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February 16, 2015

**VIA ELECTRONIC MAIL AND HAND-DELIVERY**

Mr. Robert Stein, Chairman  
Connecticut Siting Council  
Ten Franklin Square  
New Britain, CT 06051

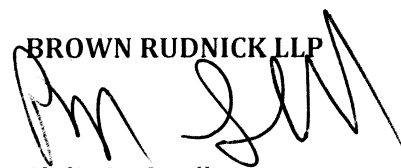
**RE: Docket No. 192B—Towantic Energy, LLC Motion to Reopen and Modify the June 23, 1999 Certificate of Environmental Compatibility and Public Need Based on Changed Conditions Pursuant to Connecticut General Statutes §4-181a(b) for the Construction, Maintenance and Operation of a 785 MW Dual-Fuel Combined Cycle Electric Generating Facility Located North of the Prokop Road and Towantic Hill Road Intersection in the Town of Oxford, Connecticut—CPV Towantic, LLC's Responses to Connecticut Department of Energy and Environmental Protection Questions Dated January 28, 2015**

Dear Chairman Stein:

Enclosed are an original and fifteen (15) copies of CPV Towantic, LLC's ("CPV") Responses to Questions 1-8 contained in the Connecticut Department of Energy and Environmental Protection's letter to the Connecticut Siting Council (the "Council"), dated January 28, 2015. Please note that these questions were also included in the Council's February 11, 2015 Pre-Hearing Interrogatories, Set Three, 1.a.-1.h.

Please contact Franca L. DeRosa, Esq. or me at (860) 509-6500 with any questions.

Very truly yours,

**BROWN RUDNICK LLP**  


Philip M. Small  
Counsel for CPV Towantic, LLC

PMS/jmb  
Enclosures  
cc: Service List

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CERTIFICATE OF SERVICE

This is to certify that on this 16th day of February, 2015, the foregoing document was sent via electronic mail, and/or first class mail, to the persons on the attached service list.

By:  \_\_\_\_\_  
Philip M. Small



**SERVICE LIST OF PARTIES AND INTERVENORS**

<b>Status Granted</b>	<b>Status Holder (name, address &amp; phone number)</b>	<b>Representative (name, address &amp; phone number)</b>
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Party	Naugatuck Valley Chapter Trout Unlimited	<p>Robert M. Perrella, Vice President TU Naugatuck/Pomperaug Valley Chapter 278 W. Purchase Road Southbury, CT 06488-1004 <a href="mailto:johnnytroutseed@charter.net">johnnytroutseed@charter.net</a></p>



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Intervenor (Approved 1/8/15)	Naugatuck River Revival Group, Inc.	Kevin R. Zak, President Naugatuck River Revival Group, Inc. 132 Radnor Avenue Naugatuck, CT 06770 203-530-7850 <a href="mailto:kznrrg@sbcglobal.net">kznrrg@sbcglobal.net</a>
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Intervenor (Approved 1/8/15)	Greenfields, LLC and Marian Larkin	Edward S. Hill, Esq. Cappalli & Hill, LLC 325 Highland Avenue Cheshire, CT 06410 203-272-2607 <a href="mailto:ehill@cappalihill.com">ehill@cappalihill.com</a>
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Intervenor (Approved 1/15/15)	Middlebury Bridle Land Association	Nancy Vaughan Middlebury Bridle Land Association 64 Sandy Hill Road Middlebury, CT 06762 203-598-0697 <a href="mailto:ndzjavaughan@gmail.com">ndzjavaughan@gmail.com</a>
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Intervenor (Approved 1/15/15)	Oxford Flying Club	Burton L. Stevens Oxford Flying Club P.O. Box 371 Woodbury, CT 06798 203-236-5158 <a href="mailto:bstevens@snet.net">bstevens@snet.net</a>

**Witness: Andrew J. Bazinet**

**Question CT DEEP-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?

**Response:**

- a. Towantic has conducted modeling and analysis to estimate whether the Project would be likely to earn bonuses or incur penalties under the performance incentive plan that will be implemented by ISO-NE in June 2018. Because of the unpredictable nature of the performance incentive/penalty-triggering scarcity events, it is not possible to definitively state whether the Project will be a net beneficiary of the performance incentive program. Historically, the balancing ratio (defined as contemporaneous demand divided by total installed capacity) during scarcity events has averaged approximately fifty percent. By definition, this means that approximately fifty percent of generators will be "offline." Since the performance program does not distinguish between generators who do not perform for economic reasons (i.e. not the recipient of a day-ahead award) and those who do not perform for "physical" reasons (i.e. planned/unplanned maintenance, transmission line outage, etc.), all fifty percent of the "offline" generators would be subject to non-performance penalties. During such an event (scarcity with fifty percent balancing ratio), the Project expects to be a net beneficiary under the performance incentive program due to: (i) its best-in-market combined-cycle heat rate and corresponding position in the supply stack; (ii) its dual-fuel capability offering flexibility in the event of a gas shortage coinciding with the scarcity event; and (iii) its reliability, as a new unit, relative to its 40-50+ year old peers.



