Witness: Andrew J. Bazinet

2a – Connecticut Siting Council Late-Filed Exhibit:

Changes to exhibits that were identified by the CPV Towantic, LLC witnesses during the exhibit verification process at the January 15, 2015 public hearing.

Response:

CPV Towantic, LLC submits the following changes and updates with corresponding pages attached.

Petition

1. Section IV.A., page 11 – change 5.5 % to 5.4%.
2. Section IV.D., page 13 – updated information is provided in CPV Towantic, LLC's Late-Filed Exhibit 2b.
3. Section IV.F., page 14 – updated information for the last bullet is provided in CPV Towantic, LLC's Responses to Q-Naugatuck-1, 3, and 6 (copies attached).
4. Section IV.I., pages 14-15 – please see attached update of community outreach activities.
5. Section V, page 17, first paragraph – change "offer trigger review" to "offer review trigger" – p.17

Exhibit 1 to the Petition - Environmental Overview in Support of Petition for Changed Conditions

1. Section 2.1.2, page 6 – change 6.5% to 5.4% - p.6
2. Sections 2.3, 3.5, 4.1.6 on pages 9, 19 and 37 respectively – updated information is provided in CPV Towantic, LLC's Late-Filed Exhibit 2b.
3. Section 3.4, page 19 – Please see attached Department of Energy and Environmental Protection letter, dated January 14, 2015, confirming that Wastewater Permit Application No. 199902285 is still valid and noting the reduction in the proposed discharge of steam electric generation wastewater from the proposed Facility from 104,000 gpd to 6.480 gpd.

4. Sections 4.1.2.1, 4.1.2.2 and Figure 5 water balance on pages 26-29. Updated information on water use and discharge provided in Q-Naugatuck-1 and 3 and in the attachments to #3 above.

Response to CSC Interrogatory Q-10

1. Q-10, footnote 1. Change "air cooled condenser" to "Administration, Control, and Engineering Building."

These changes are described below.

A. Change in Turbine Technology

Sections 2.1 of the Tetra Tech Report describes in detail Towantic's proposed change from the Frame 7FA.03 to the state-of-the-art GE Frame 7HA.01 and the benefits of that change. GE's Frame 7HA.01 combustion turbine technology significantly improves on the Frame 7FA.03 technology by utilizing air cooling and advanced materials. An extremely important benefit of the new combustion turbine technology is an approximately ~~5.5~~ 5.4 percent improvement in the heat rate and efficiency and a corresponding approximately ~~5.5~~ 5.4 percent reduction in CO_2 emissions per megawatt /hour ("MWH"). *See Tetra Tech Report, Table 2.1.*

This efficiency improvement results in significantly less fuel consumption per MWH generated and lowers the Facility's per MWH emissions. *See Tetra Tech Report, Tables 2.4 and 4.3.* It also lowers the Facility's cost of generating electricity, which results in lower overall energy costs for Connecticut ratepayers. *See* Section 6 of the Concentric Energy Advisors "New England Wholesale Power Market Changes 1999-Present" Report ("CEA Report"), attached as Exhibit 2 to this Petition. Also, the updated combustion turbines will increase the Facility's net revenue and ability to secure bank financing. *See CEA Report pages 44-46.*

Use of the GE 7HA.01 technology also results in a combined cycle generating facility with improved flexibility in the form of faster ramp rates that allow for efficient load following; faster start-up to provide capacity sooner to meet electrical demands; a larger overall emissions-compliant range; and more rapid fuel switching between gas and ultra-low sulfur distillate ("ULSD"). *See Tetra Tech Report, Sections 2.3 and 2.4 and Sections 2.1.4 and 2.1.5.* The GE 7HA.01 technology also provides the benefit of greater power density in the form of a higher

C. Changes to ACC

As described in Section 2.5 of the Tetra Tech Report, technological advances in air cooling technology have allowed Towantic to reduce the height, visual impacts and footprint of the ACC. This change results in a height reduction of 31 feet from 116 feet to 85 feet. *See Tetra Tech Report, Section 4.1.5.*

D. Relocation of Stacks

As described in Section 2.3 of the Tetra Tech Report, Towantic proposes to shift the stacks eastward, away from the Waterbury Oxford Airport, to minimize potential effects to air navigation. This relocation would be accomplished by switching the locations of the combustion turbines and the steam turbine. Towantic has submitted the revised locations of the stacks to the FAA for review. *See Tetra Tech Report, Sections 2.3 and 4.1.6.* Updated in CPV Towantic, LLC's LATE-Filed Exhibit 26.

E. Gas and Steam Turbine Buildings

As described in Section 2.5 of the Tetra Tech Report, Towantic proposes changing the single 110 foot tall gas and steam turbine building to three separate, shorter buildings of 64, 37 and 37 feet respectively. This change would reduce visibility of the Facility. *See Tetra Tech Report, Sections 2.5 and 4.1.5.*

F. Other Facility and Layout Changes

As described in Section 2.5 of the Tetra Tech Report, other layout and structure changes are proposed, including the following:

- The heat recovery steam generator ("HRSG") height, previously 90 feet, would be 97 feet, with steel drums extending to 110 feet and a silencer to 120 feet.
- The combustion turbine inlet structure, previously 70 feet tall, would be 72 feet tall.
- The auxiliary boiler stack, previously 100 feet tall, would be 62 feet tall.

- The ULSD storage, previously in two 40 feet tall, 886,000 gallon tanks, would be changed to one 48 foot tall, 1.5 million gallon tank. Also, the alternate fuel would be changed from low sulfur distillate with a sulfur content of 0.05% to ULSD with a sulfur content of 0.015%.
- The single two million gallon water storage tank would be replaced by two 42 feet tall, 875,000 gallon water storage tanks.
- Water usage and discharge would change as described in Section 4.1.2 of the Tetra Tech Report. ✓ Updated in CPV Towantic, LLC's responses to Q-Naugatuck - 1, 3 and 6 (copies attached). Also, see items 3 and 4 of Late-Filed Exhibit 2a, Environmental Overview.

G. Extension of Construction Deadline

The current construction deadline is June 1, 2016. Towantic is requesting that this deadline be changed to June 1, 2019. This extension would provide a reasonable amount of time for Towantic to permit, engineer, finance and construct the updated Facility.

H. No Increase to the Facility's Environmental Impacts

Sections 4.1 and 4.2 of the Tetra Tech Report provide a comprehensive assessment of the air emissions, water use, water discharge, wetlands, noise, visibility and other environmental impacts of Towantic's proposed changes to the approved Facility. In addition, Figure 26 on page 46 of the CEA Report quantifies the updated Facility's beneficial effect on regional emissions of CO_2 and other air pollutants. Collectively, these expert reports demonstrate that the proposed changes to the Facility will have minimal environmental impacts and, in some cases, the updated Facility will actually result in less environmental impact than the approved Facility.

I. Community Outreach

Towantic has actively engaged the local community and public officials regarding the proposed changes to the Facility. Examples of Towantic's local outreach activities include well-

Witness: **Andrew J. Bazinet**

Question Naugatuck-1:

Provide the original submissions to the WPCA from the previous application for a 512mw dual fuel combined cycle application and describe in detail changes from the original submission and certifications with the representations for the current 785mw dual fuel proposal.

Response:

CPV Towantic, LLC is not in possession of the original submittals to the Naugatuck Water Pollution Control Authority because CPV was not involved with the project at the time of the original application to the Connecticut Siting Council or the original submission to the WPCA. Those documents should be in the WPCA's files.

The currently-proposed Facility design includes multiple improvements that optimize the proposed Facility's water use and discharge characteristics. Primarily, these improvements include: i) elimination of the wet surface air cooler (or "wet sac") in favor of fin-fan coolers for auxiliary cooling; and ii) increased use of demineralized water for process makeup, thereby eliminating the boiler and evaporative cooler blowdown waste streams. The following table provides a simple comparison of the water discharge profile for the previous 512 MW Facility and the current 785 MW Facility.

Fuel: Ambient: Nameplate Output:	NG Summer 512MW	NG Summer 785 MW	Fuel Oil Winter 512 MW	ULSD Winter 785 MW
Discharge to Sewer (gallons per minute)	58.8	4.5	53.9	4.5
Discharge to Sewer (gallons per day)	84,672	6,480	77,616	6,480

Witness: Andrew J. Bazinet

Question Naugatuck-3:

Describe in detail the chemical composition, quantity, kind, quality, nature and temperature of the effluent "grey water" proposed to be discharged to the Naugatuck Wastewater Treatment Plant when operating on Natural Gas at full performance and ULSD.

Response:

The proposed Facility will not be using "grey water" as that term is commonly used. Rather, the proposed Facility will be using potable water from the Heritage Village Water Company (HVWC), and utilizing the majority of that water internally through recycling and evaporative processes. For that reason, the discharge is described as "wastewater" in this and other interrogatory responses. The wastewater that will be discharged from the Facility will be associated with three distinct sources:

a. Stormwater collected in contained areas but unrelated to Facility processes or the potable water supply.
b. Domestic uses (sinks and toilets).
c. Service uses include turbine building floor drains, equipment drains from the steam cycle, and fire protection. The turbine building floor drain discharge will consist of potable water with the addition of oil and suspended solids resulting from floor and equipment washdown.

The discharge associated with "a" is not unique to CPV Towantic and would be present with any commercial development that has a building. The stormwater will be processed through an oil/water separator prior to conveyance to the sanitary sewer. The discharge volumes associated with "b" and "c" are also not unique to CPV Towantic and are similar to other commercial building discharges.

The proposed Facility has been designed with a significantly reduced volume of wastewater discharge, under all operating conditions, and the quality of the proposed discharge has improved.

The maximum volume of wastewater to be discharged by the proposed Facility, through the Oxford sanitary sewer system, to the Naugatuck Wastewater Treatment Plant (Naugatuck WWTP) will be 6,480 gallons per day. This volume is based on 24 hours of operation, fueled by either natural gas or ULSD, at full plant load and across all ambient temperatures.

As to the temperature of the discharge, see the response to Q-Naugatuck-6.

Witness: Andrew J. Bazinet

Question Naugatuck-6:

What is the temperature of the wastewater released into the Oxford municipal sewer lines and Naugatuck Wastewater Treatment Plant at points 500 feet subsequent to the inlet point of the Naugatuck Wastewater Treatment Plant?

