Witness: See interrogatory responses
Submitted on February 16, 2015

Question CSC-1:

The comments from the Department of Energy and Environmental Protection (DEEP) dated January 28, 2015 contained several questions. Please address these questions from DEEP.

a. Given that CPV Towantic, Inc. (CPV Towantic) has qualified for the ISO New England (ISO-NE) Forward Capacity Auction (FCA) in February, how does Towantic expect to perform to meet its obligations under its Forward Capacity Market contract with its penalties and incentives? Has Towantic modeled when it expects to meet performance obligations? Overperform? Underperform? 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?

b. Has CPV Towantic explored establishing the conditions under which Heritage Village Water Company (HVWC) will sell additional water to Towantic during periods of available supply such that Towantic can operate 52 continuous hours using ultra-low sulfur distillate fuel (ULSD)? If not, why not?

c. What is Towantic's plan for resupplying its ULSD tanks?

d. 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?

e. What is the feasibility of increasing on-site water supply to extend the continuous oil-fired operation beyond the 52 hours of operation? What are the site limitations? What are the economic limitations? What are the permitting limitations?

f. 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? What are the site limitations? What are the economic limitations? What are the permitting limitations?

g. What are the economic limitations of securing firm natural gas contracts?

h. 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.

Response: See interrogatory responses submitted on February 16, 2015

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

Question CSC-2:

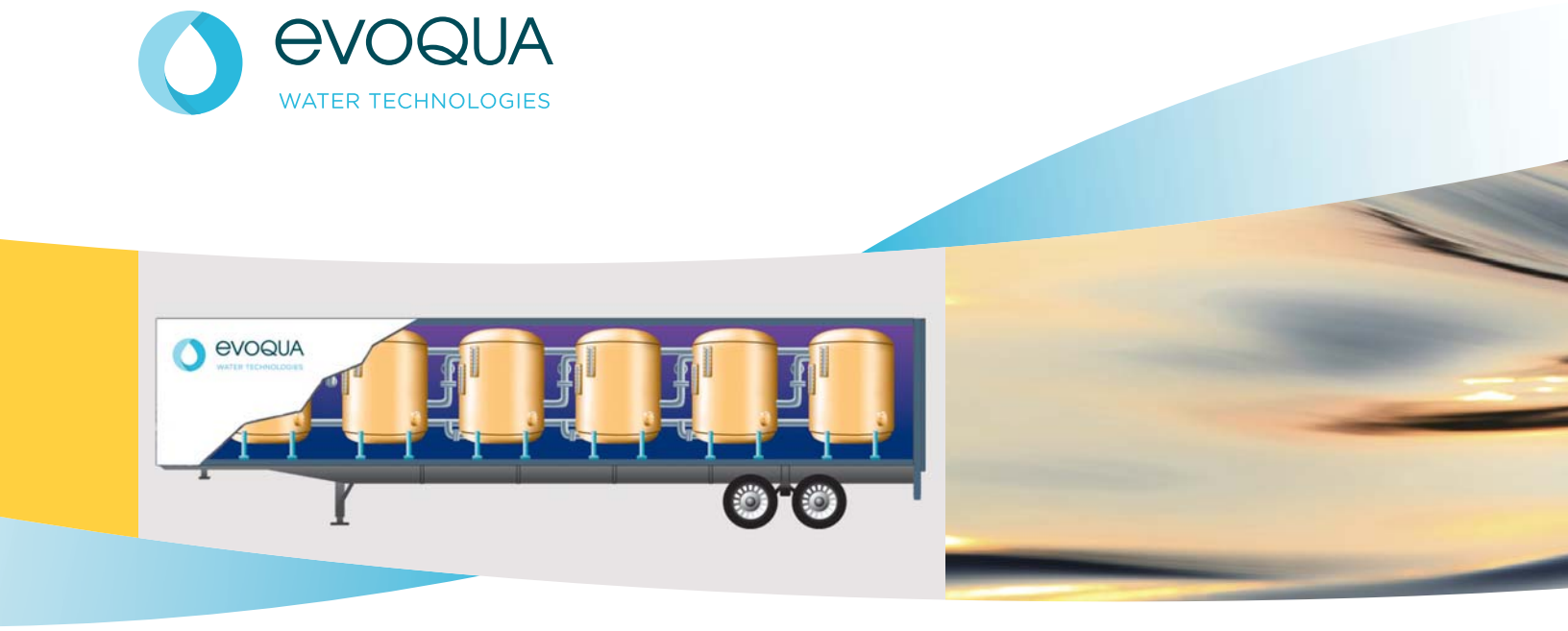
At what rate (in gallons per minute) can each demineralization trailer treat the incoming water? Does the demineralization process become a "bottleneck" in terms of the rate of water delivery to the plant? If yes, has CPV Towantic considered expanding its demineralization treatment capacity to increase the rate of supply of usable water? How often would the trailers require recharging and how long would it usually take? Would the recharging cycles be staggered so that one demineralization trailer would be used while one is recharging? Explain.

Response:

The water demineralization process will not be a bottleneck. Different vendors offer different trailer configurations resulting in different flow rates. However, based on the attached Evoqua literature, each trailer has the capacity to treat anywhere from 50-600 gallons/minute. Furthermore, the demineralized water storage capacity of 1.75 million gallons will provide a buffer and add significant flexibility in the operation of the Facility.

Regarding trailer recharging, CPV Towantic does not have enough information to calculate the number of grains per gallon of impurities that are present in water supplied by Heritage Village, but a conservative estimate for blended Heritage Village water and recycled HRSG blowdown that will be treated is 5 grains per gallon. On average, demineralized water will be made at a rate of approximately 131,000 gallons per day, requiring removal of 655,000 grains per day (5 grains/gal x 131,000 gal/day). If the MT 5000 trailer shown in the attached Evoqua literature is used, it would need to be recharged after a little less than 8 days of operation on average. This recharge rate will vary based on the Facility's water demands, which are driven by ambient temperature and the fuel used.