- b. Towantic does not expect to operate less frequently or at partial load in the absence of further gas infrastructure expansion. The Project's dual-fuel capability will ensure that it is capable of continuing to operate in the event of a gas shortage.

**Witness: Andrew J. Bazinet**

**Question CT DEEP-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?

**Response:**

Towantic has had extensive discussions with HVWC regarding water supply. Based on those discussions, HVWC will be able to sell additional water to Towantic during periods of available supply. Further, HVWC will sell water to Towantic in excess of 218,000 gallons per day only to the extent that its "rest-of-system" demand and the total quantity of water supplied to Towantic in the aggregate do not exceed 2.05 million gallons per day.

**Witness:**     **Andrew J. Bazinet**  
                  **Jon Donovan**

**Question CT DEEP-3:**

What is Towantic's plan for resupplying its ULSD tank?

**Response:**

Towantic anticipates resupplying its ULSD tank in a manner generally consistent with the plan described in the "Fuel Oil Supply Plan" included in the 2001 Development and Management Plan submitted and approved during the original Docket No. 192 proceeding (attached). Following commencement of ULSD operation, ULSD deliveries by truck will begin to refill the storage tank. The tank is expected to be replenished at a rate of four tanker truck deliveries per hour and will continue until the ULSD tank has been fully replenished.

DOCKET NO. 192

TOWANTIC ENERGY LLC

CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED  
DEVELOPMENT AND MANAGEMENT PLAN  
CONDITION 2.d—WATER SUPPLY AND FUEL STORAGE/HANDLING PLAN

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In accordance with the Connecticut Siting Council's June 23, 1999 Decision and Order (Docket No. 192, Item 2.d) approving the Towantic Energy LLC's (Towantic) Application for a Certificate of Environmental Compatibility and Public Need (Certificate or Application), Towantic herewith submits the plan for water supply and fuel oil storage and handling for capability to burn distillate oil continuously for up to 720 hours per year for the Towantic Energy Project (Project). The following discussion provides a description of the plan.

**FUEL OIL SUPPLY PLAN**

During the Siting Council ("the Council") hearings conducted during the spring of 1999 for the Project, details were provided to the Council on plans for oil-fired operation and the provisions for support of such operations. The Project will construct two 886,000-gallon usable capacity on-site fuel oil storage tanks to support oil-fired operation. These on-site distillate fuel oil storage tanks will sustain plant operation at maximum electric generation for 67 hours. As soon as the first tank is depleted the second tank will be placed into service and distillate fuel deliveries by truck will commence to refill the first tank. This pattern will continue as long as needed. Locations of tank truck oil unloading facilities are shown on the Plot Plan (Drawing C005, included in Tab A of the Development and Management Plan): At the maximum fuel oil burn rate of 26,400 gallons per hour, four tanker truck deliveries will be required each hour, assuming approximately 7,000 gallons per tanker truck. An oil unloading area, equipped to unload four trucks simultaneously and transfer the fuel oil to the oil storage tanks, is located adjacent to the oil storage tanks. The oil unloading area contains four (4) fuel oil unloading stations. Each fuel oil unloading station contains a fuel oil transfer pump, an in-line strainer, a positive displacement flow meter, and associated piping and valves. The oil unloading area is outlined with a retention curb designed to contain approximately 20,000 gallons and contains an oil collection sump. Tanker trucks waiting to be unloaded will be queued along the east plant service road.

