafluoride (SF₆) emissions from

circuit breakers. These greenhouse gases, while a small percentage of the overall emissions have high global warming potential. [also see Response 10 above]

DEEP is committed to reducing the emissions of greenhouse gas (GHG) emissions from fossil fuel combustion. Reductions can be achieved with the development renewable energy and high efficient low-emitting fossil fuel plants. As older less efficient and higher GHG emitting plants retire, they will be replaced by more efficient plants, such as this one, that will reduce the overall GHG emissions.

This plant will be subject to the Regional Greenhouse Gas Initiative (RGGI) requirements found in RCSA 22a-174-31 which requires specific monitoring, record keeping and reporting of greenhouse gas emissions. Additionally, CPV will be required to purchase allowances for each ton of CO₂ emitted to the atmosphere.

Therefore, it is expected that the operation of this plant will offset less efficient plants and will result in a reduction of regional greenhouse gas emissions.

14. Commenter 13 requested that DEEP require CPV to operate a community alert system that would immediately advise residents in a 10 mile radius about any deviation in normal plant operation, to include ozone alerts as well as other anomalous data since waiting 7 days to learn about an adverse event is not acceptable and does nothing to protect local citizens.

Response:

What the commenter is requesting is similar to the Emergency Planning and Community Right-To-Know Act (EPCRA), Comprehensive Environmental Response Compensation and Liability ACT (CERCLA) and Section 112(r) of the Clean Air Act for which there is a list hazardous, toxic chemicals and regulated chemicals for accidental release prevention that are required to be made public for facilities that use these substances in quantities at or above certain thresholds. CPV will not be subject to these regulatory requirements and there is no regulatory requirement for CPV to include a community alert system.

Ozone alerts and air quality forecasts are available on our website and through the local media sources and are forecasted by the department at least one day in advance.

Combined cycle generating technology is considered one of the safest and most reliable electric generating options available today and these plants have significant histories of permit compliance and safety. It is unlikely that there would be an imminent threat to local citizens from occasional upsets or deviations from permit terms and conditions. There are permit requirements to notify the department of emission exceedances within 24 hours for hazardous air pollutants and ten days for any other regulated air pollutants. These reporting requirements are required by regulation. The plant is not allowed to continue to operate when there is an exceedance of an emission limit. These limits were set with a sufficient margin of safety. Therefore, air permits do not require CPV to inform the local community on a real-time-basis of adverse events at the facility.

15. Commenter 15 questions if DEEP's decision to grant the permits will be affected by General Electric's involvement with the project and their possibility of leaving Connecticut.

Response:

The project has been evaluated by DEEP only on its merits as they pertain to the rules ~~in~~ and regulations in place that are applicable to the proposed source of air emissions.

16. Commenter 30 asked *"if consideration was made regarding existing major sources of air pollution at this location? Specifically:*

1. Pollution from the Oxford Natural Gas Compressor Station run by Algonquin Gas Transmissions, LLC on a property adjacent to the power plant site.

2. Pollution from Oxford Airport

3. Pollution from traffic on I-84

Pollution from these 3 sources are intermittent but consideration should be made regarding air quality when pollution from these sources are at a maximum and the power plant emissions are generated on top of that."

Response:

The permitted allowable emissions from the compressor station were included in the modeling analysis. The emissions from airport and the traffic on I-84 are considered mobile sources of air pollution and are not specifically modeled in the ambient impact analysis. The impact from mobile and area sources such as traffic on I-84 and from the airport are included as background in the modeling analysis. Background values are determined from the averages of the nearest and most representative ambient air monitors to the proposed site. These sites are located at Criscuolo Park, New Haven; McAuliffe Park, East Hartford; and Meadow and Bank Streets, Waterbury.