Lastly, the Facility has been designed with space for two trailers which will more than accommodate the peak demineralized water production of approximately 196 gpm (282,240 gal/day). In fact, one MT 5000 trailer would be sufficient. This and the aforementioned storage capacity provide significant reliability and flexibility benefits such that scheduling trailer recharges will be virtually seamless.



MOBILE DEMINERALIZERS SYSTEMS

MOBILE DI FOR MAXIMUM VERSATILITY

For over thirty years, Evoqua Water Technologies has met the short-term and emergency treated water needs of its customers using Mobile Demineralizer (DI) trailers. These trailers are the treatment of choice for zero-discharge applications and seasonal treated water needs. A reliable and extensive service network, an ever-expanding trailer fleet, and strategically located regeneration facilities allow Evoqua Water Technologies to serve its large North American customer base quickly and effectively.

Mobile DI services allow customers to meet their treated water needs without on-site waste generation, hazardous chemical handling or capital investment. Evoqua uses the following trailers to match customers' exact capacity and flow needs with the right solution:

- MT 5500 – This versatile DI trailer is normally configured with six vessels: two cations, three anions, and one mixed bed. Each vessel holds up to 100 ft^3 of resin for a nominal capacity of five million grains. Depending upon configuration, flow rates range from 100-400 gpm.
- MT 5000 – A six-vessel trailer with a nominal five million grain capacity. This two-train trailer offers 300 gpm per train (600 gpm total).
- MT 4500 – A four-vessel trailer, includes a weak-base anion vessel. With flows of 200 gpm and capacities of up to four million grains on certain feedwaters, this trailer is ideally suited for water with high free mineral acidity.
- MT 3000 – A three-vessel trailer with a nominal three million grain capacity and flow rates to 200 gpm.

Typical Uses:

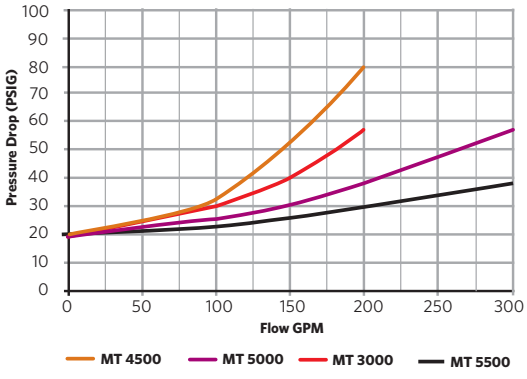
- Capacity expansions
- Zero discharge applications
- Pilot plant water needs
- Interim use until a permanent system is installed
- Process water quality changes
- Existing demineralization system environmental salt discharge problems
- Scheduled shutdowns
- Seasonal water needs
- Emergency water needs

A TRAILER FOR EVERY NEED

Series	MT 3000	MT 4500	MT 5000	MT 5500
	Effective for lower flow rate and low TDS water applications (especially for power industry)	Effective in low alkalinity/high FMA (free mineral acidity) applications	Highest flow rate per trailer in the industry, completely automatic two-train system	Versatility with 6x100 ft^3 vessels, the 5500 can be configured to provide highest capacity or most effective flow rate
Nominal exchange capacity (kgr)*	3,000	4,500	5,000	5,000
Vessels	3 tanks/trailer	4 tanks/trailer	6 tanks/trailer	6 tanks/trailer
Vessel composition	Carbon steel	Carbon steel	Carbon steel	Carbon steel
Vessel lining	Vulcanized rubber	Vulcanized rubber	Vulcanized rubber	Vulcanized rubber
ASME	Yes	Yes	Yes	Yes
Flow rate (gpm) min./max.	50/200	50/200	50/600	50/400
Inlet pressure (psig) min./max.	45/100	50/100	40/100	40/100
Inlet/outlet hose connections	2.5" Minimum	2.5" Minimum	2.5" Minimum	2.5"–4" Minimum
Weight (lbs.) shipping/operating	35,000/42,000	47,000/62,000	60,000/84,500	58,000/84,500
Dimensions – Length x Width x Height	32' x 8' x 13.5'	32' x 8' x 13.5'	43' x 8' x 13.5''	48' x 8.5' x 13.5'
Trailer electrical requirements	115 V, single phase, 60 hz, 10 amps			
Heater electrical requirements	(2) 115 V, single phase, 60 hz, 30 amps			
Instrumentation	Flow indicator and totalizer on main header; pressure gauges and sample ports; conductivity meters on primary and polish outlet ports			
Feedwater requirements	Turbidity < 3 NTU — Free chlorine < 0.25 ppm			
Typical water service quality	Conductivity: 1.0 - 0.1 µS-cm and silica leakage < 20 ppb			

*Based on a 1 µS-cm end point

PRESSURE DROP VERSUS FLOW



*These pressure drops are from the inlet of the trailer to the outlet connection. The MT 5000 has two trains @ 300 gpm each.

evoqua WATER TECHNOLOGIES

4800 North Point Parkway, Suite 250, Alpharetta, GA 30022

+1 (800) 435-3223 (toll-free) **+1 (978) 614-7233** (toll) **www.evoqua.com**

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

Question CSC-3:

Why are demineralization trailers used rather than a demineralization building? Or is the demineralization process one that can only be (economically or practically) performed off site?

Response:

Outsourced demineralization services via portable trailers represent a cost effective and reliable solution to making demineralized water. An on-site plant would be required to be sized for the maximum needs of the Facility which during the majority of the year, due to seasonal variations in demand, would result in stranded capacity, or an effective "overbuild". Also, the outsourced solution represents a more reliable solution with replacement trailers that can be made available upon very short notice versus an on-site treatment plant that could potentially suffer from extended outages due to equipment failure. Lastly, the trailers offer a more effective use of space which is also a significant consideration on the Towantic project site and by elimination of an additional on-site building, provide some visual impact mitigation.