Response:

The temperature of wastewater discharged from the Facility will not be materially different from the balance of the wastewater conveyed to the Naugatuck Wastewater Treatment Plant via Oxford and other municipal sewer lines. As noted in response to Q-Naugatuck-3, the Facility's discharge is limited to stormwater, domestic water, and service water. These discharges will be at ambient temperatures that will not exceed those produced by a common domestic/commercial hot water heater.

attended open houses and appearances before local commissions. Attached as Exhibit 3 is a letter from Town of Oxford confirming that the Planning & Zoning Commission "fully supports the Project, including the proposed changes, and asks that the Connecticut Siting Council approve the changes to the Project proposed by Towantic so that this worthy project can move forward." Towantic views its outreach activity as critically important to the process and will continue outreach activities as the Facility proceeds to development. Please see attached update of Community Outreach activities.

V. CHANGES TO ENERGY MARKET CONDITIONS, ENVIRONMENTAL REGULATIONS, AND TECHNOLOGY JUSTIFY TOWANTIC's PROPOSED CHANGES TO THE FACILITY

Electric and gas market conditions have changed radically since the Council's Decision in 1999, and even since 2010 when the Council issued its last construction extension for the Facility. The CEA Report provides a detailed discussion of the fundamental changes to electricity markets, regulation of those markets, natural gas supply and infrastructure, and environmental regulation over the fifteen year period since the Decision was issued. In particular, environmental regulations affecting electric generating facilities have become increasingly stringent since 1999. *See Tetra Tech Report, Section 3.0.* Also, Section IV of this Petition and the Tetra Tech Report describe the major advances in combustion turbine technology since 1999 and the energy and environmental benefits of incorporating those advances into the Facility. Based on the CEA Report and Tetra Tech Report, the Facility, as approved in 1999, using the outdated GE 7FA.03 combustion turbines, would be very difficult to finance and construct in today's energy and capacity markets. Whereas, the Facility as modified by the changes outlined in this Petition, including the use of the GE 7HA.01 turbines, would be viable in today's markets. Further, the CEA Report demonstrates that the modified Facility would provide very significant economic, reliability and environmental benefits for Connecticut

CPV Towantic, LLC
Community Outreach Activities
7/2014 – 1/2015

1. Presented project overview to Oxford-Seymour Rotary Club monthly breakfast on July 17, 2014.

2. Conducted two open meetings at Town Hall on July 31, 2014 where we presented project overview to local businesses.

3. Launched project public information website www.cpvtowantic.com on August 1 to provide public with easy access to information about the project. Site includes informational e-mail and phone where residents can reach company representatives and have questions answered.

4. Held informational open house on August 5 at the Oxford high school to educate and inform community about updated project and upcoming Connecticut Siting Council filing. Advertised this event in local media outlets and through town-wide mailing. Created content for ten stations providing information on all aspects of the company and project. Over 15 CPV development team and subject matter experts were on-hand to talk with local residents and field inquiries. More than 125 area residents and media representatives attended this event.

5. Conducted multiple media interviews following up on this event to continue informing the public about the project. Stories appeared in *Oxford Patch, Voices, Waterbury Republican American, Middlebury Bee-Intelligencer* and *Voices*.

6. Presented project and regional economic benefits overview to Southbury Economic Development Commission on August 20, 2014.

7. Reached out to local legislative delegation and provided briefings to several as requested.

8. Reached out to members of congress regarding project and held briefing meetings on September 4, 9 and 12, 2014.

9. Met with leaders of the Middlebury committee opposing the project on September 12 and December 9 to hear their concerns and discuss how we might address them. Maintained communications to date.

10. Delivered presentation and fielded questions on project with approximately 80 neighboring elected officials and business leaders and attending media at the Greater Valley Chamber of Commerce on September 26, 2014.

11. As a result of meeting with Middlebury opposition, hired public health scientists from Gradient Corporation in Cambridge, Massachusetts to asses public health impacts of the project. This analysis was presented to opposition group leaders at a follow-up meeting on December 9, 2014.

12. Held second informational open house with over 120 members of the Oxford Greens Homeowners Association on October 22. Promoted event through Association newsletter and electronic mailing. Provided email and informative fact sheet for any follow-up questions among Oxford Greens residents.

13. Per multiple requests from area residents and elected officials, retained Connecticut Center for Economic Analysis to conduct in-depth economic impact study to determine regional economic benefits of project.

14. Hosted tour of similar generating facility on November 13, 2014 for Oxford town leaders including Oxford: George Temple, Kevin Condon (town counsel), Kathy Johnson (former selectman, Oxford resident), Dave Forber (Oxford greens resident) to provide them with an opportunity to experience first-hand a similar operating facility.

15. Provided regular briefings and updates on project to First Selectman, Oxford.

16. Reached out to chief elected officials in surrounding towns and engaged in regular briefing meetings as requested.

17. Various meetings with nearest neighbor to project who expressed an interest in learning more about the project. Based upon request, developed photo simulations of how project would look from property. Hosted tour to visit similar CPV facility under construction in Woodbridge, NJ so she could see and hear what construction is like.

18. Continue working with media regarding project to help educate the public about project details. Media outlets in regular contact *include Waterbury Republican American, Oxford Patch, Connecticut Post,* NBC Channel 30 TV, *Middlebury Bee-Intelligencer, Hartford Courant and Danbury News-Times.*

# # #

modern combined-cycle combustion turbine technology for the previous simple-cycle combustion turbine as the proxy unit for ISO-NE's cost of new entry ("CONE") calculation; a pay-for-performance ("PFP") program to incentivize capacity sellers (both positively and negatively) for their performance during periods of electric system stress and to make investments in their generating units to improve performance; a change from a vertical demand curve to a sloped demand curve; revisions to the offer ~~trigger~~ trigger review price to prevent price suppression; and a seven year lock-in period for new capacity. *CEA Report, pages 20-25.*

Based on ISO-NE's recent FERC-approved FCM reforms, the Facility as permitted in 1999 would be less competitive in an ISO-NE forward capacity auction ("FCA") because of its higher heat rate compared to the proxy unit and other competitive projects. In contrast, the updated facility would be a viable competitor in the FCA. *Id.*

The CEA Report also discussed the expected influx into New England of intermittent renewable energy projects, such as solar and wind projects, and legal and other uncertainties involving demand response. For system reliability purposes, there will need to be flexible generation that will back-up the gaps in renewable production and demand response. *See Id., pages 31, 33-34.*

The Facility, as approved in 1999, would not have nearly as much flexibility to fill in the gaps resulting from the intermittent renewable resources. In contrast, the updated Facility would have the necessary flexibility based on its superior start-up and ramp rates, its ability to operate over a wider range of output while maintaining environmental compliance, and its rapid fuel switching capability. *See Tetra Tech Report, Sections 2.1.2-2.1.5.* Additionally, reliable, flexible base-load generation will be necessary to deal with legal uncertainties and performance issues with demand response. *See CEA Report, pages 32-34.*

Environmental Overview in Support of Petition for Changed Conditions

CPV Towantic Energy Center

October 2014

Prepared for:

CPV Towantic, LLC
50 Braintree Hill Office Park, Suite 300
Braintree, MA 02184

Prepared by:

Tetra Tech, Inc.
238 Littleton Road, Suite 201B
Westford, MA 01886

TETRA TECH

2.1.2 Efficiency Improvements

Turbine efficiency affects the economics, energy conservation, and environmental performance of a project. Turbine efficiency is measured in terms of heat rate, the amount of fuel necessary to generate a unit of electrical output. The lower the heat rate, the more efficient the use of our finite energy resources (natural gas). In addition, emissions of GHG are directly proportional to heat rate[4] in terms of pounds of GHG (measured as carbon dioxide equivalent [CO_{2e}]) per MW-hr (lb/MW-hr) of electrical generation. Efficiency improvements also translate into similar, or even more dramatic, reductions in emissions of other air pollutants on a lb/MW-hr basis.

The Project has opted to incorporate GE Frame 7HA.01 turbines to take advantage of that turbine's superior efficiency and GHG performance. Given the current marketplace, these improvements are particularly critical as Connecticut continues to implement its own GHG reduction program and prepares to address the United States Environmental Protection Agency's (USEPA's) new GHG Rule (addressed in Section 3.1), which will require the state to make fleet-wide reductions in CO_{2e} emissions on a lb/MW-hr basis.

A comparison of heat rate and GHG emissions performance is provided in Table 2-1. As shown in that table, the GE Frame 7HA.01 offers an approximately ~~6.5%~~ 5.4% improvement in efficiency and GHG performance over the GE Frame 7FA.03.

Table 2-1. GE Frame 7FA.03 and Frame 7HA.01 Turbines – Efficiency Comparison

Parameter	GE 7FA.03	GE 7HA.01
Heat Rate (Btu/kW-hr)[a]	6,770	6,402
CO_{2e} (lb/MW-hr)[b]	785.5	742.5

[a]British thermal units per kilowatt-hour, natural gas firing at 59°F without supplemental firing, net output basis, new and clean GE initial performance specification, higher heating value.
bNatural gas firing at 59°F without supplemental firing, gross output basis, new and clean, GE initial performance specification.

2.1.3 Increased Output

The GE Frame 7HA.01 offers greater energy output within approximately the same overall Project footprint. Given the announced retirements and "at risk" power plants in Connecticut and New England as a whole, additional energy output from the same site footprint is highly advantageous. In addition, greater Project output provides economies of scale that benefits Project economics and, as a result, ratepayers.

A comparison of output of the GE Frame 7HA.01 turbine-based Project with the Frame 7FA.03-based configuration is provided in Table 2-2.

[4] On a same-fuel basis.

Table 2-4. GE Frame 7FA.03 and Frame 7HA.01 Turbines – Emission Rate Comparison[a]

Parameter	GE 7FA.03		GE 7HA.01	
Nitrogen Oxides (NO_x)	2.0 ppm	0.049 lb/MW-hr	2.0 ppm	0.046 lb/MW-hr
Volatile Organic Compounds (VOCs)	1.2 ppm	0.010 lb/MW-hr	1.0 ppm	0.008 lb/MW-hr
Carbon Monoxide (CO)	2.0 ppm	0.030 lb/MW-hr	0.9 ppm	0.013 lb/MW-hr
Particulate Matter ($PM_{10}/PM_{2.5}$)	0.008 lb/MMBtu[b]	0.053 lb/MW-hr	0.0038 lb/MMBtu	0.026 lb/MW-hr

[a]Natural gas firing, without supplemental firing, at full load.