17. Commenter 43 stated the following: *"We also understand that there are ways of circumventing EPA and other environmental regulations."*

Response:

Circumvention of any permit condition or regulation by an operator is not allowed in any circumstance. Violations can occur for various reason but willful violations are considered the most severe. Permittees are required to comply with their permits at all times without exception. The DEEP has the authority to take enforcement action which may include fines and revocation of the operating permit. In addition to the monitoring and reporting requirements, the facility will undergo annual inspections to determine the compliance status of the facility with its permit and regulatory requirements.

18. Commenter 64 requests that the power output of the plant should remain the same as initially proposed with no increase in size or scale.

Response:

The "new" CPV project has been evaluated on its own merits and not in comparison with the original project size and emission levels. For some pollutants the annual emissions will increase but not necessarily for all. As an example, due to changes in technology and efficiency particulate emissions for the new plant are almost 30% less than the older technology units. The currently proposed project meets all applicable state and federal regulations and was subsequently issued a tentative determination for approval for that reason.

19. Commenter 2 stated that based on the allowable NOx emissions rate of 1,067 lbs/day there would also be that same amount of fine particulate matter will be released into the atmosphere.

Response:

The turbine permits have separate NOx and particulate emission limits. The particulate emissions include fine particulates (<2.5 microns). The Department has determined that fine particulate emissions would not exceed 1,022 lbs/day and 489 lbs/day firing ULSD and natural gas respectively. The commenter may be referring to secondary formation of particulate matter where some fraction of the exhaust gases are converted into particulate due to atmospheric conditions. The modeling analysis completed by the Department concluded that any secondary PM formation that would occur from NOx, SOx, and ammonia emissions will be away from the local area and insignificant. This is due to the slow reaction time, transporting and dispersion of the emissions away from the localized area.

20. Commenter 51 questioned how DEEP could approve this plant when the electricity will likely go to Massachusetts and Rhode Island.

Response:

The Siting Council's approval of this site considers both local and regional needs. ISO-NE is responsible for the power system planning and has determined that CPV's project is needed and plans for it to be on-line in 2018.

Revocation Permit Numbers 144-0010, -0011, -0015, -0016, and -0018

Permit numbers 144-0010 (turbine), 144-0011 (turbine), 144-0015 (boiler), 144-0016 (fire pump), and 144-0018 (emergency engine) were issued for this site in 2004. Since some of the original emission reduction credits (ERC) purchased to support those permits will be used for this new project the permits numbers 144-0010 and 144-0011 cannot remain as active permits when the discounted ERC's are transferred to permit numbers 144-0023 and 144-0024. Therefore, CPV submitted a revocation request on November 3, 2015, application number 201508529, for permit numbers 144-0010 (turbine), 144-0011 (turbine), 144-0015 (boiler), 144-0016 (fire pump), and 144-0018 (emergency engine). Normal delegation of permit revocations, initiated by the permittee, resides at the director level. Since both of these transactions should occur at the same time, it is recommended that the revocation approval be done at the Deputy Commissioner's level if the new permits are granted. The permittee's request for revocation is contingent upon issuance of the new permits. CPV has waived their right to request a hearing on the revocations so that the new permits can be issued immediately rather than waiting for 30 days for the revocations to take effect.

Recommendation

After reviewing all of the comments received, it is recommended that the air permits be issued with no changes except to incorporate the NOx emission reduction credits:

✓ The Bureau of Air Management, Administrative Enforcement section has approved 235 tons/year of NOx emission reduction credits (ERC) to offset the allowable NOx emissions from all NOx emitting sources associated with this project. [see electronic mail message from M. LaFleur, 10/29/15]

Part VI.A of the turbine permits now includes the 235 tons/yr of external emissions reductions (ERC) that CPV Towantic holds to offset the total NOx emissions that are allowed by permits. The offsets are from the following sources:

- 106 tons from Consolidated Edison Company of New York: NY-NY-DEC-2-6301-00006-106
- 110 tons from Akeida Capital Management LLC: CT4NOX00-015-0045-7888-110
- 19 tons from Sikorsky Aircraft Corporation: CTNOX1011-178-0039-19

The Akeida Capital Management offsets were created by the shutdown from PSEG Unit 2, Bridgeport, CT. The Sikorsky Aircraft Corporation were created from a shutdown of a boiler at their Stratford, CT facility.