Witness: **Andrew J. Bazinet**
Jon Donovan
Curtis Jones
Lynn Gresock

Question CSC-4:

Referencing the First Set of Late Filed Exhibits 2h regarding berms, could you consider a more modest berm say 20 feet high with vegetation to reduce visual impacts? Could you also lower the air cooled condenser via excavation to say 65 feet high instead of approximately 85 feet? Would this help reduce visibility and/or noise? Provide the pros and cons of this suggestion.

Response:

As discussed in LFE-CSC-2h, filed on January 22, 2015, an earthen berm would need to have side slopes of no less than three (3) horizontal feet for each one (1) foot of vertical height and a level top of ten (10) feet wide in order to maintain stability. Even at 20 feet high, such a berm would occupy an approximately 4 to 5 acres that are not available in the context of the site's areal constraints.

The air cooled condenser (ACC) has been lowered from 116 feet to 85 feet. Lowering the height of the ACC further via excavation is not practical, primarily, due to the reduced airflow associated with a configuration that calls for a shorter distance between nearby ground elevation and bottom of fan elevation. The reduction in airflow would reduce the effectiveness of the ACC, resulting in i) poorer plant efficiency and output; or ii) the installation of additional fans to maintain current performance. Even if the grading were sufficiently shallow so as to not reduce airflow, the resulting footprint would not be compatible with the site's areal limitations.

Further, a reduction in the height of the ACC would not appreciably provide for visual mitigation, as the nature of the generating equipment includes other tall features (e.g., the air inlet structure, heat recovery steam generator, stacks). While, from certain vantage points, less structure mass may be seen above the treeline, locations where views are possible would still be likely to see some elements of the Facility. In terms of noise, some change could result; however, the majority of the sound from the ACC is associated with the fan deck located at the top of the structure. Lowering this by 20 feet associated with a change in base elevation would not be expected to result in an appreciable change in sound levels.

Accordingly, if the base elevation of the ACC were lowered, air dispersion modeling would need to be reassessed to account for differences in the downwash effect. Stormwater flow reflected in the current design would also be changed and require redesign.

Visual mitigation using berms would tend to be most effective at blocking nearby lines-of-sight to the Facility. At a distance, particularly given the relative topography of the Facility site, the line-of-sight would tend to angle upwards such that the upper portions of Facility structures would be the most visible. Noise levels may be somewhat reduced immediately adjacent to the berm, but no appreciable change at the nearest residences would be expected since many of the most significant contributors to noise levels associated with the Facility (e.g., ACC, air inlets, stack) are at heights that would not benefit from this level of screening.

As a practical matter, the area surrounding the Facility has substantial existing vegetation that tends to interrupt lines-of-sight even under leaf-off condition.

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

Question CSC-5:

Has CPV Towantic considered making a larger footprint for the plant in order to spread out the Facility and possibly have lower heights for fuel and water storage, air cooled condensers, etc.?

Response:

CPV Towantic has enlarged the footprint for the Facility, relative to the 1999 approved Facility. Specifically, CPV Towantic has an exclusive option to purchase an additional 6.2 acres (Lot 9A) directly south of the original 20 acre parcel, which was the subject of the 1999 approval. Even with the additional 6.2 acres, the layout consumes the majority of the real estate leaving little flexibility for additional site plan adjustments radially.

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

Question CSC-6:

Has CPV Towantic considered the possibility of underground electrical transmission connections from the switchyard to the existing transmission lines? Explain.

Response:

The ISO New England (ISO-NE) steady state system impact study for CPV Towantic specified multiple required upgrades to their transmission system. Along with these upgrades, ISO-NE provided the design of the switchyard and interconnect substation. Towantic's 115kV breaker and one-half switchyard design from ISO-NE included; fourteen (14) circuit breakers, six (6) dead end structures, and the looping of new overhead conductor approximately 250 – 300 feet in length. As far as CPV is aware, underground transmission connections were not considered in the design of the interconnection between the switchyard and the existing transmission lines.

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

Question CSC-7:

Provide a high-level breakdown of the $1B project cost.

Response:

A high level breakdown of the project cost follows:

Equipment, Procurement and Construction:	$761 MM
Owner's Costs:	$239 MM
Total Cost:	**$1.0 Billion**

Owners Costs include development, financing, permitting, land acquisition, spare parts, etc.

Witness: Andrew J. Bazinet

Question CSC-8:

Regarding the University of Connecticut *Economic Impact Analysis of CPV Towantic LLC's Construction and Operation of an 805 MW Electricity Generating Facility in Oxford, CT* report (UCONN Report) dated January 2, 2015, how does the $1B estimated project cost fit in with the construction expenditures in Table 1 of the UCONN Report?

Response:

The University of Connecticut report attempts to quantify the costs of all goods, materials, services, etc. which would be procured within the State of Connecticut. In other words, each of the categories and amounts referenced in that report are subsets of the overall capital cost budget.

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

Question CSC-9:

Estimate the number of trucks per day visiting the site for construction and summarize their route to the site from Interstate 84. Also, indicate how many vehicles would visit the plant under normal operations; include the number of oil trucks, water demineralization trailer trucks, maintenance vehicles, etc.

Response:

Construction-Period Traffic

CPV expects an average of approximately 16 construction trucks per day and 300 worker vehicles at site per day throughout the duration of the construction schedule. It is expected that the greatest number of vehicles on-site will be during the middle 4-5 months of the construction period, when the highest number of workers will be on-site.

Any impacts associated with the construction of the Facility would be temporary in nature and will be greatly reduced with the construction of E-Commerce Road. Pursuant to the terms of the approved Development Agreement with the Town of Oxford, the Project, at its cost, will construct E-Commerce Road, which connects Woodruff Hill Road and Juliano Drive at the Oxford Airport. The construction traffic will be routed, to the greatest extent possible, to the below directions:

- Exit 16 off Interstate-84
- Strongtown Road (CT-188 South)
- Left onto Airport Road
- Left onto Christian Street
- Right onto Juliano Drive
- Left onto E-Commerce Road
- Left onto Woodruff Hill Road to site.