[b]pounds per million British thermal units.

As shown in Table 2-4, the Frame 7HA.01 achieves lower emission rates for VOC, CO, and PM. Additional information regarding Project emissions is provided in Section 4.1.1.

2.1.7 Summary

On the basis of superior fuel efficiency and GHG performance, greater output within the same footprint, faster start-up and ramp times, rapid fuel switching capability, and superior emission rates, the GE Frame 7HA.01 provides significant advantages to the Project and to Connecticut. Therefore, CPV proposes to use the GE Frame 7HA.01 for the Project.

2.2 ADDITION OF DUCT FIRING

The current Project configuration incorporates the addition of duct firing. In addition to the efficiency improvements associated with technology selection, current market conditions reflect a need for additional efficient and flexible generation. By incorporating duct firing, the Project can rapidly increase output as market needs dictate within the same physical footprint and while maintaining compliance with the full range of environmental requirements. Duct firing provides incremental capacity in the steam cycle at a very low cost (on a dollars per kilowatt basis) and at a relatively good efficiency, making it one of the best forms of "peaking" capacity available. For example, duct firing at 90°F can add 53 MW in summer with an incremental heat rate of 8,224 Btu/kWh, and at 20°F can add 32 MW in the winter with an incremental heat rate of 8,234 Btu/kWh. Duct firing also has lower associated emission rates than other types of peaking power, such as simple-cycle turbines or diesel generators.

2.3 STACK LOCATION REPOSITIONING

Updated information is provided in CPV Towantic, LLC's Late-Filed Exhibit 2b. ✓

Although first designated as "No Hazard to Air Navigation" in 1999, proximity to the Waterbury-Oxford Airport remains a factor in facility design. When assessing stack characteristics, it has been important to balance requirements associated with emission dispersion with other factors such as air traffic and visibility. The goal has been to identify the lowest stack practicable, and position it as far as possible from potential air traffic.

After detailed analysis, CPV determined the best approach would be to shift the stacks eastward, away from the nearby airport. The orientation and general layout of the Project remains the same, with repositioning accomplished by "flipping" the locations of the combustion turbines and the steam turbine (as shown in Figure 2). The movement of the stacks will avoid lateral navigation obstruction. The adjusted locations of the stacks has been submitted to the Federal Aviation Administration (FAA) for analysis and determination.

value may provide greater benefit than smaller, on-site replication areas. A decision is made by the USACE on a case-by-case basis regarding applicability of mitigation strategy. If it is determined that payment into the CT ILF Program is appropriate, the USACE will calculate a per-acre fee (the Project's location in the Housatonic River Service Area had August 2013 fees noted of $7.56/square foot) that must be paid prior to commencement of Project construction. Although Audubon CT does not participate in the USACE permit decision, it oversees the execution of the mitigation projects funded through the CT ILF Program.

The Project, as will be discussed in Section 4.1.3, is in the process of obtaining USACE wetland authorization through the Connecticut General Permit, including consideration of appropriate mitigation.

3.4 WATER QUALITY

DEEP has been delegated authority to implement federal and state water quality standards under the Clean Water Act. The most recent update to Connecticut's water quality standards became effective on February 25, 2011, after approval by the USEPA. Revisions to the standards included:

- Modifications to anti-degradation provisions for consistency with federal requirements;
- Changes to dissolved oxygen criteria for marine waters;
- Inclusion of a nutrient control implementation strategy;
- Incorporation of new standards for aluminum, chloride and formaldehyde; and
- Revision of aquatic life criteria for cadmium, silver and acrolein.

None of these updates pose a concern for the Project, and the Project's wastewater discharge permit, conditionally approved on February 26, 2014 (Appendix A), reflects consistency with the most recent standards and guidelines.

3.5 FEDERAL AVIATION ADMINISTRATION

Updated information is provided in CPV Towantic, LLC's Late-Filed Exhibit 26. ✓

Pursuant to 49 CFR 77, the FAA requires a Notice of Proposed Construction or Alteration for any structure higher than 200 feet (or less if more proximate to an airport). Although the FAA issued a final ruling on amendments to the regulations on July 21, 2010, which became effective on January 18, 2011, the changes had no particular bearing on the Project. FAA review of the updated locations of the proposed stacks has been requested under the FAA's current regulatory framework.

3.6 ENVIRONMENTAL JUSTICE

Although updates to terminology and requirements for environmental justice review occurred in 2012, the Project is not located within an environmental justice community and these requirements do not apply.

3.7 ENVIRONMENTAL PROGRAMS INFLUENCING THE WHOLESALE ELECTRIC MARKETS

Although not requirements for the Project, other new and evolving environmental programs have influenced the Project by creating a strong need for this type of energy generation (i.e., efficient, fast-start, environmentally responsible dual fuel capable combined-cycle facilities). In particular, certain regulatory programs have put increasing pressure on older, less efficient generating facilities that have led to the retirement of certain coal, oil, and nuclear energy generation units. Even those generating facilities that will continue to operate will face increased environmental compliance costs that may have a direct bearing on their competitiveness in the energy marketplace. As environmental pressures increase, the

to reduce visibility of the Project from surrounding areas. Although some structures inherent in the 7HA.01 technology are somewhat taller, these increases only reflect a several-foot change in height for some layout elements. A rendering of the proposed Project confirmation is provided as Figure 4.

The updated Project continues to have minimal visual impact on the community and, in fact, will have a reduced visibility due to incorporation of design and technical features that reduce the heights of major structures.

4.1.6 Air Navigation

Updated information is provided in CPV Towantic, LLC's Late-Filed Exhibit 26.

The Project proposed to install medium intensity flashing white lighting on the proposed stacks consistent with FAA criteria. As an alternative, medium intensity flashing white lighting by day and twilight, and red flashing lights at night could be used to minimize off-site impacts. Lighting will continue to be incorporated in the Project's stack design. With the repositioning of the stacks, potential impacts on air navigation from the Waterbury-Oxford Airport have been further reduced. Review of the current Project configuration is currently ongoing with the FAA.

4.2 CONFIRMATION OF NO MATERIAL ENVIRONMENTAL CHANGE

A full range of potential environmental conditions has been considered to determine whether changed conditions exist that warrant Project updates. As noted below, for the vast majority of environmental and community issues, no significant changed condition has occurred and the Project will continue to reflect the level of impact that was previously determined to be appropriately balanced by its benefits.

4.2.1 Physical Environment and Land Use

The Project location remains where it was originally proposed, with no change to the proposed access or basic footprint. Although an additional 6 acres has been added to the original parcel, it is very similar in character and does not reflect a material change in physical environment, geologic and soils characteristics, or land use.

The Project continues to be located within an area zoned and designated as an industrial park, with access planned off of the existing Woodruff Hill Road. Land use characteristics of the surrounding area have been relatively unchanged, with the exception of Algonquin's gas compressor station facility, which was constructed on the parcel directly east of the Project in 2008. Design standards for the Project are intended to be protective of the nearest residential zone, located 523 feet to the north in the town of Middlebury. Although additional development in the area has continued, no new residential development has occurred any closer than 523 feet.

4.2.2 Socioeconomics

No change in expected construction or operational impact to the community is anticipated as a result of Project refinements. The Project will continue to bring economic benefits to the town and to the region through taxes, employment, lower electric rates, secondary economic benefits from goods and services, and a source of reliable, efficient, and economical energy.

4.2.3 Groundwater

State mapping has been reviewed to confirm that the Project site, including the additional 6 acres, is not within an Aquifer Protection Area. The Project will continue to protect existing groundwater by providing secondary containment for all aboveground storage tanks and implementation of a Spill Control and Countermeasures Plan and a SWPPP outlining best management practices. The version of the plans previously submitted in the D&M Plan will be updated.

Please see attached Department of Energy and Environmental Protection letter, dated January 14, 2015, confirming that Wastewater Application No. 199902285 is still valid and noting the reduction in the proposed discharge of steam electric generation wastewater from the proposed Facility from 104,000 gpd to 6,480 gpd.

value may provide greater benefit than smaller, on-site replication areas. A decision is made by the USACE on a case-by-case basis regarding applicability of mitigation strategy. If it is determined that payment into the CT ILF Program is appropriate, the USACE will calculate a per-acre fee (the Project's location in the Housatonic River Service Area had August 2013 fees noted of $7.56/square foot) that must be paid prior to commencement of Project construction. Although Audubon CT does not participate in the USACE permit decision, it oversees the execution of the mitigation projects funded through the CT ILF Program.

The Project, as will be discussed in Section 4.1.3, is in the process of obtaining USACE wetland authorization through the Connecticut General Permit, including consideration of appropriate mitigation.

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- Modifications to anti-degradation provisions for consistency with federal requirements;
- Changes to dissolved oxygen criteria for marine waters;
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- Incorporation of new standards for aluminum, chloride and formaldehyde; and
- Revision of aquatic life criteria for cadmium, silver and acrolein.

None of these updates pose a concern for the Project, and the Project's wastewater discharge permit, conditionally approved on February 26, 2014 (Appendix A), reflects consistency with the most recent standards and guidelines.

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Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

79 Elm Street • Hartford, CT 06106-5127 www.ct.gov/deep Affirmative Action/Equal Opportunity Employer

January 14, 2015

CPV Towantic, LLC
C/O Competitive Power Venutres, Inc.
50 Braintree Hill Park
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Braintree, MA 02184-8724

Attention: Andrew J. Bazinet

Re: Permit Application No. 199902285
Town of Oxford

The Department of Energy and Environmental Protection ("Department"),Water Permitting and Enforcement Division ("WPED"), has received and reviewed CPV Towantic, LLC's July 29, 2014* and December 20, 2014* submittals describing modifications to the plans for its proposed steam electric generation facility. These modifications include eliminating the discharges of ion exchange regeneration wastewater, boiler blowdown and cooling water from the wet surface air cooler, while not introducing wastewaters from any new processes. This results in reducing the proposed discharge of steam electric generation wastewater from 104,000 gpd to 6,480 gpd. * Underlined letters attached

Since there are no new sources of wastewater being proposed, WPED staff has determined that Application No. 199902285 is still valid.

If you have any questions regarding this matter, please contact Stephen Edwards at (860) 424-3838.

Sincerely,

Oswald Inglese, Jr.
Director
Water Permitting and Enforcement Division
Bureau of Materials Management and
Compliance Assurance

OI/SCE

Cc: DeRosa, Franca L.