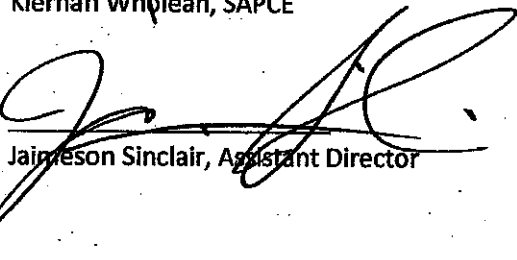
All fees, including the public notice, have been paid by the applicant.


James Grillo, APCE

11/20/15
Date


Kiernan Wholean, SAPCE

20 Nov 15
Date


Jameson Sinclair, Assistant Director

11/25/15
Date

Appendix A

List of Commenters

Written Commenters

- | | |
|---------------------------------------|-----------------------------------|
| 1. US Environmental Protection Agency | 2. Paul Coward |
| 3. Rochelle Gershenow | 4. Timothy Watkins |
| 5. Peter Polstein | 6. David Gliserman |
| 7. Jerry Fogel | 8. Randolph Brown |
| 9. Ann Marie Gazi | 10. Patricia Grossarth |
| 11. Ed Spruck | 12. Robert McCarney |
| 13. Jerry Fogel | 14. Janet Fisher |
| 15. Laurie Reinheimer | 16. Roberto Carvalho de Magalhaes |
| 17. Mike Friedmand | 19. Dr. Date Friedman |
| 20. Brett Pierce | 21. Robert Fuller |
| 23. Vincent Calio | 24. Dr. Stephen Widman |
| 25. Michael Costantini | 26. Robert Clark |
| 27. John Retartha | 28. Diana Cincogrono |
| 29. Carl DeMilia | 30. Ralph Mcinney |
| 31. Jessica Widman | 31a. Tom Strang |
| 32. Tom Sirignano | 33. Larry Consiglio |
| 34. Linda Zbriger | 35. Maureen Consiglio |
| 36. Ruth Schiff | 37. Janice English |
| 38. Marilyn Regnaud | 39. Brad Simon |
| 40. Norma Eves | 41. James Eves |
| 42. Susan Carella | 43. Larry Barnes |
| 44. Barry Jacob | 45. Betty Jane |
| 46. John Munno | 47. Heather Gatesman |
| 48. Gladys Weisman | 49. Jan Hodgson |
| 50. Cinny Chapin | 52. Patricia Weil |
| 53. Pat LaMarco | 54. Mike Flanagan |
| 55. Tom Assheton | 57. Nancy Morrow |
| 59. Rina Cohn and Larry Simms | 60. Gordon Olsen |
| 61. Peter and Sandra Hohlfeld | 62. Marilee Tilman |
| 63. Diane and Fred Lendroth | 64. Eric and Kathy Olsen |
| 65. Ray Petrorazio | 66. Tyler Otis |
| 67. Barbara Swrydenko | 69. Susan Cote-DeMilia |
| 70. Carol Howard | 71. Mary Larkin |
| 72. Francis M. McDonald | 73. Peter Petrochko |
| 74. Thomas Adamski | 75. Liza Logan |
| 76. William Duesing | 78. Arnold Piacentini |
| 79. Elisabeth Verrastro | 80. Jessica Jensen |
| 81. Dennis Jensen | 82. Charles Henry |
| 83. Richard Larson | 84. Diana Larkin |
| 85. Shea Brown | 86. Andrew Skipp, Jr. |
| 87. Marian Larkin | 88. Casey Larkin |
| 89. Brian Logan | 90. Dr. Scott Peterson |
| 91. Joann Briganti | 92. Laura Piechota |
| 93. Mary Lee Larking | 94. Melissa Guarracino |
| 95. Brooke Hourigan | 97. Lorraine Consiglio |
| 98. Heidi Roddy | 99. Peter Thomas |
| 100. David Forber | 101. Tara Consiglio |