Due to the construction of E-Commerce Road, CPV believes the vehicles will have minimal to no impact on local traffic.

Operations-Period Traffic

Throughout the operational life of the Facility, the majority of traffic associated with Towantic's typical operation on natural gas will be limited to personal transportation used by the 20 to 25 full-time employees responsible for operating the plant. Chemicals deliveries, such as those providing aqueous ammonia or hydrogen, will result in approximately 2 to 4 truck deliveries per month, depending on the Facility's dispatch frequency. Similarly, the frequency with which the demineralization trailers will be exchanged is dependent on Facility dispatch, particularly in summer months when high ambient temperatures dictate use of the evaporative coolers. During periods of highest use, approximately 4-5 demineralization trailers will be exchanged each month, while cooler periods will require less than 3 trailers per month. Due primarily to the Facility's air-cooled design, deliveries associated with other consumables will be considerably less frequent, requiring just annual or semi-annual deliveries.

When operating on ULSD, the Facility will also require 4 oil tanker truck deliveries per hour between the hours of 7AM and 6PM until the Facility's oil storage tank has been fully replenished. Additionally, the increased water usage during ULSD operation will require more frequent exchange of demineralization trailers, but such an increase would likely constitute less than one additional trailer exchange per week.

Major deliveries associated with maintenance-related traffic will be very infrequent, with such events occurring over a 1 to 2 week period every 3 to 5 years, depending on the Facility's frequency of dispatch.

Witness: Lynn Gresock

Question CSC-10:

Regarding the Second Set of Late Filed Exhibits, 2b, what is the ambient air temperature assumed for the temperature and velocity profile of the stack exhaust? Please provide a temperature and velocity profile for the stack exhaust assuming the combustion of USLD (with the same still air and ambient temperature assumptions that were used for natural gas).

Response:

The ambient air temperature used in the calculations reflects annual average conditions, 50^{o}F.

Under ULSD firing, the stack exit exhaust temperature of 294.5^{o}F reduces to 93.8^{o}F within 250 feet of the top of the stack, and further reduces to 69^{o}F within a distance of 500 feet. The stack exit velocity of 68.8 feet per second (about 47 mph) reduces to 26.7 feet per second (16 mph) within 250 feet of the stack, and further reduces to 17.5 feet per second (11.9 mph) within 500 feet.

Witness: Fred Sellars

Question CSC-11:

What does the exhaust plume look like in terms of its color and being transparent versus opaque under worst-case conditions?

Response:

The exhaust is colorless and transparent under all operating conditions except when the ambient temperature is cold enough to cause the water vapor to condense. This will cause the plume to appear like a cloud or the water vapor plumes in the winter that one can observe from all stacks and chimneys, such as a home furnace, automobiles, or the vapor trail of an airplane.

Witness: Andrew J. Bazinet

Question CSC-12:

What is the status of CPV Towantic's participation in the latest ISO-NE FCA? Was CPV Towantic selected in the auction, and if so, for how many megawatts of capacity?

Response:

CPV Towantic participated and was selected in ISO New England's ninth Forward Capacity Auction (FCA9) which began and ended on February 2, 2015. The auction cleared approximately 1,000 MW of new capacity, including the proposed CPV Towantic, LLC's Facility at 725 MW.

Witness: Lynn Gresock

Question CSC-13:

If the stacks do not exceed 200 feet in height, why is lighting required?

Response:

As specified in Chapter 2, paragraph 20 of FAA's Advisory Circular 70/7460-1K CHG 2, any temporary or permanent structure that exceeds an overall height of 200 feet above ground level or exceeds any obstruction standard contained in 14 CFR Part 77 should normally be marked and/or lighted. However, the same section also makes it clear that the FAA has the authority, based on its consideration of aviation safety, to determine that lighting is not required for structure of that height and that lighting may be required for lower structures because of a particular location. In this case, the FAA has not yet completed its review so we do not know that lighting will be required. However, we expect that lighting requirements similar to those imposed on previous Determinations of No Hazard for the Facility will be reflected when the FAA issues its determinations.

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

Question CSC-14:

Have the economics of an on-site well supply versus the HVWC water supply been evaluated? Or has a hybrid system with on-site wells and outside HVWC water been considered? Isn't a 2 gallons per minute well yield considered low? What would be the depth of such a well? Has CPV Towantic any knowledge of flows for deep wells in the area. Have any permits for such been issued? Has CPV Towantic looked at that?

Response:

CPV Towantic has not explored the possibility of on-site wells as a source of water supply in depth. A well yield of 2 gallons per minute is a low yield. Based on a high level investigation, it is believed that: (i) on-site wells would not provide the appropriate yield for this Project; and (ii) the number of wells required to obtain the appropriate yield would not be feasible due to site constraints. See response to Q-CSC-30, dated January 26, 2015 and attached USGS Plate C-1.

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

Question CSC-15:

Has CPV considered partially buried water and fuel tanks in contrast to a fully buried water and fuel tanks to reduce its visibility via a lower height above grade.

Response:

The heights of the two (2) demineralized water storage tanks and one (1) fuel oil storage tank are not significant factors in the overall visual impact of the proposed Facility. All three (3) tanks have heights below 50 feet above grade. Since the tanks are considerably lower than other on-site equipment, CPV has not considered partially burying any of the on-site tanks.

Also, burying the tanks either partially or fully was not deemed practical due to the added cost and geotechnical complexity, as well as additional permitting requirements.

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

Question CSC-16:

Does HVWC have adequate facilities (main and pumping stations) to meet CPV Towantic's demands for water supply? If no, generally, what kind of Facility upgrades would be required? What kind of on-site water facilities would be required to secure supply from HVWC? If extensive water distribution facilities must be installed to supply water to the plant, have the alternatives of on-site water supplies been evaluated? If not, why shouldn't that be considered.