COMPETITIVE POWER VENTURES
CPV TOWANTIC
ENERGY CENTER

50 Braintree Hill Office Park, Suite 300

Braintree, MA 02184

July 29, 2014

By E-Mail and First Class Mail
Mr. Stephen Edwards
State of Connecticut Department of Energy and Environmental Protection
Bureau of Materials Management and Compliance Assurance
Water Permitting and Enforcement Division
79 Elm Street
Hartford, CT 06106-5127

Subject: Permit Application No. 199902285, CPV Towantic, LLC, Town of Oxford

Dear Mr. Edwards:

In a letter, dated February 26, 2014, the Department of Energy and Environmental Protection ("DEEP") issued approval for CPV Towantic, LLC (CPV) to install a 200 gallon per minute (gpm) pH neutralization system and a 3,000 gallon oil/water separator for the treatment of wastewater associated with steam electric generation prior to being discharged to the Naugatuck publicly owned treatment works (POTW) via the sanitary sewer system in the Town of Oxford. The DEEP approval letter contained two conditions that require responses from CPV, and DEEP provided CPV with an extension until July 30, 2014 to respond to the conditions.

Below are the two conditions from DEEP's February 26, 2014 letter with CPV's responses.

DEEP Condition #1: CPV Towantic, LLC must confirm that the information contained in Permit Application No. 19990285 is still accurate. If any of the information contained in Permit Application No. 199902285 is no longer accurate, updated information must be submitted as appropriate.

CPV Response: As previously noted, the Permit Application was submitted in 1999, and there have been changed conditions in technology and approach over the past 15 years requiring us to consider the potential effect on wastewater discharge.

These potential changes also include consideration of influent water quality and characteristics of the water source, given that the water company providing water to the facility, the Heritage Village Water Company (Heritage), has expanded its resources. CPV representatives have met with Heritage to review the current sources and quality of water associated with its system. Water quality information published by Heritage in a 2013 Annual Consumer Report and data from tests performed on April 21, 2014 by Environmental Consulting Laboratories, Inc. was utilized to evaluate the current project configuration's water needs, as recirculation and recycling of water is an inherent component of the project design.

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Braintree, MA 02184

Burns & Roe, the project engineers, have provided an updated water balance for the facility (attached), reflecting both currently anticipated influent water quality and refinements of the project design. No significant change in design has occurred beyond updating the General Electric turbine technology, increasing the amount of recycling of water throughout the system, and using off-site instead of on-site regenerated ion exchange units to produce demineralized water.

Page 1 of the water balance diagram illustrates the water inputs, uses, and discharge for the project. As can be seen, the discharge of effluent will be to the Town of Oxford sewer system, as was previously proposed and approved. Page 2 of the water balance updates the required water use and discharge volumes under a range of cases for the facility operating on natural gas and on oil. As can be seen, the discharge volume to the sewer system ranges from 5.2 to 26.5 gpm (7,488 to 38,160 gallons per day) when the facility is firing natural gas, and from 5.2 to 25.4 gpm (7,488 to 36,576 gallons per day) when firing oil. This proposed discharge volume is consistent with information provided in the Permit Application, which was approved.

The date the discharge will begin was previously identified as late in 2001. The current projected start of discharge, pending permitting and approval schedules, is in the third or fourth quarter of 2017, when the plant begins its testing period. Full commercial operation and consistent discharge is expected in the second quarter of 2018.

The process and treatment substances identified in the Permit Application (sulfuric acid and sodium hydroxide) have been confirmed as the anticipated treatment substances for the updated project.

Based upon the quality of the influent water, the process and treatment plan, and other factors associated with water use and discharge in the Discharge Analysis completed for the range of constituents identified in the Permit Application, no change is anticipated in the projected quality of discharge.

In addition, the information and values listed in the previously issued Draft Pretreatment Permit (Permit ID: SP0002363) were reviewed. In Table A, the only recommended change is in the listing of Wastewater Description. The following outlines minor changes in facility equipment and can be described as follows:

- An off-site (instead of on-site) regenerated ion exchange system will be used to produce demineralized water, neutralized regeneration wastewater will not be discharged from a pH adjustment tank.
- Heat Recovery Steam Generator blowdown will be recovered and reused, therefore, boiler blowdown will not be discharged.
- Without a wet surface air cooler, no blowdown will be discharged from such equipment.

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Braintree, MA 02184

- The facility plans to utilize evaporative coolers; therefore, evaporative cooler blowdown will be discharged to the sewer system.

Due to these changes, the description in Table A can be revised to read: "Wastewater from evaporative cooler blowdown, drains from potable water use, and plant equipment and floor drains." A hand marked version of Table A has been attached for reference.

DEEP Condition #2: CPV Towantic, LLC must submit documentation verifying that the Naugatuck POTW still has the ability to accept the proposed discharge, including a letter from the POTW confirming this.

CPV Response: CPV anticipates meeting with representatives of the Oxford Water Pollution Control Authority (WPCA) and the Naugatuck POTW to review the current water balance for the facility, including anticipated source and quality of discharge. Also, CPV has arranged to be on the Naugatuck POTW August 21, 2014 agenda. It is expected that these meetings will confirm that Naugatuck POTW has the ability and intends to accept the proposed discharge. A letter from the Naugatuck POTW confirming that it has the ability to accept the proposed discharge will be forwarded to DEEP as soon as practicable.

We understand that, with this verifying information, the permit for discharge will be issued. Should you require any additional information or clarification, please contact me at (781) 848-3611 or by email at abazinet@cpv.com.

Sincerely,

Andrew J. Bazinet

Enclosures

cc: D. Lynn Gresock, Tetra Tech
Joe Chiappinelli, Burns & Roe
Cliff Crosman, Burns & Roe
Franca DeRosa, Brown Rudnick LLP
Jim Stewart, Director of Public Works, Naugatuck
John Batorski, Manager, Naugatuck POTW

