



# STATE OF CONNECTICUT

## CONNECTICUT SITING COUNCIL

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VIA ELECTRONIC MAIL

January 28, 2015

TO: Parties and Intervenors

FROM: Melanie Bachman, Acting Executive Director *MB*

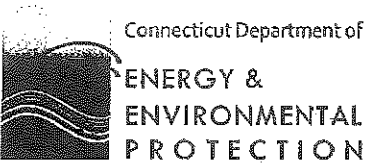
RE: **DOCKET 192B**- CPV Towantic, LLC Motion to Reopen and Modify the June 23, 1999 Certificate of Environmental Compatibility and Public Need based on changed conditions pursuant to Connecticut General Statutes §4-181a(b) for the construction, maintenance and operation of a 785 MW dual-fuel combined cycle electric generating facility located north of the Prokop Road and Towantic Hill Road intersection in the Town of Oxford, Connecticut.

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Comments have been received from Department of Energy & Environmental Protection, received January 28, 2015. Copies are attached for your review.

MB/cm

c: Council Members



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Affirmative Action/Equal Opportunity Emplc

January 28, 2015

Robert Stein, Chairman  
Connecticut Siting Council  
10 Franklin Square  
New Britain, Connecticut 06051

**RECEIVED**  
JAN 28 2015  
CONNECTICUT  
SITING COUNCIL

RE: CPV Towantic Energy Center  
Oxford, Connecticut  
Docket No. 192B

Dear Chairman Stein:

Staff of this department have reviewed the Petition of CPV Towantic, LLC to reopen Docket 192 to modify the previously-issued Certificate of Environmental Compatibility and Public Need for an electric generating facility in northern Oxford. A field review of the site was conducted on January 7, 2015. Based on these efforts, the following comments are offered to the Council for your use in this proceeding.

CPV Towantic, LLC proposes to construct a 805 MW gas-fired electric generating facility with limited use of oil as a backup fuel, employing two combustion turbines and a heat recovery steam generator, on the site that was the subject of the previous Docket 192 application. This parcel lies within an industrial zone and is adjacent to, and for the most part southwest of, the intersection of the Algonquin Gas Pipeline and a Connecticut Light and Power transmission line right-of-way.

#### Energy Supply Context

Estimates of generation capacity in New England that will be lost to retirement over the next five years vary from a conservative estimate of 3,200 MW for known, formally announced retirements, up to 8,300 MW of capacity being at risk of retirement in this time period, per ISO-New England's estimate. The addition of 785 MW (net output) of natural gas-fired power from a dual-fuel capability plant will both shore up the supply needs of Connecticut and the region and improve the reliability of the electric system. Further, the ability of the proposed facility to quickly ramp up or ramp down its output will allow it to quickly adjust to varying levels of generation from renewable energy facilities going onto the grid.

#### Importance of Dual-Fuel Capability

The DEEP Bureau of Energy and Technology Policy notes the system benefits provided by Towantic's dual-fuel capability and, in an effort to ensure the availability of Towantic's capacity at critical times, requests the Council's assistance in seeking some additional information from the applicant.

In Exhibit 2 of Towantic's Petition entitled *New England Wholesale Power Market Changes 1999-Present*, Towantic extensively discussed the "strain on the region's ability to secure deliveries of enough natural gas supply on the coldest days of the winter when heating demands are peaking and electricity demands are relatively high." Towantic also noted "recent experience has highlighted the value of fuel diversity and fuel security, and the contribution that dual fuel generators can make to system reliability. In fact, these resources were critical to 'keeping the lights on' during the winter of 2014. It is expected that oil inventory will continue to be instrumental in helping maintain system reliability in the future and will allow system operators to manage the power grid through periods of extreme cold because of the reliability of fuel supply inherent with oil-fired and dual-fuel generators. The addition of more dual-fuel capability through resources like Towantic can make an immediate and positive impact on system reliability locally and regionally." In its economic analysis, Towantic observed that "[t]he proposed Facility would be a large, efficient plant that would displace older, more expensive, less efficient, and higher emitting coal, oil, and gas-fired generation units" and "[a]pproximately 4,200 MW of unit retirements are incorporated [into Towantic's economic] model through the end of 2017, based on retirements that have been announced by ISO-NE and expected retirements listed in Ventyx Velocity Suite forecasts."

Presumably, the addition of the Towantic facility will hasten the retirement of more oil and coal facilities causing greater stress on the natural gas supply infrastructure. In response to Interrogatory 8 from the Siting Council, Towantic stated, "The Plant is expected to be able to operate at its maximum output (713 megawatts at 0 degrees F) for 52 continuous hours using ultra low sulfur distillate (ULSD). On-site water storage and the maximum daily water quantities provided by Heritage Village Water Company (HVWC) will be the limiting factors. HVWC indicated that if additional water supply is available (which is more likely in the winter months than summer months), it would be willing to sell the additional water to CPV Towantic, enabling additional continuous hours using ULSD firing. If water supply is not the limiting factor, the on-site ULSD storage would allow 68 hours of operation at maximum output prior to the need to refill the ULSD tanks."