Response:

Generally, HVWC's existing facilities are sufficient to meet CPV Towantic's water supply requirements. The following equipment additions will be needed: (i) the tap and metering station at the Facility's point of interconnection (located at the Facility boundary) with HVWC's existing water line; and (ii) a pumping station that has been pre-funded by CPV Towantic in accordance with an agreement with the Town of Oxford.

See response to Q-CSC-14, dated February 11, 2015.

Witness: **Andrew J. Bazinet**
Fred Sellars

Question CSC-17:

Oxford has grown in both population, vehicle registrations, and commercial/industries development over the past 15 years. How has this growth compared with the proposed CPV Towantic plant in terms of water consumption, as well as pollution emissions from new buildings and vehicles? How would the predicated growth for the next ten years in Oxford conform with the impact of the CPV Towantic plant?

Response:

As projected in the original application for the Facility, population growth has continued in Oxford. US Census information[1] identifies the town population as having been 9,821 in the year 2000; and 12,683 in 2010. Current projections from the Connecticut State Data Center[2] reflect anticipated growth to 13,793 in 2015, 14,714 by 2020 and 15,530 by 2025.

Although an increase in population does increase activities that have the potential to increase water demand, advances in technology and conservation measures (such as low-flow toilets and showerheads) have occurred to offset the growth. The Facility, as an air-cooled electric generating Facility that conserves and recirculates most of its waste flows, has a significantly lower water demand than many similar combined-cycle facilities. Its maximum water demand, supporting the use of ULSD during limited periods when energy needs demand, will be limited based on restrictions anticipated to be placed on the Facility in its air permit, and may occur even more infrequently.

According to the USEPA, the average U.S. family uses more than 300 gallons per day (gpd) at home; the Facility, therefore, can supply enough electricity to serve 800,000 homes using, on average 66,900 gpd, or the quantity of water typically used by less than 225 homes. Note that the 2009 Heritage Village Water Company Water Supply Plan utilizes a residential per capita water consumption rate of 61.6 gpd, indicating good system efficiency compared to the U.S. average. Even so, the Facility's average water demand

---

[1] United States Census Bureau. *United States Census 2010.* http://www.census.gov/2010census/; United States Census Bureau. *United States Census 2000.* http://www.census.gov/main/www/cen2000.html

[2] UCONN. Connecticut State Data Center. Connecticut Population Projections 2015-2025. November 1, 2012 edition.

represents less than 10% of the total projected residential water use in 2025 (693,234 gpd of metered and unmetered residential water use in Table 18 of that report).

The USEPA and DEEP carefully consider trends in ambient air quality data in developing their rules and planning with regard to the protection and improvement of air quality. Specifically, DEEP implements control measures through its State Implementation Plan (SIP) to ensure that CT obtains and maintains compliance with the NAAQS. The NAAQS standards are reviewed periodically and new more stringent standards have been revised and/or created for all criteria pollutants over the past 15 years. This has resulted in increases in vehicle efficiency (reducing emissions), as well as the type of additional efficiency reflected in the updated Facility. These regulatory changes have also put pressure on older, higher-emitting sources, such that as these upwind (NY, NJ, PA, OH) sources retire and/or retrofit emissions controls, the amount of pollution that transports into the CT region decreases. The result can be tangibly seen in the following table that reflects substantial improvements in ambient air quality since 1999 for each of the pollutants for which the Facility is subject to PSD review.

Pollutant	**Averaging Period**	**Rank**	**Current Background Concentration (µg/m3)[1]**	**1999 Background Concentration (µg/m3)[2]**	**Reduction**
CO	1-Hour	2nd High	1,725	4,809	64%
	8-Hour	2nd High	1,380	3,550	61%
NO_2	1-Hour	98th Percentile	87	133	35%
$PM_{2.5}$	24-Hour	98th Percentile	24	43	44%
	Annual	Mean	9.2	17.2	47%
PM_{10}	24-Hour	2nd High	40	76	47%
[1] From Attachment L, Table L-9 in the PSD application					
[2] EPA 1999 Air Quality Statistics Report for New Haven County					

As for the future, programs like CSAPR will continue to drive reductions in emissions. New, highly efficient, natural gas based projects like CPV Towantic (through their low emissions, their offsetting effect through displacement of older units, and their purchase of Emission Reduction Credits) have driven regional emissions down considerably in the last decade and will continue to do so as the fleet of older power plants is replaced with newer ones. The Facility will be integral in supporting the Connecticut strategy outlined in Comprehensive Energy Strategy Section 51 - Comprehensive Energy Planning, by improving the efficiency of electric generation to Connecticut homes and businesses, displacing oil and coal firing with cleaner natural gas and ensuring cheaper, cleaner, and more reliable electricity.

Witness: Fred Sellars

Question CSC-18:

Are "offsets" available due to the conversion of about 2000 residential and commercial oil-burning heating customers to utilize natural gas?

Response:

To qualify as offsets for the Facility, emissions reductions must meet a number of criteria. Among these criteria are the requirements that the reductions be permanent, quantifiable, and federally enforceable. To meet these tests, emission reductions are usually required to have been generated by existing sources that hold air permits and who have quantified pre-reduction emission levels. To enforce the permanency and enforceability of the reductions, the donor source's air permits are required to be surrendered or modified. Reduction of emissions from residential sources does provide an air quality benefit. However, those reductions are not federally enforceable or quantifiable to the extent necessary to be accepted as offsets.

Witness: **Andrew J. Bazinet**
Curtis Jones

Question CSC-19:

Regarding the Test Pit Data from the Burns and Roe Enterprises, Inc. report dated January 2001, have any new test pits been excavated in the area of the relocated detention basins (north and south of the proposed Facility)? If yes, where is the data? If no, deep test pits need to be excavated in the area of the proposed detention basins and the information provided should include at a minimum: surface elevation, depth to water, checked for modeling to determine high water levels.

Response:

No new test pits or borings have been conducted on-site since the Geotechnical Investigation compiled by Burns and Roe Enterprises, Inc. in January, 2001.