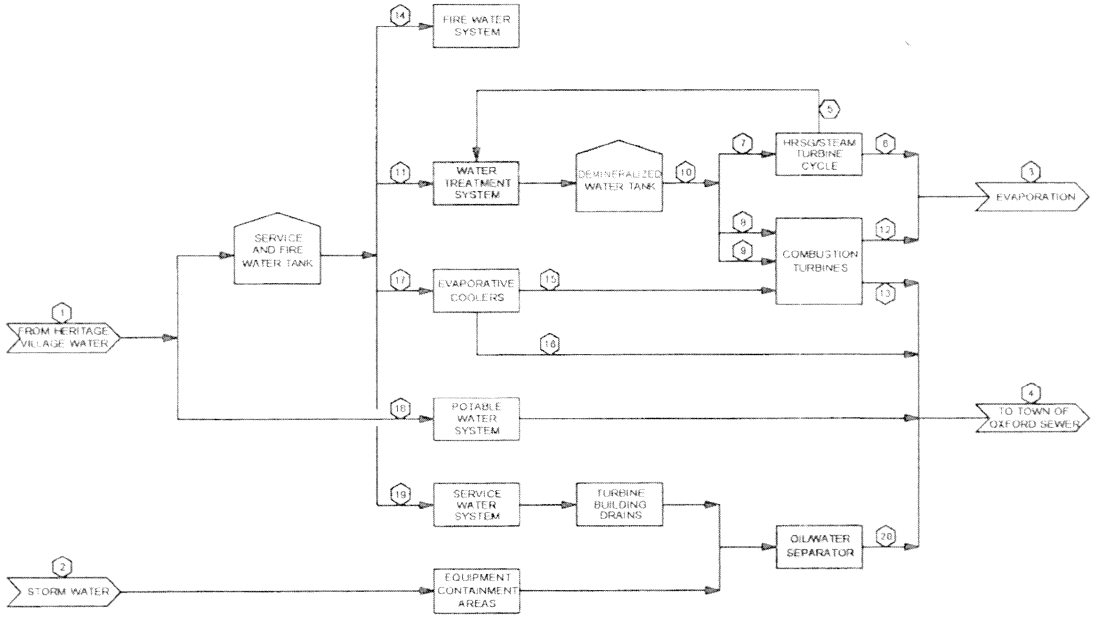
Burns and Roe

PREPARED BY: C. CROSMAN
JAN 16 2014

WATER BALANCE

CPV TOWANTIC ENERGY CENTER - OXFORD, CT

PAGE 1 OF 2



Burns and Roe

PREPARED BY: C CROSMAN
JULY 16 2014

WATER BALANCE

CPV TOWANTIC ENERGY CENTER - OXFORD, CT

PAGE 2 OF 2

CORRESPONDING HEAT BALANCE NUMBER		1	4	DO-1	6	DO-3	7	DO-4	10	DO-5	12	13	DO-6
FUEL		GAS	GAS	OIL	GAS	OIL	GAS	OIL	GAS	OIL	GAS	GAS	OIL
NET PLANT OUTPUT, MW		835.9	775.2	716.1	791.2	716.5	777.5	702.8	744.3	691.1	745.5	702.5	635.4
AMBIENT TEMPERATURE, °F		-14.2	-14.2	-14.2	20.0	20.0	50.0	50.0	59.0	59.0	90.0	90.0	90.0
RELATIVE HUMIDITY, %		20	20	20	60	60	60	60	60	60	60	60	60
NUMBER OF OPERATING GAS TURBINES/HRSGs		2	2	2	2	2	2	2	2	2	2	2	2
GAS TURBINE LOAD, %		100	100	100	100	100	100	100	97	100	100	100	100
EVAPORATIVE COOLERS		OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON
DUCT BURNING, %		27	0	0	0	0	0	0	0	0	19	0	0
NUMBER	DESCRIPTION	FLOW RATE - AVERAGE GALLONS PER MINUTE											
1	WATER SUPPLIED BY HERITAGE VILLAGE WATER COMPANY	40.8	34.3	69.5	35.2	71.2	34.9	71.8	33.9	70.1	102.2	98.2	66.3
2	STORMWATER COLLECTED IN CONTAINED AREAS	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
3	TOTAL EVAPORATION LOSSES	37.1	30.6	69.2	31.5	70.9	31.2	71.4	30.2	69.8	77.2	73.2	63.9
4	DISCHARGE TO TOWN OF OXFORD SEWER	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	26.5	26.5	25.4
5	BLOWDOWN FROM TWO (2) HRSGs	74.2	61.3	46.8	63.0	47.6	62.4	47.9	60.4	47.5	69.2	61.1	46.6
6	EVAPORATIVE LOSSES FROM HRSG/STEAM TURBINE CYCLE	37.1	30.6	23.4	31.5	23.8	31.2	24.0	30.2	23.8	34.6	30.6	23.3
7	DEMINERALIZED WATER MAKEUP TO HRSG/STEAM TURBINE CYCLE	111.3	91.9	70.2	94.6	71.3	93.6	71.9	90.6	71.3	103.8	91.7	70.0
8	WATER INJECTED INTO COMBUSTION TURBINES DURING OIL FIRING	0	0	66.8	0	68.5	0	69.0	0	67.4	0	0	57.5
9	DEMINERALIZED WATER USED FOR OFF LINE WASH	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
10	TOTAL DEMINERALIZED WATER PRODUCED	111.9	92.6	73.9	95.2	75.7	94.3	76.3	91.2	74.6	105	92.4	64.6
11	SERVICE WATER USED IN WATER TREATMENT SYSTEM	37.8	31.3	69.2	32.2	70.9	31.9	71.5	30.9	69.8	35.3	31.3	59.9
12	TOTAL WATER EVAPORATED IN COMBUSTION TURBINES	0	0	66.8	0	68.5	0	69.0	0	67.4	42.6	42.6	61.6
13	COMBUSTION TURBINE OFF LINE WASH WASTE WATER	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14	FIRE PROTECTION WATER	0	0	0	0	0	0	0	0	0	0	0	0
15	EVAPORATION FROM TWO (2) EVAPORATIVE COOLERS	0	0	0	0	0	0	0	0	0	42.6	42.6	40.3
16	BLOWDOWN FROM TWO (2) EVAPORATIVE COOLERS	0	0	0	0	0	0	0	0	0	21.3	21.3	20.2
17	MAKEUP TO TWO (2) EVAPORATIVE COOLERS	0	0	0	0	0	0	0	0	0	63.9	63.9	60.5
18	POTABLE WATER USES	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
19	MISCELLANEOUS SERVICE WATER USES	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
20	DISCHARGE FROM OIL/WATER SEPARATOR	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5

NOTES: 1. STORMWATER FLOW RATES SHOWN ABOVE ARE BASED ON YEARLY AVERAGE RAINFALL OF 51.1 INCHES.
2. THE ABOVE ASSUMES THAT HRSG BLOWDOWN WILL BE COOLED WITHOUT USING QUENCH WATER, TREATED IN THE MAKEUP DEMINERALIZER SYSTEM, AND REUSED IN THE HRSG/STEAM TURBINE CYCLE.

Wastewater from evaporative cooler blowdown, drains from potable water uses, and plant equipment and floor drains

Table A

Discharge Serial Number: 201-1 | Monitoring Location: 1

Wastewater Description: ~~Wastewater from the pH adjustment tank (demineralizer regeneration and chemical storage drains), boiler blowdown, cooling water from the wet surface air cooler and plant equipment and floor drains~~

Monitoring Location Description: Samples taken to satisfy the monitoring requirements of this paragraph shall be taken at Test Manhole 1 (TMH-1).

Discharge is to: The Borough of Naugatuck Water Pollution Control Facility

PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING		
		Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency [2]	Sample Type or Measurement to be Reported	Instantaneous Limit or Required Range	Sample// Reporting Frequency [2]	Sample Type or Measurement to be Reported
Arsenic, Total	mg/l	----	----	Twice per Month	Daily Composite	NA	NR	NA
Chromium, Total	mg/l	----	0.2	Twice per Month	Daily Composite	0.3	NR	NA
Copper, Total	mg/l	----	----	Twice per Month	Daily Composite	NA	NR	NA
Flow, Average and Maximum [1]	gpd	37,440	104,000	Continuously// Monthly	Computed	NA	NR	NA
Flow, Total	gpd	----	104,000	Twice per Month	Daily Flow	NA	NR	NA
Magnesium, Total	mg/l	----	----	Twice per Month	Daily Composite	NA	NR	NA
Nickel, Total	mg/l	----	----	Twice per Month	Daily Composite	NA	NR	NA
Oil and Grease, Hydrocarbon Fraction	mg/l	----	----	Twice per Month	Grab Sample Average	NA	NR	NA
Oil and Grease, Total	mg/l	NA	----	Monthly	Grab Sample Average	NA	NR	NA
pH	S.U.	NA	NA	NR	NA	6.0 to 10.0	Twice per Month	RDS
pH, Continuous	S.U.	NA	NA	NR	NA	6.0 to 10.0	Continuously// Monthly	RDM
Silver, Total	mg/l	----	----	Twice per Month	Daily Composite	NA	NR	NA
Zinc, Total	mg/l	----	1.0	Twice per Month	Daily Composite	1.5	NR	NA

Table Footnotes and Remarks:

Footnotes:

1 For this parameter the permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Average Daily Flow and the Maximum Daily Flow for each month

2 The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'

Remarks:

1. There shall be no discharge of polychlorinated biphenyl compounds.

50 Braintree Hill Office Park, Suite 300
Braintree, MA 02184

December 20, 2014

Mr. Peter Ploch
Mr. Steve Edwards
State of Connecticut
Department of Energy and Environmental Protection
Water Permitting and Enforcement Division
79 Elm Street
Hartford, CT 06106-5127

Re: Permit Application No. 199902285
CPV Towantic, LLC/Town of Oxford

Dear Peter and Steve:

Thank you for meeting with us on December 10, 2014 to review the updates on draft permit number SP0002363. As discussed, based on technological and design advancements, CPV Towantic, LLC will be eliminating two wastewater sources currently listed on Table A of the draft permit. Specifically, "[w]astewater from the pH adjustment tank (demineralized regeneration and chemical storage drains" and "cooling water from the wet surface air cooler" are the two wastewater sources being eliminated. Also, while the project is being designed with an additional process, evaporative cooling, this process will use exclusively recirculated demineralized water (as opposed to a combination of potable water and demineralized water) that will be used until fully evaporated. Therefore, there will be no additional wastewater discharge from this process. A revised "Table A" for the draft permit is attached. Also, although not discussed at our meeting, the project will be eliminating the wastewater source in Table C of the draft permit. There are no changes to Table B of the draft permit, which are also attached to this letter for reference. Per your request, we are also enclosing the updated water balance information. Our understanding is that with these changes, DEEP will issue a letter confirming that a new permit is not needed and a new draft permit with revised tables.

Also, as discussed at our meeting, DEEP's February 26, 2014 approval letter currently states that "construction of the system approved herein shall be completed within two years of the date of this approval," *i.e.,* February 26, 2016 as required by Section 22a-430-4(k)(5). The letter further notes that the Commissioner "may" revoke the approval if the construction is not completed within two years, consistent with the DEEP regulations. As we discussed, we do not anticipate that construction of the wastewater system will be completed by the February 26, 2016 date. The construction period for building the

Facility is approximately three years from the date that all approvals are obtained. We anticipate receiving all approvals by December 2015. However, to plan for unknown contingencies we have asked the Connecticut Siting Council ("CSC") for a construction deadline of June 1, 2019. Accordingly, we are providing this schedule to DEEP at this time for informational purposes.

Please contact me at (781) 848-3611 or by e-mail at abazinet@cpv.com with any questions.

Sincerely,

Andrew J. Bazinet

REVISED DRAFT WASTEWATER PERMIT TABLES

Table A

Discharge Serial Number: 201-1 | **Monitoring Location:** 1

Wastewater Description: ~~Wastewater from the pH adjustment tank (demineralizer regeneration and chemical storage drains),~~ boiler blowdown, ~~cooling water from the wet surface air cooler~~ and plant equipment and floor drains

Monitoring Location Description: Samples taken to satisfy the monitoring requirements of this paragraph shall be taken at Test Manhole 1 (TMH-1).

Discharge is to: The Borough of Naugatuck Water Pollution Control Facility

PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING		
		Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency 2	Sample Type or Measurement to be Reported	Instantaneous Limit or Required Range	Sample// Reporting Frequency 2	Sample Type or Measurement to be Reported
Arsenic, Total	mg/l	----	----	Twice per Month	Daily Composite	NA	NR	NA
Chromium, Total	mg/l	----	0.2	Twice per Month	Daily Composite	0.3	NR	NA
Copper, Total	mg/l	----	----	Twice per Month	Daily Composite	NA	NR	NA
Flow, Average and Maximum 1	gpd	37,440	104,000	Continuously// Monthly	Computed	NA	NR	NA
Flow, Total	gpd	----	104,000	Twice per Month	Daily Flow	NA	NR	NA
Magnesium, Total	mg/l	----	----	Twice per Month	Daily Composite	NA	NR	NA
Nickel, Total	mg/l	----	----	Twice per Month	Daily Composite	NA	NR	NA
Oil and Grease, Hydrocarbon Fraction	mg/l	----	----	Twice per Month	Grab Sample Average	NA	NR	NA
Oil and Grease, Total	mg/l	NA	----	Monthly	Grab Sample Average	NA	NR	NA
pH	S.U.	NA	NA	NR	NA	6.0 to 10.0	Twice per Month	RDS
pH, Continuous	S.U.	NA	NA	NR	NA	6.0 to 10.0	Continuously// Monthly	RDM
Silver, Total	mg/l	----	----	Twice per Month	Daily Composite	NA	NR	NA
Zinc, Total	mg/l	----	1.0	Twice per Month	Daily Composite	1.5	NR	NA

Table Footnotes and Remarks:

Footnotes:

1 For this parameter the permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Average Daily Flow and the Maximum Daily Flow for each month.

2.The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'

Remarks:

1. There shall be no discharge of polychlorinated biphenyl compounds.

Table B

Discharge Serial Number: 201-a | **Monitoring Location:** 1

Wastewater Description: Equipment and Plant Drains

Monitoring Location Description: Collection sump immediately following the oil water separator prior to mixing with any other water or substance.

Discharge is to: The Borough of Naugatuck Water Pollution Control Facility

PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING		
		Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency [2]	Sample Type or Measurement to be Reported	Instantaneous Limit or Required Range	Sample// Reporting Frequency [2]	Sample Type or Measurement to be Reported
Flow, Instantaneous	gpm	NA	NA	NR	NA	29.9	NR	Instantaneous
Flow, Average and Maximum [1]	gpd	----	7,200	Continuously// Monthly	Computed	NA	NR	NA
Flow, Total	gpd	-----	7,200	Twice per Month	Daily Flow	NA	NR	NA
Oil and Grease, Hydrocarbon Fraction	mg/l	----	----	Twice per Month	Grab Sample Average	NA	NR	NA
Oil and Grease, Total	mg/l	NA	----	Monthly	Grab Sample Average	NA	NR	NA

Table Footnotes and Remarks:

Footnotes:

[1] For this parameter the permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Average Daily Flow and the Maximum Daily Flow for each month.