**WATER SUPPLY PLAN**

When burning fuel oil it is necessary to inject demineralized water into the combustion turbines along with the fuel oil in order to meet nitrogen oxide (NO<sub>x</sub>) emission standards. The amount of water (by weight) is approximately equal to the amount of fuel oil consumed. This requirement dictates the additional need for 469.5 gpm (0.676 mgd) of demineralized water when the unit is operated at full load on a 59°F day. When this value is combined with the normal plant full load steam cycle requirement of 21.7 gpm (0.031 mgd) the resulting total requirement is 491.2 gpm (0.707 mgd) of demineralized water. As indicated on the attached diagram there are other plant uses for potable water that when

**Witness:**     **Andrew J. Bazinet**  
                  **Jon Donovan**

**Question CT DEEP-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?

**Response:**

Provided that adequate supply of water in excess of 218,000 gallons per day is available to the Facility, the ULSD tank could be continuously refilled. It is worth noting, however, that even under the extreme conditions experienced in the 2013-2014 winter, the maximum duration of consecutive oil-fired operation would have been 192 hours and the average duration would have been less than 33 hours. Assuming ULSD deliveries of four trucks per hour and a per-truck capacity of 7,500 gallons, Towantic's 1.5 million gallon ULSD tank could be fully replenished from empty in approximately 50 hours.

**Witness: Andrew J. Bazinet  
Jon Donovan**

**Question CT DEEP-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?

**Response:**

- a. The vast majority of the project site is currently being utilized making radial expansion of the water storage tanks far more difficult than increases in height. However due to FAA-related considerations, CPV Towantic is planning on limiting the height of such storage tanks to no more than 876' AMSL as discussed in "c" below.
- b. There are no practical economic limitations to a four foot height increase in the water storage tanks.
- c. If the on-site water storage were increased, resulting in increased tank height, three permitting considerations would need to be addressed. The air dispersion modeling associated with the Facility's air permit review would need to be examined to determine whether the height increase and any other dimensional changes would have an effect on downwash (and, thus, on modeled impacts). Although unlikely to significantly influence the HRSG stack exhaust, some effect associated with the ancillary equipment (e.g., fire pump) could occur that would require updated modeling review. In addition, at their current height of 42' above ground level (or 872' AMSL), the water tanks do not penetrate the VFR horizontal surface area (876' AMSL). If increased water storage resulted in tank elevations that exceed 876' AMSL, an additional filing would be required with the FAA. At a tank height of 46' or 876' AMSL, there would be 194,000 gallons of incremental water storage capacity resulting in 5-6 hours of additional, continuous ULSD operation.

**Witness:**     **Andrew J. Bazinet**  
                  **Jon Donovan**

**Question CT DEEP-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?

**Response:**

- a.    The vast majority of the project site is currently being utilized making radial expansion of the ULSD storage tank far less likely than increases in height, however due to FAA-related considerations, CPV Towantic is not planning on increasing the height of such storage more than 878' AMSL, as currently designed.
- b.    There are no practical economic limitations.
- c.    Permitting considerations associated with increasing the size of the ULSD storage tank would be similar to those described above in the Response to Q-CT DEEP- 5.c. Specifically, modification of the height of the ULSD tank would require consideration for air permitting and FAA review.

**Witness: Andrew J. Bazinet**

**Question CT DEEP-7:**

What are the economic limitations for securing firm natural gas contracts?

**Response:**

Towantic has had multiple discussions with Algonquin but was not able to be included in Spectra's upcoming upgrade projects. As Towantic has previously stated, securing a contract for the firm gas transportation of natural gas is not currently feasible as a result of the incompatibility between Towantic's development schedule and that of the various pipeline expansion projects currently contemplated along the Algonquin pipeline that will serve the Project.

However, even if firm gas transportation were available in the context of Towantic's development schedule, the Project would be severely disadvantaged economically by a hypothetical firm gas transportation contract. Current estimates place the cost of firm gas transportation at approximately \$1.50/MMBtu. This cost, multiplied by Towantic's maximum daily gas requirement of approximately 137,000 MMBtu per day, would represent an additional fixed operating cost in excess of \$70mm per year. Such a cost would roughly triple Towantic's projected fixed operation expense. Finally, ISO-NE's tariff does not currently offer any mechanism through which a generator could recover the cost of securing firm gas transportation.



**Witness: Andrew J. Bazinet**

**Question CT DEEP-8:**

What is the economic comparison of securing firm natural gas contracts to the cost of maintaining dual-fuel capacity? Please describe capital, operational, and running costs.

**Response:**

As stated in the Response to Q-CTDEEP-7, a contract for firm transportation of natural gas for the Facility would cost in excess of \$70 million per year and require a long-term (i.e., 10+ year) contractual commitment. The \$70 million cost of a single year of firm gas transportation would exceed the sum of the initial capital costs of installing the dual fuel equipment and of the present value of the ongoing operating expenses associated with dual-fuel operation.