Additional confirmatory test pits in the location of the detention basins have not been completed at this time. CPV will conduct additional confirmatory test pits in the area of the detention basins and submit this information as part of the D&M plans. The information provided will at a minimum contain the location of the test pit, the surface elevation of the test pit, the soil profile encountered, the depth of the test pit, the depth to mottling (if any), the depth to ground water (if any) and the depth to ledge (if any). Even though additional borings will be taken, CPV does not expect the soil characteristics to be any different from the borings taken in January 2001.

Witness: Curtis Jones

Question CSC-20:

As the soils on the site indicate very slow drainage characteristics and the original test pit date was observed in October and November, should new tests be performed and observed during the spring to better reflect high groundwater characteristics of the site?

Response:

Additional test pits on the site will be performed at the time of the confirmatory test pits for the detention basins. It is anticipated that these test pits will be completed in the April to mid-May time frame, which is the normal time of the high seasonal ground water table.

Witness: Curtis Jones

Question CSC-21:

Deep test pit #106, which appears to be the only deep test pit located on or near Lot 9A, was described as elevation 839.0, depth to groundwater 6.0', and groundwater elevation 833.0. The proposed southern detention basin is designed for a base elevation of 821' with the top of berm at an elevation of 824'. Where is the data that will support the construction of this detention basin and associated drainage features will not be under water and will function properly?

Response:

As noted in Section 6.3 of the Burns & Roe Geotechnical Investigation Report, if groundwater is encountered during construction it will be controlled utilizing conventional sump pump techniques.

After construction is complete, the stormwater renovation areas will retain pools of water. Any groundwater that seeps into the basin during periods of high groundwater will supplement the water in the pool. The outlet opening in the outlet structure is located at the bottom of the structure so that water levels will not rise due to the influence of groundwater. The water level will only rise during storm events when the flow of water is much greater.

Witness: Curtis Jones

Question CSC-22:

Three piezometers were installed in the detention pod area, since this area would be most influenced by the groundwater. The locations of the three piezometers do not reflect current conditions as to the location of the two proposed detention basins. Will piezometers be installed at the newly proposed detention basins to obtain a better understanding of the on-site groundwater behavior?

Response:

Yes, piezometers will be installed at the newly proposed detention basins to monitor the groundwater elevations.

Witness: Curtis Jones

Question CSC-23:

There is no documentation of deep test pits being dug in the northern portion of the site (where Stormwater Renovation Area B is situated), nor any data associated with the installation of piezometers. Is CPV Towantic planning on providing this type of groundwater information to the Council? If yes, when?

Response:

Yes, please see Response to Q-CSC-19, dated February 11, 2015.

Witness: Curtis Jones

Question CSC-24:

Page 17 of the Burns and Roe report states, "Due to the high content of fines in the on-site soils, precaution should be taken in order to assure that the material does not become excessively wet." Although this information is associated with fill, backfill and compaction requirements, very fine soils can lead to severe erosion problems. What special precautions will be undertaken at the site to control both on-site and off-site sedimentation problems?

Response:

A detailed Stormwater Management and Erosion Control Report has been submitted to the Siting Council. This report outlines the erosion control measures to be implemented on the site in anticipation of encountering fine grained soils as shown on Sheet C315. Additionally, site details and an erosion control narrative are included on Sheets C320, C321 and C320.

Witness: Curtis Jones

Question CSC-25:

A review of the application indicates two "stormwater renovation areas" and the incorporation of Low Impact Development (LID) principles. Please provide construction design details for the LID.

Response:

The plans in the Stormwater Management and Erosion Control Report incorporate the use of grass lined swales and crushed stone pervious surface treatment. The details for these measures are shown on Sheet C320 of the Stormwater Management and Erosion Control Report.

Witness: Curtis Jones

Question CSC-26:

Grass lined water quality swales have been proposed for the site. The swales are to provide for filtration and infiltration of stormwater coming off of the proposed access drive (E1, E2, D1, and C on Civil Map page C 310). Does this grass lined swale design take into consideration water entering the swale from the modified riprap emergency overflow component of the stormwater plan? Why would the design show an emergency spillway from a detention basin being discharged into a grass lined swale?

Response:

The location of the emergency spillway has been moved to the southern portion of Stormwater Renovation Area A. The emergency spillway consists of a riprap lined swale down to its termination at CB E1. The grass lined swale has been shortened by 180' to accommodate the riprap swale. The plans and details are shown in Appendix J of the Stormwater Management and Erosion Control Report.

Witness: **Curtis Jones**
Andrew J. Bazinet

Question CSC-27:

Water Quality Swale D2 appears to collect stormwater from the southern side of the access drive and some water from the drainage swales situated on the northern side of the access road. This stormwater appears to be discharged at the junction of Woodruff Hill Road and the driveway associated with the Spectra Energy Compressor Station. How do you propose to control such stormwater that the plans show draining onto an abutting property without any control structures? Do you have the right to drain the stormwater onto your neighbor's property?

Response:

Water Quality Swale D2 accepts water from the north side of the access driveway between CB D1 and CB C1 as well as the south side of the driveway. This areas is shown on the Drainage Area Map in Appendix A of the Stormwater Management and Erosion Control Report and is labelled PRDA6ND. There is an existing catch basin at the bottom of this drainage that the swale will discharge into. This catch basin is labelled as DP-6.

All of the stormwater runoff discharged at DB-6 is generated from Lot 9A. There is an existing storm drainage easement in place for Lot 9A to discharge stormwater across Lot 9 and ultimately into the existing detention basin on Lot 9B.

Witness: **Andrew J. Bazinet**
Jon Donovan
Curtis Jones
Dean Gustafson

Question CSC-28:

Regarding Tab C, page 22 of the *Environmental Overview in Support of Petition for Changed Conditions*, respond to the following:

a. CPV Towantic will monitor stormwater management facilities during construction to assess the presence of invasive species. Why is the monitoring only proposed for the stormwater management facilities and not the whole site? Why no long term monitoring and corrective action plan to address invasive species issues after completion of proposed Facility?

b. Bullet #6 states stockpiling of excavated soils will be separately stockpiled. What is the plan for these soils during and after construction? Don't want to transport invasive species on non-impacted areas.