- 102. Carol Depalma
- 105. Barbara Berg
- 107. Patricia M. Kegerman
- 109. Bernice Shilian
- 111. William and Regina Roper
- 114. Ed Fabian
- 116. Paul Carlino
- 118. David Templeton
- 120. Roseann Burstiner

- H1. Joan Peterson
- H3. Paul Coward
- H5. Robert Normandia, MD
- H7. Peter Bunzi
- H9. Jeff Manville
- H11. Ken Parks
- H13. Kathy Johnson
- H15. John Munno
- H17. John Peterson
- H19. Lauren Blair
- H21. Frank McDonald
- H23. Kevin Zack
- H25. Mat Caruso
- H27. Naomi Mohr
- H29. Senator Joan Hartley
- H31. Kevin Wood

- 104. Senator Joan V. Hartley
- 106. Kerry and Judy O'Donoghue
- 108. Thomas Lanza
- 110. Peter Bunzi
- 112. Bob and Irene DiMantoua
- 115. Town of Middlebury
- 117. Linda Hannon
- 119. Jeff Gustatis
- 121. Wayne McCormick, David Gliserman, Peter Polstein, Paul Coward

Hearing Commenters

- H2. Dr. Scott Peterson
- H4. Rochelle Gershenow
- H6. Wayne McCormack
- H8. Philip Dooley
- H10. Heather Gatesman, APRN
- H12. Bob Bellemare
- H14. Judy Allen
- H16. Bill Duesing
- H18. Brian Logan
- H20. Jane Maher
- H22. Marian Larkin
- H24. Donna McKenna
- H26. Alan Mohr
- H28. Francis Teodosio
- H30. Peter Protrosko

Appendix E

CSC Dispersion Model Exhibit – January 30, 2015

Witness: Lynn Gresock
Fred Sellars

2q -Connecticut Siting Council Second Late-Filed Exhibit:

Provide a report or analysis that depicts the dispersal of particulate matter from the power plant into the immediate area.

Response:

A comprehensive air quality impact analysis was submitted in support of the Facility's air permit application. The Facility's maximum modeled particulate matter (PM2.5) concentrations in the area are shown on the attached figure. As shown, the Facility's maximum annual average PM2.5 impacts across the entire area will be a small fraction of the United States Environmental Protection Agency's (USEPA's) National Ambient Air Quality Standards (NAAQS). As required by the Clean Air Act, the USEPA sets the NAAQS through a rigorous scientific process at levels determined to be protective of the health of the most sensitive individuals (e.g., children, the elderly, chronic asthmatics and people with other pulmonary diseases), with an added margin of safety. The annual average PM2.5 NAAQS is 12 $\mu\text{g}/\text{m}^3$. As shown on the attached figure, the Facility's maximum modeled PM2.5 impact, conservatively assuming year-round oil firing (even though the Facility's annual oil use would be limited to 720 hours) is 0.21 $\mu\text{g}/\text{m}^3$. This level will occur very close to the fence line of the Facility and drop off rapidly with distance. When added to existing background levels (9.2 $\mu\text{g}/\text{m}^3$), compliance with the NAAQS has been demonstrated at the point of maximum impact, as well as everywhere else in the area.