[2] The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'

Table C

Discharge Serial Number: 201-b | **Monitoring Location:** I

Wastewater Description: ~~Combustion Turbine Cleaning Wastewater~~

Monitoring Location Description: This wastewater shall be collected in the Turbine Wastewater Holding Tank. The Turbine Wastewater Holding Tank shall be sampled and analyzed to verify compliance with parameter limitations contained in this paragraph prior to discharging.

Discharge is to: The Borough of Naugatuck Water Pollution Control Facility

PARAMETER	UNITS	FLOW/TIME BASED MONITORING				INSTANTANEOUS MONITORING		
		Average Monthly Limit	Maximum Daily Limit	Sample/Reporting Frequency 2	Sample Type or Measurement to be Reported	Instantaneous Limit or Required Range	Sample// Reporting Frequency 2	Sample Type or Measurement to be Reported
Arsenic, Total	mg/l	NA	NA	NR	NA	----	per Discharge	Grab
Chromium, Total	mg/l	NA	NA	NR	NA	----	per Discharge	Grab
Copper, Total	mg/l	NA	NA	NR	NA	1.0	per Discharge	Grab
Flow, Total [1]	gpd	----	----	per Discharge	Daily Flow	NA	NR	NA
Silver, Total	mg/l	NA	NA	NR	NA	----	per Discharge	Grab
Zinc, Total	mg/l	NA	NA	NR	NA	----	per Discharge	Grab

Table Footnotes and Remarks:

Footnotes:

[1] For this parameter the permittee shall maintain at the facility a record of the total flow for each day of discharge and shall report the Average Daily Flow and the Maximum Daily Flow for each sampling month.

[2] The first entry in this column is the 'Sample Frequency'. If this entry is not followed by a 'Reporting Frequency' and the 'Sample Frequency' is more frequent than monthly then the 'Reporting Frequency' is monthly. If the 'Sample frequency' is specified as monthly, or less frequent, then the 'Reporting Frequency' is the same as the 'Sample Frequency'

3 Chemical cleaning wastewater shall not be discharged to the waters of the state with the exception of combustion cleaning turbine wastewater.

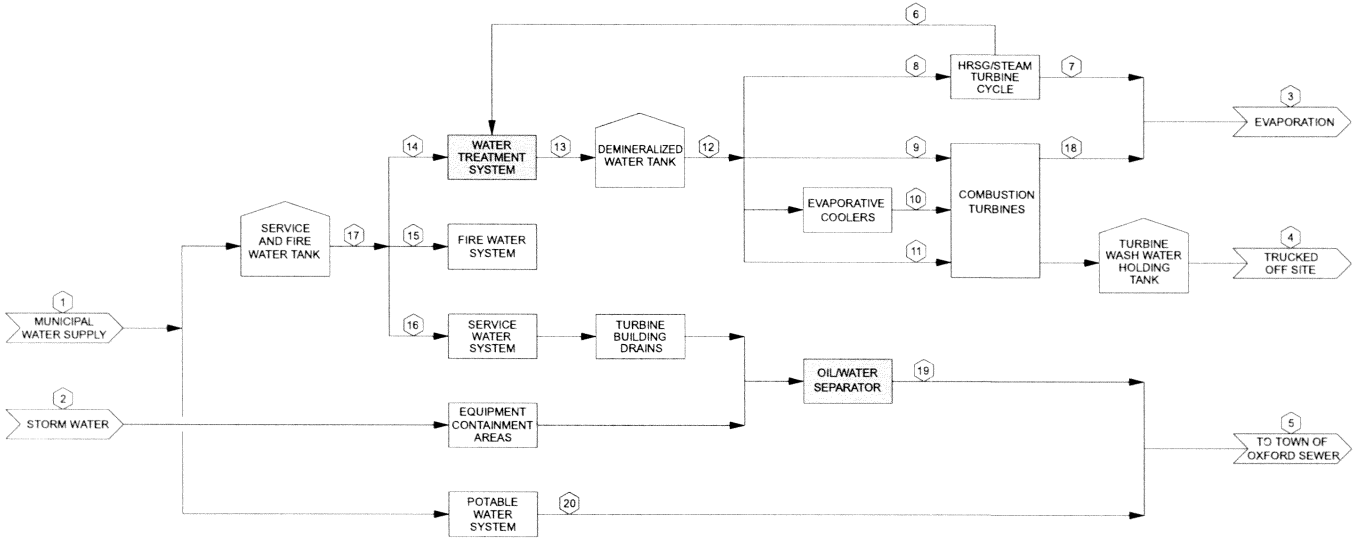
UPDATED WATER BALANCE INFORMATION

POWER ENGINEERS

PREPARED BY: C. CROSMAN
DECEMBER 22, 2014

WATER BALANCE

CPV TOWANTIC ENERGY CENTER - OXFORD, CT



POWER ENGINEERS

PREPARED BY: C. CROSMAN
DECEMBER 22, 2014

WATER BALANCE

CPV TOWANTIC ENERGY CENTER - OXFORD, CT

CORRESPONDING HEAT BALANCE NUMBER		1	4	DO-1	6	DO-3	7	DO-4	10	DO-5	12	13
FUEL		GAS	GAS	OIL	GAS	OIL	GAS	OIL	GAS	OIL	GAS	GAS
NET PLANT OUTPUT, MW		836.9	775.2	716.1	791.2	716.5	777.5	702.8	744.3	691.1	745.5	702.5
AMBIENT TEMPERATURE, °F		-14.2	-14.2	-14.2	20.0	20.0	50.0	50.0	59.0	59.0	90.0	90.0
RELATIVE HUMIDITY, %		20	20	20	60	60	60	60	60	60	60	60
NUMBER OF OPERATING GAS TURBINES/ HRSGs		2	2	2	2	2	2	2	2	2	2	2
GAS TURBINE LOAD, %		100	100	100	100	100	100	100	97	100	100	100
EVAPORATIVE COOLERS		OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON
DUCT BURNING, %		27	0	0	0	0	0	0	0	0	19	0
NUMBER	DESCRIPTION	FLOW RATE - AVERAGE GALLONS PER MINUTE										
1	MUNICIPAL WATER SUPPLY	40.1	33.7	151.4	34.5	151.4	34.2	151.4	33.2	151.4	80.2	76.2
2	STORMWATER COLLECTED IN CONTAINED AREAS	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
3	TOTAL EVAPORATION LOSSES	37.1	30.6	692	31.5	709	31.2	714	30.2	698	77.2	73.2
4	WASTEWATER DISCHARGE - SERIAL NUMBER 201-b	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
5	DISCHARGE TO TOWN OF OXFORD SEWER	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5	4.5
6	BLOWDOWN FROM TWO (2) HRSGs	74.2	61.3	46.8	63.0	47.6	62.4	47.9	60.4	47.5	69.2	61.1
7	EVAPORATIVE LOSSES FROM HRSG/ STEAM TURBINE CYCLE	37.1	30.6	23.4	31.5	23.8	31.2	24.0	30.2	23.8	34.6	30.6
8	DEMINERALIZED WATER MAKEUP TO HRSG/ STEAM TURBINE CYCLE	111	91.9	70.2	94.6	71.3	93.6	71.9	90.6	71.3	103.8	91.7
9	WATER INJECTED INTO COMBUSTION TURBINES DURING OIL FIRING	0	0	668	0	685	0	690	0	674	0	0
10	EVAPORATION FROM TWO (2) EVAPORATIVE COOLERS	0	0	0	0	0	0	0	0	0	42.6	42.6
11	DEMINERALIZED WATER USED FOR OFF LINE WASH	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
12	TOTAL DEMINERALIZED WATER USED	111	92.0	739	94.6	756	93.6	762	90.6	745	146	134
13	TOTAL DEMINERALIZED WATER PRODUCED	111	92.0	195	94.6	196	93.6	196	90.6	196	146	134
14	SERVICE WATER USED IN WATER TREATMENT SYSTEM	37.1	30.7	148	31.5	148	31.2	148	30.2	148	77.2	73.2
15	FIRE PROTECTION WATER	0	0	0	0	0	0	0	0	0	0	0
16	MISCELLANEOUS SERVICE WATER USES	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
17	TOTAL FIRE AND SERVICE WATER USES	39.1	32.7	150	33.5	150	33.2	150	32.2	150	79.2	75.2
18	TOTAL WATER EVAPORATED IN COMBUSTION TURBINES	0	0	668	0	685	0	690	0	674	42.6	42.6
19	WASTEWATER DISCHARGE - SERIAL NUMBER 201-a	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
20	DRAINS FROM POTABLE WATER SYSTEM	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	DECLINE IN DEMINERALIZED WATER TANK VOLUME	0	0	543	0	560	0	566	0	549	0	0

NOTES:
1. STORMWATER FLOW RATES SHOWN ABOVE ARE BASED ON YEARLY AVERAGE RAINFALL OF 51.1 INCHES.
2. THE ABOVE ASSUMES THAT HRSG BLOWDOWN WILL BE COOLED WITHOUT USING QUENCH WATER, TREATED IN THE MAKEUP DEMINERALIZER SYSTEM, AND REUSED IN THE HRSG/ STEAM TURBINE CYCLE.

Table 4-7 presents the results of the PSD increment compliance assessment for 24-hour $PM_{2.5}$ and annual NO_2.

Table 4-7. CPV Towantic Energy Center Cumulative PSD Increment Compliance Assessment

Pollutant	Averaging Period	Total Increment Consumption[1] ($\mu g/m^3$)	Maximum Allowable PSD Increment ($\mu g/m^3$)
NO_2	Annual	2.4	25
$PM_{2.5}$	24-hour	4.2	9

[1] Impact concentrations are conservatively based on the maximum highest first highest (H1H) concentration predicted across the range of modeled years.