Response:

CPV Towantic would be willing to implement the Invasive Species Control Plan for the whole site, both during and following construction. As indicated in the Response to the Council's Pre-Hearing Interrogatory Set Two, Question 7, the Invasive Species Control Plan would be in effect for a three-year period following completion of construction with the following success standards: 1) Management of invasive species will only focus on the following target invasive plant species: multiflora rose (*Rosa multiflora*); Asiatic bittersweet (*Celastrus orbicultatus*); winged euonymus (*Euonymus alatus*); honeysuckle bush (*Lonicera* spp.); and, Japanese barberry (*Berberis thunbergii*); and, 2) Remedial action will occur to control target invasive plant species if they are found to encompass more than 10 percent total aerial coverage. Annual monitoring reports that would include an evaluation of these success standards and any remedial action would be submitted to the Connecticut Siting Council no later than December 31 of each year.

Topsoil, which would have the potential to carry invasive plant seed stock, will be stockpiled separately from subsoils and stabilized during construction activities. All of the

topsoil will be reused on site to eliminate the potential for inadvertently transporting invasive plant material to ecologically sensitive areas.

Witness: Curtis Jones

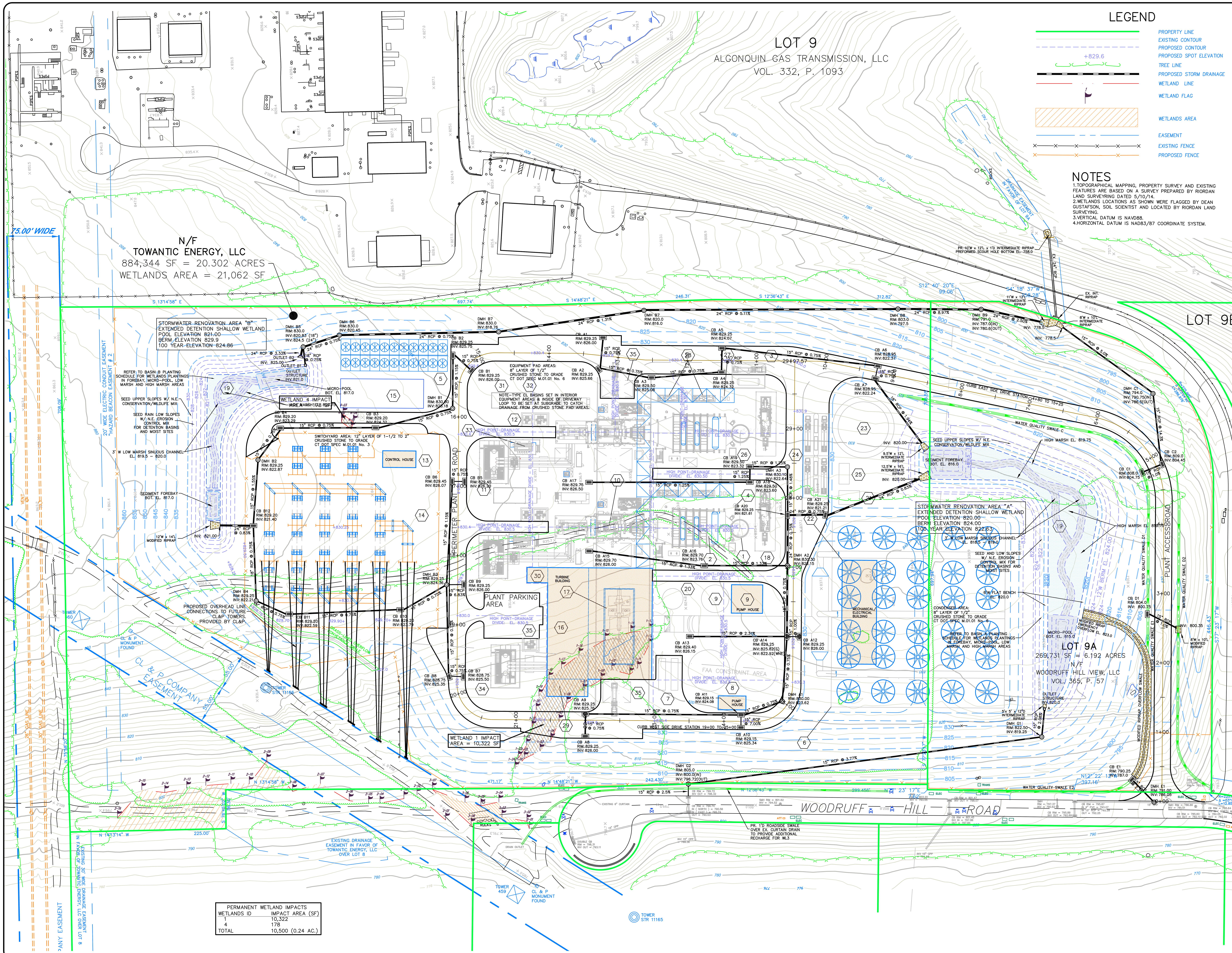
Question CSC-29:

What is being proposed to stabilize the inlet side of the storm drainage pipe for Stormwater Renovation Area B?

Response:

The two inlet pipe areas for Stormwater Renovation Area A are stabilized through the construction of riprap pads shown on Sheet C310 of the Site Plans. The sizing calculations for the two pads are shown in Appendix E of the Stormwater Management and Erosion Control Report.

A 5' x 5' riprap has been added to the inlet side of both outlet structures for Stormwater Renovation Areas A and B as shown on the attached Sheet C310 revised February 18, 2015.