To further protect the air quality in areas, like Oxford, that are currently in attainment of the NAAQS, the USEPA has also adopted Prevention of Significant Deterioration (PSD) Increments which represent cumulative levels below which any quality degradation in air quality would be considered insignificant. The PSD Increment for annual average PM2.5 concentrations is 4 $\mu\text{g}/\text{m}^3$. Maximum modeled impacts (based on the very conservative modeling assumptions described above) are well below the PSD Increment. In fact, maximum modeled impacts are a small fraction of the measured year-to-year natural variations in existing PM2.5 levels, which have ranged from 8.4 $\mu\text{g}/\text{m}^3$ to 9.9 $\mu\text{g}/\text{m}^3$ over the last four years. Therefore, in addition to maintaining NAAQS attainment, no significant deterioration in existing air quality levels will occur anywhere from Facility operation.

Tetra Tech specifically modeled the Facility's maximum impact on PM_{2.5} levels at several areas of concern and compared them to existing annual average levels, as well as the NAAQS:

- The highest concentration at the Middlebury town line is 0.15 µg/m³, 1.3% of the NAAQS and 1.6% of existing levels. As shown on the attached figure, maximum levels are much lower in the more populated areas of the town.
- The maximum concentration at the closest homes in Oxford Greens is 0.12 µg/m³, 1.0% of the NAAQS and 1.3% of existing levels.
- The maximum concentration at the Naugatuck State Forest is 0.07 µg/m³, 0.6% of the NAAQS and 0.8% of existing levels.
- The maximum concentration at the Westover School is 0.04 µg/m³, 0.3% of the NAAQS and 0.4% of existing levels.
- The maximum concentration at Quassy Amusement Park is 0.03 µg/m³, 0.25% of the NAAQS and 0.3% of existing levels.



AERMOD Predicted Concentration
Isopleth for Maximum Annual PM2.5 (5 year average)
Towantic Energy Center
Oxford, CT

Note: Concentration isopleths are presented for the worst case load conditions
(both turbines at 50% load firing oil, plus emergency diesel engine and fire pump engine)

● Towantic Energy Center

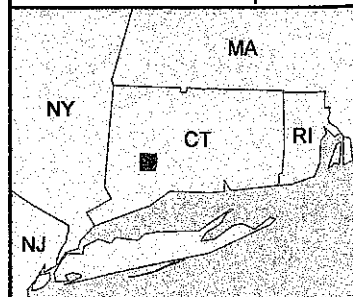
Annual PM2.5 Concentration Contour ($\mu\text{g}/\text{m}^3$)

0.01 0.02 0.03 0.04 0.05 0.06 0.07 0.08 0.09 0.10 0.11 0.12 0.13 0.14 0.15 0.16 0.17 0.18 0.19 0.20



0 0.25 0.5 1
Kilometers

Overview Map



Appendix F

Concerned Citizens for a Better Oxford Letter and Attachment

April 2, 2016

CERTIFIED MAIL- RETURN RECEIPT REQUESTED

George R. Temple, First Selectman
Town of Oxford
Oxford Town Hall
486 Oxford Road
Oxford, CT 06478-1298

RE: Agreement with CPV Towantic Power

Dear Mr. Temple,

We represent a group of concerned citizens whose paramount consideration has always been to assure the interests of the residents of Oxford. If the power plant is to be built, we want to make sure there is an Agreement in place that represents the best possible assurances for the health, safety and financial well-being of the residents of the Town.

We ask you, as our chief elected representative, to reconsider the motion tabled at the March 23rd Board of Selectmen Meeting concerning the CPV Towantic power plant resolution and open discussion on this vital issue that will affect every resident of this Town for the next 20 + years. We also propose that the motion be modified. Comparisons with Agreements signed by power companies with the Towns of Medway, Massachusetts and Bridgeport, Connecticut show that many provisions to assure health and safety must be vital components of any agreement. Attached is a list of considerations that need to be included in future negotiations.

Review of these concerns very clearly shows that expertise beyond local resources is crucial. This brings us to our overriding recommendation, which is that any future negotiations be conducted with expert advice from environmental and legal consultants who have recognized expertise and experience in the execution of agreements between towns and power companies.