To comply with the requirements of Non-attainment New Source Review for NO_x, the proposed Project is required to obtain offsets at a minimum ratio of 1.2 to 1.0. The Project had previously acquired 177 offsets, and will acquire 57 additional offsets prior to initial operation from within the regional airshed to meet its adjusted emissions values. Once operational, the Project will also be required to obtain allowances to offset SO_2 emissions under the federal Acid Rain Program and NO_x allowances to offset ozone season NO_x emissions under the Clean Air Interstate Rule, as implemented by Connecticut.

As noted in Section 3.1, air quality regulation and policy has changed since the Project's current permit was issued. The above analysis and Project design reflects compliance with the more stringent SO_2, NO_2, and $PM_{2.5}$ NAAQS, as well as with the GHG rules establishing NSPS and BACT requirements. The Project continues to meet air quality standards that are protective of human health and the environment, even with the additional output that will benefit the wholesale electric markets.

4.1.2 Water Supply, Use and Discharge

Updated information on water use and discharge provided in Q-Naugatuck-1 and 3 and attachments to page 19 of this report. ✓

4.1.2.1 Water Demand and Source

As is currently approved for the Project, water will be supplied to the Project by the Heritage Village Water Company (Heritage). As shown on the water balance provided as Figure 5, the quantity of water to be supplied by Heritage is expected to be in the range of 33.9 to 40.8 gallons per minute (gpm) average (48,816 to 58,752 gallons per day [gpd]) when the fuel is natural gas and the ambient temperature is not high enough to use the evaporative coolers (59°F or less). When the fuel is natural gas and the evaporative coolers are in operation, the quantity of water supplied by Heritage is expected to be in the range of 98.2 to 102.2 gpm (141,408 to 147,168 gpd). Prior water demand was approximately 41 gpm when firing natural gas. Instantaneous demands had previously been approximately 144 gpm, with water demand not exceeding 100,000 gpd.

If the supply of natural gas is interrupted and ULSD is used as the fuel, the quantity of water required will be in the range of 663 to 712 gpm (954,720 to 1,025,280 gpd); this higher range is a result of the water that will be injected into the gas turbines to control NO_x emissions. The increased water demand associated with oil firing was previously 749,000 gpd.

The Project previously proposed to limit its withdrawal from Heritage to 152 gpm or 218,000 gpd, and is expected to maintain that limitation pending the outcome of discussions with Heritage to determine whether additional supplies can be secured without stressing the permitted safe yield of 2.052 million gallons per day (mgd). The balance of the Project's requirements is expected to be met by on-site storage. CPV expects that it can limit any additional supplies to only the winter heating months (November – March) and to only 720 hours within that time period, consistent with the expected maximum limits for oil firing in the Project's air permit.

Witness: Andrew J. Bazinet

Question Naugatuck-1:

Provide the original submissions to the WPCA from the previous application for a 512mw dual fuel combined cycle application and describe in detail changes from the original submission and certifications with the representations for the current 785mw dual fuel proposal.

Response:

CPV Towantic, LLC is not in possession of the original submittals to the Naugatuck Water Pollution Control Authority because CPV was not involved with the project at the time of the original application to the Connecticut Siting Council or the original submission to the WPCA. Those documents should be in the WPCA's files.

The currently-proposed Facility design includes multiple improvements that optimize the proposed Facility's water use and discharge characteristics. Primarily, these improvements include: i) elimination of the wet surface air cooler (or "wet sac") in favor of fin-fan coolers for auxiliary cooling; and ii) increased use of demineralized water for process makeup, thereby eliminating the boiler and evaporative cooler blowdown waste streams. The following table provides a simple comparison of the water discharge profile for the previous 512 MW Facility and the current 785 MW Facility.

Fuel: Ambient: Nameplate Output:	NG Summer 512MW	NG Summer 785 MW	Fuel Oil Winter 512 MW	ULSD Winter 785 MW
Discharge to Sewer (gallons per minute)	58.8	4.5	53.9	4.5
Discharge to Sewer (gallons per day)	84,672	6,480	77,616	6,480

Witness: Andrew J. Bazinet

Question Naugatuck-3:

Describe in detail the chemical composition, quantity, kind, quality, nature and temperature of the effluent "grey water" proposed to be discharged to the Naugatuck Wastewater Treatment Plant when operating on Natural Gas at full performance and ULSD.

Response:

The proposed Facility will not be using "grey water" as that term is commonly used. Rather, the proposed Facility will be using potable water from the Heritage Village Water Company (HVWC), and utilizing the majority of that water internally through recycling and evaporative processes. For that reason, the discharge is described as "wastewater" in this and other interrogatory responses. The wastewater that will be discharged from the Facility will be associated with three distinct sources:

a. Stormwater collected in contained areas but unrelated to Facility processes or the potable water supply.
b. Domestic uses (sinks and toilets).
c. Service uses include turbine building floor drains, equipment drains from the steam cycle, and fire protection. The turbine building floor drain discharge will consist of potable water with the addition of oil and suspended solids resulting from floor and equipment washdown.

The discharge associated with "a" is not unique to CPV Towantic and would be present with any commercial development that has a building. The stormwater will be processed through an oil/water separator prior to conveyance to the sanitary sewer. The discharge volumes associated with "b" and "c" are also not unique to CPV Towantic and are similar to other commercial building discharges.

The proposed Facility has been designed with a significantly reduced volume of wastewater discharge, under all operating conditions, and the quality of the proposed discharge has improved.

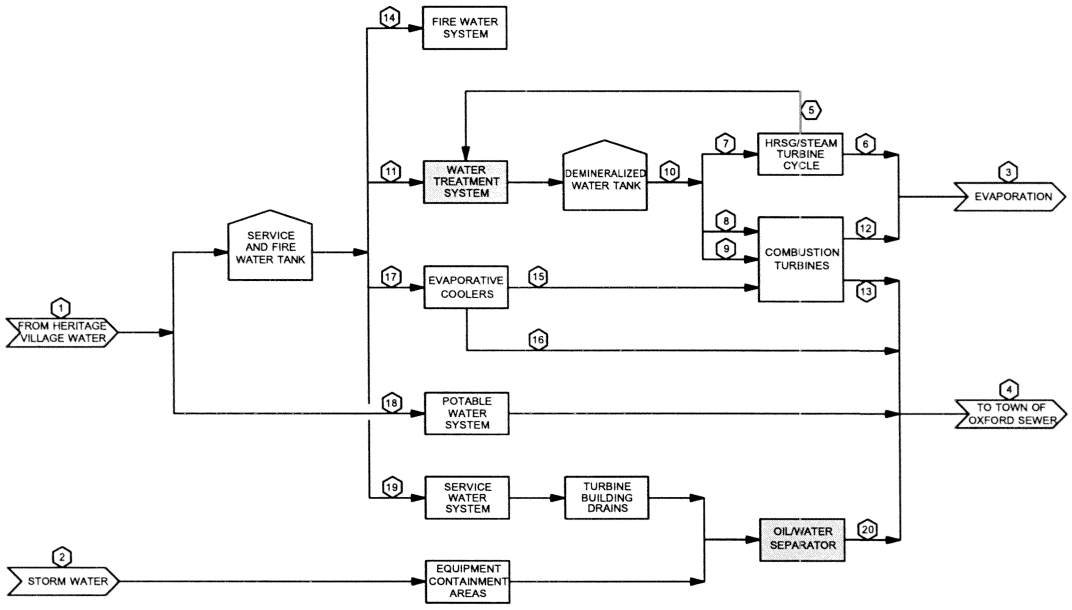
The maximum volume of wastewater to be discharged by the proposed Facility, through the Oxford sanitary sewer system, to the Naugatuck Wastewater Treatment Plant (Naugatuck WWTP) will be 6,480 gallons per day. This volume is based on 24 hours of operation, fueled by either natural gas or ULSD, at full plant load and across all ambient temperatures.

As to the temperature of the discharge, see the response to Q-Naugatuck-6.

Burns and Roe

PREPARED BY: C. CROSMAN
JULY 16, 2014

WATER BALANCE
CPV TOWANTIC ENERGY CENTER - OXFORD, CT



SEE NOTE ON page 26 ✓

CPV Towantic Energy Center
Oxford, New Haven County, Connecticut

Figure 5. (Page 1 of 2)

Water Balance

Burns and Roe

PREPARED BY: C. CROSMAN
JULY 16, 2014

WATER BALANCE
CPV TOWANTIC ENERGY CENTER - OXFORD, CT

CORRESPONDING HEAT BALANCE NUMBER		1	4	DO-1	6	DO-3	7	DO-4	10	DO-5	12	13	DO-6
FUEL		GAS	GAS	OIL	GAS	OIL	GAS	OIL	GAS	OIL	GAS	GAS	OIL
NET PLANT OUTPUT, MW		836.9	775.2	716.1	791.2	716.5	777.5	702.8	744.3	691.1	745.5	702.5	635.4
AMBIENT TEMPERATURE, °F		-14.2	-14.2	-14.2	20.0	20.0	50.0	50.0	59.0	59.0	90.0	90.0	90.0
RELATIVE HUMIDITY, %		20	20	20	60	60	60	60	60	60	60	60	60
NUMBER OF OPERATING GAS TURBINES/HRSGs		2	2	2	2	2	2	2	2	2	2	2	2
GAS TURBINE LOAD, %		100	100	100	100	100	100	100	97	100	100	100	100
EVAPORATIVE COOLERS		OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	OFF	ON	ON	ON
DUCT BURNING, %		27	0	0	0	0	0	0	0	0	19	0	0
NUMBER	DESCRIPTION	FLOW RATE - AVERAGE GALLONS PER MINUTE											
1	WATER SUPPLIED BY HERITAGE VILLAGE WATER COMPANY	40.8	34.3	695	35.2	712	34.9	718	33.9	701	102.2	98.2	663
2	STORMWATER COLLECTED IN CONTAINED AREAS	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
3	TOTAL EVAPORATION LOSSES	37.1	30.6	692	31.5	709	31.2	714	30.2	698	77.2	73.2	639
4	DISCHARGE TO TOWN OF OXFORD SEWER	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2	26.5	26.5	25.4
5	BLOWDOWN FROM TWO (2) HRSGs	74.2	61.3	46.8	63.0	47.6	62.4	47.9	60.4	47.5	69.2	61.1	46.6
6	EVAPORATIVE LOSSES FROM HRSG/STEAM TURBINE CYCLE	37.1	30.6	23.4	31.5	23.8	31.2	24.0	30.2	23.8	34.6	30.6	23.3
7	DEMINERALIZED WATER MAKEUP TO HRSG/STEAM TURBINE CYCLE	111.3	91.9	70.2	94.6	71.3	93.6	71.9	90.6	71.3	103.8	91.7	70.0
8	WATER INJECTED INTO COMBUSTION TURBINES DURING OIL FIRING	0	0	668	0	685	0	690	0	674	0	0	575
9	DEMINERALIZED WATER USED FOR OFF LINE WASH	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
10	TOTAL DEMINERALIZED WATER PRODUCED	111.9	92.6	739	95.2	757	94.3	763	91.2	746	105	92.4	646
11	SERVICE WATER USED IN WATER TREATMENT SYSTEM	37.8	31.3	692	32.2	709	31.9	715	30.9	698	35.3	31.3	599
12	TOTAL WATER EVAPORATED IN COMBUSTION TURBINES	0	0	668	0	685	0	690	0	674	42.6	42.6	616
13	COMBUSTION TURBINE OFF LINE WASH WASTE WATER	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7	0.7
14	FIRE PROTECTION WATER	0	0	0	0	0	0	0	0	0	0	0	0
15	EVAPORATION FROM TWO (2) EVAPORATIVE COOLERS	0	0	0	0	0	0	0	0	0	42.6	42.6	40.3
16	BLOWDOWN FROM TWO (2) EVAPORATIVE COOLERS	0	0	0	0	0	0	0	0	0	21.3	21.3	20.2
17	MAKEUP TO TWO (2) EVAPORATIVE COOLERS	0	0	0	0	0	0	0	0	0	63.9	63.9	60.5
18	POTABLE WATER USES	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
19	MISCELLANEOUS SERVICE WATER USES	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
20	DISCHARGE FROM OIL/WATER SEPARATOR	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5