In order to avoid or minimize the potential that the addition of the Towantic facility may exacerbate the gas infrastructure constraints during the winter months, DEEP would like to further explore the availability of the oil-burning capacity of the plant during times of peak natural gas demand. Accordingly, DEEP would like the Council to obtain answers to the following questions:

1. Given that Towantic has qualified for the ISO-NE Forward Capacity Auction in February, how does Towantic expect to perform to meet its obligations under its Forward Capacity Market contract with its penalties and incentives? Specifically,
  - a. Has Towantic modeled when it expects to meet performance obligations? Over perform? Underperform?
  - b. Does Towantic expect, in the absence of gas infrastructure expansion, to not operate or significantly reduce output during certain winter periods? If so, under what conditions?
2. Has Towantic explored establishing the conditions under which HVWC will sell additional water to Towantic during periods of available supply such that Towantic can operate beyond 52 continuous hours using ULSD? If not, why not?
3. What is Towantic's plan for resupplying its ULSD tank?

4. What plans does Towantic have for extending the 68 hours of operation using ULSD during extended cold periods, i.e. can the tanks be continuously refilled (assuming available water supply)? How long would it take for Towantic to refill its ULSD tank?
5. What is the feasibility of increasing on-site water supply to extend the continuous oil-fired operation beyond the 52 hours of operation?
  - a. What are the site limitations?
  - b. What are the economic limitations?
  - c. What are the permitting limitations?
6. What is the feasibility of increasing on-site ULSD supply to extend the ability to extend the continuous operation beyond the 68 hours of operation?
  - a. What are the site limitations?
  - b. What are the economic limitations?
  - c. What are the permitting limitations?
7. What are the economic limitations of securing firm natural gas contracts?
8. What is the economic comparison of securing firm natural gas contracts to the cost of maintaining dual-fuel capability? Please describe capital, operational, and running costs.

#### Project Site Description

The proposed project site is a 26-acre parcel in an industrially-zoned area east of the Waterbury-Oxford Airport. The majority of the site is wooded, with some meadow area including most of Parcel 9A on the southern end of the project site, as well as the CL&P right-of-way running across the northwestern corner of the project site and the area labeled as Wetland 1. The Algonquin pipeline right-of-way borders the project site to the north, while the Algonquin compressor station abuts the property on the east. The access road to the compressor station forms the southern and southeastern site borders, while Woodruff Hill Road is the western boundary.

The CL&P transmission line right-of-way which crosses the northwestern corner of the Towantic property contains Wetlands 2 and 3, as labeled in the Petition. These two wetlands would not be impacted by the proposed project.

Wetland 1 is a wet meadow hillside seep and is accurately described in the Petition. The upstream end of Wetland 1 appears more as a pile of rocks than as the stone wall described in the Petition, and the wetland continues maybe ten yards beyond these rocks into the adjacent meadow. Goldenrod is the dominant cover with some blackberry and multiflora rose also present.

Wetland 4, which was flagged on the site, is a shallow V-shaped pit, and was iced over at the time of the DEEP site review. Each axis of the V is about 20' long. This wetland has no surface inflow or outflow or hydrologic connection to any other watercourse or wetland. Approximately 200' west of Wetland 4 is another larger and deeper pit, approximately 8' by 25', marked by an iron stake but not flagged. Perhaps this pit is newer in origin than Wetland 4 and has not had time to develop any wetland soil, but it is highly similar in appearance to it.

The forest cover on the site consists mostly of red maple at light to moderate stand density, with lesser red oak, black oak and ash components, the largest of the latter three species reaching 24" dbh. An abandoned, well rusted car, possibly a Ford Escort, just off the Algonquin pipeline

right-of-way, is the only sign of debris or disposal on the project site, though the cul-de-sac at the end of Woodruff Hill Road hosts some trash as well as a couple of sofas.

Parcel 9A, the southern portion of the project site, has been hayed, mowed or otherwise maintained as grassed field much more recently than the adjacent meadow to the north, which has tall goldenrod and is starting to successionaly revert. Though the interior portion of Parcel 9A approximates level, the property slopes steeply down toward Woodruff Hill Road on the west and to the compressor station access road at its southern border. The eastern, wooded portion of Parcel 9A also slopes, more gradually, to the east toward the compressor station access road.

#### Towantic Energy Center Water Use

The availability of adequate water to meet the needs of the Towantic facility during times of operation on ultra-low sulfur distillate oil were highlighted by DEEP in our comments on the Docket 192 application on March 15, 1999 and this continues to be a relevant issue. Since the time of the Docket 192 proceeding, an interconnection between the Connecticut Water Company and the Heritage Village Water Company has been constructed. A DEEP Diversion Permit, issued in 2007 for a period of five years and renewed in 2012 for another five years, authorizes the diversion of 315,000 gallons per day from the Connecticut Water Company to the Heritage Village Water Company. The Connecticut Department of Public Health has issued a Permit to Sell Excess Water to the Connecticut Water Company for a volume of 500,000 gallons per day. We understand that discussions between CPV Towantic and the Heritage Village Water Company about water supply are on-going.