Everyone should be in total agreement that the uncertainty of the present status of any agreement is not good for anyone. If CPV is the corporate citizen they claim to be, they should be willing to renegotiate. We know you have stated your intent to resolve ambiguities and we know Oxford voters want something better because they rejected CPV's proposed Amendments at the September Town Meeting and February Referendum. It is time for everyone to move forward and bring all parties together to procure the best possible agreement for Oxford.

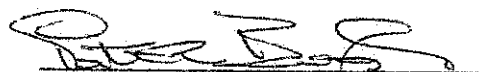
George R. Temple
April 2, 2016
Page 2

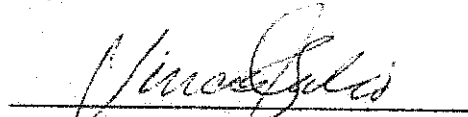
We welcome the opportunity for further discussion prior to the April 6 Board of Selectman Meeting and invite you to contact Wayne McCormack 203-888-3399. Thank you for your consideration.

Very truly yours,

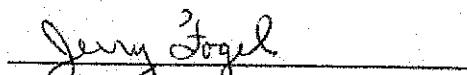
Concerned Citizens for a Better Oxford

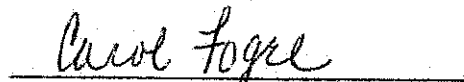

Wayne McCormack


Peter Bunzl

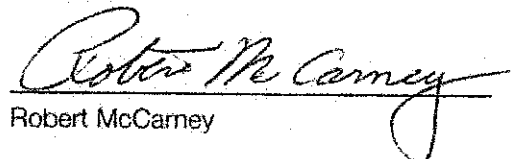

Vincent Calio

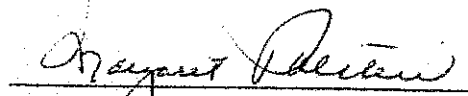

Paul Coward


Jerry Fogel


Carol Fogel


Rochelle Gershenow


Robert McCarney


Margaret Polstein


Ruth Schiff

Enc.

CC: Jeffrey J. Haney, Sr., Selectman
Kathy Johnson, Selectman
✓ Kevin Condon, Esq., Town Attorney
Jack Kiley, Chair, Board of Finance

Proposed Additions to the Agreement between CPV and the Township of Oxford

CPV shall fund Legal and Environmental Consultants to renegotiate and manage the final agreement which shall include but not be limited to the following items. The consultants shall be of Oxford's choosing and shall be independent of both parties. They shall have a minimum of 10 years' experience in the power generation industry. CPV shall provide Oxford with:

A. Safety

1. Annual emergency and hazmat training. *Per state of CT & Oxford Fire Dept sitting already plans + training in place*
2. Firefighting and other emergency equipment designed for dual fuel power plant service. *Per Fire Marshal: Plans + Equipment in place*
3. Assurances that all access to the site during construction to be solely via E Commerce Drive. Use of vehicles related to construction on local roads will be prohibited. *Already discussed w/ CPV; selection; Public Works*

How will workers be daily supply set to E-Commerce Rd

B. Environmental and Health

1. Fuel Oil mitigation - \$1,000 per hour oil when oil is used as fuel.
2. Perkin-Elmer or equivalent certified industrial air monitors to obtain independent critical air quality data. The quantity and placement of such monitors shall be as specified by the Environmental Consultant. The monitors must be installed a minimum of one year before system start up to collect baseline data then shall be maintained and calibrated as per the manufacturer's recommendations during plant operation.
3. Any and all reports required by DEEP within 10 days of filing, both quarterly and annually. Such reports shall be based on natural gas and fuel oil including, but not limited to, air quality, fuel consumption, on-site safety training, water usage, equipment maintenance, and any upset conditions should they occur. Such reports shall be analyzed by the Environmental and Legal Consultants as required.
4. Management services by the selected Environmental Consultant to monitor wetlands within a five mile radius of the plant site including Towantic Pond and the surrounding marshes. Should violations occur, CPV shall be responsible for the rectification of such damage in a timely manner.