LEGEND

- PROPERTY LINE
- EXISTING CONTOUR
- PROPOSED CONTOUR
- +829.6 PROPOSED SPOT ELEVATION
- TREE LINE
- PROPOSED STORM DRAINAGE
- WETLAND LINE
- WETLAND FLAG
- WETLANDS AREA
- EASEMENT
- EXISTING FENCE
- PROPOSED FENCE

NOTES

1. TOPOGRAPHICAL MAPPING, PROPERTY SURVEY AND EXISTING FEATURES ARE BASED ON A SURVEY PREPARED BY RIORDAN LAND SURVEYRING DATED 5/10/14.
2. WETLANDS LOCATIONS AS SHOWN WERE FLAGGED BY DEAN GUSTAFSON, SOIL SCIENTIST AND LOCATED BY RIORDAN LAND SURVEYING.
3. VERTICAL DATUM IS NAVD88.
4. HORIZONTAL DATUM IS NAD83/87 COORDINATE SYSTEM.

NO.	REVISION	DATE
1	REV. PER SITING COUNCIL REVIEW	02 FEB 15
2	RIPRAP PAD ADDED	18 FEB 15

Previous Editions Obsolete

LEGEND–POWER PLANT

1. STACK
2. HRSG
3. AQUEOUS AMMONIUM STORAGE TANK/UNLOADING AREA
4. BLOWDOWN TANK
5. AUXILIARY COOLING SYSTEM FIN FAN COOLER
6. AIR COOLED CONDENSER
7. DEMINERALIZED WATER TRAILERS
8. DEMINERALIZED WATER STORAGE TANKS/PUMP HOUSE (TWO (2) TANKS EACH 875,000 GAL.)
9. FIRE/SERVICE WATER STORAGE TANK & PUMP HOUSE
10. COMBUSTION TURBINE GENERATOR
11. CTG STEP-UP TRANSFORMER
12. ISOLATION TRANSFORMER/ EXCITATION TRANSFORMER
13. CONTROL HOUSE
14. SWITCHYARD
15. GAS METERING STATION
16. ELECTRICAL/BATTERY/ DIESEL GEN. ROOMS GND FLR OFFICE/CONTROL ROOMS SECOND FLR
17. STEAM TURBINE GENERATOR WITH ENCLOSURE
18. GAS HEATER,FILTER AND METERING
19. STORM WATER DETENTION POND
20. CONDENSATE STORAGE TANK
21. FIRE PROTECTION FOAM SYSTEM ENCLOSURE
22. ACC MECHANICAL/ELECTRICAL BUILDING
23. FUEL OIL STORAGE TANK WITH SECONDARY STEEL CONTAINMENT (1,500,000 GAL.)
24. FUEL OIL UNLOADING AREA
25. FUEL OIL FORWARDING PUMP/HEATER/FILTER SKID
26. CEMS ENCLOSURE
27. HRSG CHEM FEED
28. BOILER FEED WATER PUMPS
29. AUXILIARY BOILER ROOM (GROUND FLOOR)
30. EMERGENCY DIESEL GENERATOR ROOM
31. LOAD COMMUTATING INVERTER (LIC) COMPARTMENT
32. DC LINK REACTOR
33. GENERATOR EXCITATION COMPARTMENT
34. STG STEP-UP TRANSFORMER
35. EQUIPMENT REMOVAL AREA

60 0 30 60 120

1 inch = 60 ft.

PERMANENT WETLAND IMPACTS	
WETLANDS ID	IMPACT AREA (SF)
1	10,322
4	178
TOTAL	10,500 (0.24 AC.)

STORMWATER MANAGEMENT & GRADING PLAN

CPV TOWANTIC ENERGY CENTER

OXFORD CONNECTICUT

CIVIL 1

CORNERSTONE PROFESSIONAL PARK, SUITE D-101
43 SHERMAN HILL ROAD
WOODBURY (203) 266 - 0778 CONNECTICUT

STATE OF CONNECTICUT CURTIS JONES No. 17206 LICENSED PROFESSIONAL ENGINEER

DRAWN: BB	APPROVED: CJ
SCALE:	1" = 60'
DATE:	26 SEP 14
PROJ. NO.:	98132
CADD FILE NAME:	98132
DRAWING NO.:	C 310

Witness: **Curtis Jones**
Andrew J. Bazinet

Question CSC-30:

It appears that the drainage system over the northern portion of the original 20 acre (+/-) parcel enters stormwater renovation area B and flows in a southerly direction to discharge at a point just west of "Drainage Easement in favor of lot 9A." Much of the stormwater generated on Lot 9A appears to be re-directed towards the stormwater system installed along Woodruff Hill Road. Does the drainage easement in favor of Lot 9A allow the property owner to discharge stormwater not associated with Lot 9A into the drainage easement area? Can you provide proof of such drainage rights?

Response:

Please see the Response to Q-CSC-27, dated February 11, 2015

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

Question CSC-31:

Please provide details as to the design criteria and proposed location of any/all oil/water separator(s) on site.

Response:

The oil water separator will be designed to process turbine building floor drains and storm water collected in equipment containment areas. These wastewater steams shall be directed to an oil water separator to separate gross amounts of oil and suspended solids.

The location of the oil water separator has not yet been selected and will be determined by the selected Engineering, Procurement and Construction (EPC) contractor during the detailed design phase of the Facility. We expect the detailed design phase work to begin with the issuance of either a limited or full notice-to-proceed (NTP) to the EPC contractor.

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

Question CSC-32:

Is CPV Towantic planning to install hoods on the inside of all/any catch basins and deep manholes proposed on site?

Response:

CPV Towantic is not planning to install hoods and/ or deep sumps on the inside of any catch basins or manholes. The Connecticut Department of Transportation Stormwater Management Plan states in the Executive Summary, Section ES.7, that for systems consisting of four to ten catch basins, deep sumps shall be provided, however; If end treatments such as hydrodynamic separators (gross particle separators), wet ponds or detention basins are constructed at the terminus of the drainage system, deep catch basin sumps can be eliminated." Since detention basins are being provided for those drainage runs containing four or more catch basins, no deep sumps are being provided.

Within the same document, hoods are not recommended as a feature to be incorporated and therefore are not included in the plans.