While constraints to natural gas delivery are likely to be associated with winter cold snaps, the low flow periods of the Pomperaug River and the associated impacts to the Heritage Village Water Company's ability to supply water are likely to occur in summer, providing a favorable non-alignment of low supply and high demand conditions. The incorporation of two 875,000 gallon water storage tanks as part of the Towantic project will provide two full days of the plant's water needs when operating on ULSD, in addition to supply from Heritage Village Water Company.

Natural gas constraints from a winter cold snap are unlikely to last beyond a few days. Heritage Village Water Company and on-site storage of water should be sufficient to meet operational needs in such situations but, as mentioned earlier, it may be worthwhile to investigate opportunities to augment the volume of on-site storage for such contingencies.

#### Air Permits

New Source Review (NSR) Permits from DEEP will be required for five components of the Towantic powerplant. These are the two combustion turbines, the emergency diesel generator, the diesel fire pump and the natural gas-fired auxiliary boiler. The draft permit language for the combustion turbine permit is nearly finalized and should be complete by mid-February. Modelling analysis for the plant's emissions is currently underway and should be complete in approximately the same timeframe barring any changes to modelling inputs.

In addition to the NSR Permit, a Title V Permit will be required. Application for the Title V Permit would be submitted after the facility goes into operation, as the total facility will be

considered a major source once NSR permits are issued. The facility will also be subject to the Acid Rain Program.

The project will require that certified NOx emission reduction credits are obtained at an offset ratio of 1.2 to 1 to offset the allowable emissions increase because the plant is located in a non-attainment area for ozone. One hundred and seventy-seven tons per year of offsets were acquired for the Towantic plant at the time of the previous proposal but 57 additional tons per year of offsets are now necessary because of the larger size of the project and its increased potential to emit (PTE). These additional offsets must be purchased before the final permits are issued.

#### Wastewater Discharge Permit

The wastewater discharge from the proposed Towantic powerplant would go to the Naugatuck wastewater treatment plant which has indicated it has the capacity to process this discharge. Updated figures from CPV Towantic indicate a design discharge of 6,480 gallons per day from the plant. Three discharges which were included in the previous draft permit, namely the wastewater from the pH adjustment tank, boiler blowdown, and discharge from the wet surface air cooler, have been eliminated from the current proposal. Finalization and issuance of the Wastewater Discharge Permit will not occur until completion of the Towantic facility.

#### Stormwater Permits

The CPV Towantic project will require approval from DEEP for its stormwater discharges. To date, no registration has been received under either the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities or the General Permit for the Discharge of Stormwater Associated with Industrial Activities. For projects where one to twenty acres of land will be disturbed by construction activity, the registration must be submitted at least 60 days prior to the commencement of construction activities. For projects disturbing in excess of twenty acres, the registration must be received at least 90 days in advance of the commencement of construction activities. Thus, it is not unexpected that the stormwater general permit registrations would not have been submitted as of this time.

#### Natural Diversity Data Base Listed Species

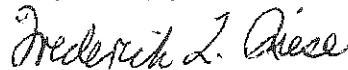
The Petition contains a June 10, 2014 letter from Elaine Hinsch of the DEEP Wildlife Division to CPV Towantic's consultant listing the red bat (*Lasiurus borealis*), the hoary bat (*Lasiurus cinereus*), the silver-haired bat (*Lasionycteris noctivagans*) and the eastern box turtle (*Terrapene carolina carolina*) as Species of Special Concern which could be located on the project site. Appropriate seasonal work restrictions and mitigation measures are provided. On page 39 of the Petition, CPV Towantic commits to the May 1 through August 15 clearing work prohibition and the retention of larger trees where possible on the site to minimize impacts to the three bat species, and to the selection of appropriate construction practices to minimize eastern box turtle impacts. The applicant and the Council are directed to the condition on page 3 of the DEEP letter which directs that if the project is not implemented within 12 months of the June 10, 2014 letter, another DEEP Natural Diversity Data Base review should be requested to obtain up-to-date information.

Wetland Impact Mitigation, Section 401 Water Quality Certification

DEEP is currently reviewing CPV Towantic's application for a Section 401 Water Quality Certification under the Corps of Engineers Programmatic General Permit. As discussed in the Petition, there will be impacts to two wetland areas on the project site. Mention is made on page A-21 of the Petition of the Corps of Engineers/ National Audubon Society Fee-in-Lieu Program for wetlands mitigation. On the State level, DEEP does not participate in this program. Mitigation either on-site or as close as possible to the impacted resources is preferred. DEEP is suggesting one possible mitigation effort might be the establishment of wetland vegetation in the bottoms of the two proposed stormwater treatment basins. This would involve designing the stormwater basins as wet basins rather than dry basins. DEEP has asked CPV Towantic to analyze this possibility. Although wetland creation in stormwater basins is not typically used for compensatory mitigation, this solution could be acceptable in combination with an in-lieu fee expected to be paid as part of the Army Corps mitigation.

Thank you for the opportunity to review this application and to submit these comments to the Council. Should you, other Council members or Council staff have any questions, please feel free to contact me at (860) 424-4110.

Respectfully yours,



Frederick L. Riese

Senior Environmental Analyst

cc: Commissioner Robert Klee