All monitoring systems + testing + results data analyzed Conducted by CPV State Dept + Feds?

Already in place Wetland Enforcement officer + town

C. Financial

1. A fund to support environmental and health projects in Oxford similar to PSE&G's commitment to Bridgeport.
2. An emergency response fund to support any and all costs related to declared emergencies at the plant site. \$2,000,000 shall be held in escrow and replenished to maintain this level as the funds are put to use.
3. Compensation for the use of the local police department serving power plant concerns during and after construction.
4. Compensation for repair of damage to township roads caused by equipment during construction and eventual plant operation.
5. A bond covering all decommissioning costs including removal of buildings, equipment, fuel, storage tanks, stacks and other miscellaneous items. The land shall be recovered to its original state. The value of such bond and such decommissioning schedule to be determined by an independent consultant, the cost of which is to be borne by CPV.

6 million

In place
In place
Read the proposed
agreements?
Development or
otherwise?

A. Safety Concerns

- Fire
- Gas leaks from compressor station (California)
- Explosion (Middletown)
- Terrorist (power plant security)
- Light aircraft accident - plume
- Hazardous materials (hydrogen, ammonia, etc.)
- Oil spillage
- Evacuation procedure - residents
- Community alert system - accident or abnormal plant event, when they occur
- Traffic issues during and after construction

Possible Solutions

- First responder training each year over 20 years
- Purchase of a dry-chemical fire vehicle
- Purchase of a foam firefighting vehicle
- Emergency management fund
- Access to site during construction solely by E-Commerce Drive
- Emergency response fund in escrow to support any and all costs related to power plant incidents requiring town involvement
- * • Advice and oversight by impartial experts in addition to town personnel

B. Fuel Oil Mitigation

- Winter natural gas shortage
- CSC allows use of fuel oil up to 30 days/year
- * • DEEP stated that oil does increase emission rates for some pollutants including hazardous fine particulates (2.5 microns)
- Penalize CPV by payment (\$1000/hr) to town for burning oil
- Provide town with quarterly and annual reports regarding burning of oil within 10 days of DEEP filing

C. Industrial Local Air Monitors

- * • 584 tons/year ^{pollutants} reported by CPV: NO_x, VOC, CO, PM 2.5/PM 10, SO₂ and H₂SO₄
- * • When air pollution increases in an area, more vulnerable individuals like the elderly, the sick, and the very young might experience health problems (EPA)
- * • VOC are unsafe and carcinogenic at any amount (World Health Organization)
- Fine particulates (2.5 microns) promote and worsen respiratory and cardiovascular ailments, harm fetuses, increase autism.

3200 lb / day

- * • Harvard study (2015) found that even below the EPA limit, there were significantly increased rates of mortality (1% for each microgram increase) for New England seniors
- * • CT has the highest ozone levels in the NE, especially during summer coming from nine upwind states (Robert Klee, DEEP)
- * • Oxford is located in a non-attainment area for ozone and power plant only adds to the problem. Required to purchase NOx reduction credits (paper exercise) to offset emissions increase
 - Regulatory standards are revisions to health standards that result from industry challenges and lawsuits. They are a compromise reached that balance cost and benefits. They do not guarantee zero risk!
- * • Install local air monitors: Oxford Airport, Oxford Greens, Center School, Oxford High School, Pomperaug High School, Westover School
- * • Installation shall be performed at least 1 year before start-up to collect baseline data, then maintained and calibrated during plant operation
 - Local monitors intended to verify CPV claims and data.
- * • Mass. power plant pleaded guilty (\$8.5 million penalty) to tampering with air pollution monitoring equipment and reporting false data (2009 – 2011) about emission levels (2015)
 - Close scrutiny of CPV environmental reports submitted to DEEP
 - Town residents to be alerted immediately of any abnormal events, as they happen, not after the fact.