NOTES: 1. STORMWATER FLOW RATES SHOWN ABOVE ARE BASED ON YEARLY AVERAGE RAINFALL OF 51.1 INCHES.
2. THE ABOVE ASSUMES THAT HRSG BLOWDOWN WILL BE COOLED WITHOUT USING QUENCH WATER, TREATED IN THE MAKEUP DEMINERALIZER SYSTEM, AND REUSED IN THE HRSG/STEAM TURBINE CYCLE.

See note on page 26

CPV Towantic Energy Center
Oxford, New Haven County, Connecticut

Figure 5. (Page 2 of 2)

Water Balance

Most of the water will be stored in two 875,000-gallon service and fire water storage tanks and then supplied to the fire water, demineralized water treatment, evaporative cooler, and service water distribution systems. Demineralized water will be used for makeup to the HRSG/steam turbine cycle, injection into the combustion turbines for NO_x control during ULSD firing, and combustion turbine washing. A small portion of the water supplied by Heritage will bypass the service and fire water tank and be used in the potable water system.

Design features to minimize the quantity of water needed from Heritage that were not present in the currently permitted configuration, but have been incorporated into the current Project are, as follows:

- In the current Project, turbine lubrication oil and other auxiliary systems will be cooled by heat transfer to the atmosphere in a fin-fan type cooler. The currently permitted configuration included a wet surface air cooler which would have consumed water for evaporative cooling.
- In the current Project, HRSG blowdown will be cooled by a combination of either heat recovery or heat transfer to the atmosphere in a fin-fan cooler. HRSG blowdown will then be treated in the water treatment system and reused in the HRSG/steam turbine cycle. The currently permitted configuration would have used additional water to quench HRSG blowdown and for HRSG/steam turbine cycle makeup.
- In the current Project, the water treatment system will use ion exchange resins that are regenerated off-site, and regeneration water will not be needed. The currently permitted configuration included ion exchange resins that would have been regenerated on site and would have needed water for regeneration.

4.1.2.2 Sanitary and Process Wastewater

See Note on page 26.

The Project will continue to discharge wastewater to the municipal sewer system, which in turn discharges to the Naugatuck Wastewater Treatment Plant. The Project has been conditionally issued a wastewater discharge permit by DEEP (see Appendix A); as a part of this review, the Naugatuck Wastewater Treatment Plant has confirmed it has adequate capacity to receive and treat Project flows.

The permit includes three permitted discharges:

- Discharge Serial Number 201-1 is for wastewater from the pH adjustment tank (demineralizer regeneration and chemical storage drains), boiler blowdown, cooling water from wet surface air cooler, and plant equipment and floor drains;
- Discharge Serial Number 201-a is for wastewater from equipment and plant drains; and
- Discharge Serial Number 201-b is for combustion turbine cleaning wastewater.

Wastewater quantities for the Project are shown on the water balance provided in Figure 5. Differences between the current configuration and the proposed Project are minimal but reduce overall wastewater flows:

- With an off-site (instead of on-site) regenerated ion exchange system to produce demineralized water, neutralized regeneration wastewater will not be discharged from a pH adjustment tank;
- Since HRSG blowdown will be recovered and reused, boiler blowdown will not be discharged;
- Without a wet surface air cooler, blowdown from this source will no longer require discharge; and
- A very small volume of blowdown from evaporative coolers in the present Project will now be discharged.

The current Project configuration will continue to meet all applicable wastewater discharge standards.

Witness: Lynn Gresock

Question CSC-10:

Provide the most current status of the FAA review.

Response:

Detailed information regarding facility structure heights (utilizing the most precise 1A level survey accuracy), including the relocated 150-foot stacks, was submitted to the FAA for review in August and September 2014.[1] On November 17, 2014, the FAA issued Notices of Presumed Hazard that, as expected, indicated the Visual Flight Rule (VFR) Horizontal Surface[2] will be penetrated by taller facility elements, the tallest of them being the facility stacks (proposed at 980 feet AMSL). No material changes in rule or airport surface areas have occurred since a Determination of No Hazard was issued for the project (including 150-foot stacks) in March 2009 following a similar Presumed Hazard notice and additional review through a circularization process. CPV Towantic, LLC anticipates requesting the FAA to circularize review of the project by January 16, 2015 in order to allow for additional review towards an ultimate Determination of No Hazard.

Administration, Control, and Engineering Building.

1 August 26, 2014 for the stacks; September 9, 2014 for the majority of other taller structures; and September 12, 2014 for the ~~air cooled condenser~~

2 The VFR Horizontal Surface extends 5,000 feet from the airport at a height of 876 feet AMSL

Witness: **Lynn Gresock**
Andrew J. Bazinet

2b – Connecticut Siting Council Late-Filed Exhibit:

Updated FAA materials.

Response:

Since filing the petition with the Council on November 3, 2015, CPV Towantic has continued to work with the FAA on the associated aeronautical studies. As anticipated, on November 17, 2014, the FAA issued Notices of Presumed Hazard for the two 150-foot stacks and several other facility elements. The notifications cited Title 14, CFR, Section 77.19 (a), a visual flight rule (VFR) surface area, as being obstructed. This surface has always been identified as being obstructed, as outlined in previous FAA communications and subsequent approvals. The project was provided with sixty days to notify the FAA of its request for additional analysis (circularization). Such request was provided on January 15, 2015. The FAA's analysis is expected to take up to 120 days pursuant to the November 17, 2014 notices.

On January 21, 2015, official correspondence was issued by the FAA noting additional study has commenced and a public notice was issued by the FAA. Comments from interested parties are due within 30 days.

In addition to progress with the FAA, CPV Towantic has conducted outreach activity on an on-going basis with the Town of Oxford government to keep it apprised of FAA-related progress and conducted a meeting on January 6, 2015 with members of the Connecticut Airport Authority (CAA), including Executive Director-Kevin Dillon, General Counsel-Paul K. Pernerewski, Jr., and Director of General Aviation Airports-Barry Pallanck. Among other items, the discussion included a brief overview of the project, history of FAA processes and subsequent Determinations of No Hazard, and CPV Towantic's current status in the FAA process. CPV Towantic committed to providing the CAA additional information as the process progresses; the attached information package was provided to the CAA on January 9, 2015.

CPV Towantic expects to continue its outreach efforts with key stakeholders and will supplement its original application during the circularization process. CPV Towantic will provide timely updates to the Council as the process continues.

From: Darin.Clipper@faa.gov [mailto:Darin.Clipper@faa.gov]
Sent: Thursday, January 15, 2015 1:00 PM
To: Bruce, Jackie
Subject: RE: Request for Additional Study

Jackie,

Public circ will occur within the next few days.

Thank you for taking care of this and hope you feel better soon.

Darin

Darin J. Clipper
FAA Obstruction Evaluation Group (AJV-15)
Obstruction Evaluation Specialist, CT/RI/MA/NC/SC
Office: 404-305-7084
Fax: 404-305-7080

For more information, go to:
https://oeaaa.faa.gov

From: Bruce, Jackie [mailto:Jackie.Bruce@tetratech.com]
Sent: Thursday, January 15, 2015 12:55 PM
To: Clipper, Darin (FAA)
Cc: Gresock, Lynn; abazinet@cpv.com
Subject: Re: Request for Additional Study

Hello Darin,
I concur that we would like to purse favorable determination for the cases pertaining to the CPV Towantic Energy Center in Oxford, Connecticut. Please let us know if additional information is required.

Thank you.
Jackie Bruce

On Jan 15, 2015, at 12:47 PM, "Darin.Clipper@faa.gov" <Darin.Clipper@faa.gov> wrote:

The official request for public circularization on the cases listed below needs to come from either Andy or Jackie as they are part of the case file. Once I receive their concurrence, I can proceed with the request.

Darin J. Clipper
FAA Obstruction Evaluation Group (AJV-15)
Obstruction Evaluation Specialist, CT/RI/MA/NC/SC
Office: 404-305-7084
Fax: 404-305-7080

For more information, go to:
https://oeaaa.faa.gov

From: Gresock, Lynn [mailto:Lynn.Gresock@tetratech.com]
Sent: Wednesday, January 14, 2015 3:08 PM
To: Clipper, Darin (FAA)
Cc: Andy Bazinet; Bruce, Jackie; Gresock, Lynn
Subject: Request for Additional Study

We are in receipt of the following Notices of Presumed Hazard associated with a series of cases linked to a single project, the CPV Towantic Energy Center in Oxford, Connecticut:

- Stack 1 – 2014-ANE-1770-OE
- Stack 2 – 2014-ANE-1771-OE
- Auxiliary Boiler Stack – 2014-ANE-1908-OE
- Gantry Crane – 2014-ANE-1909-OE
- Fuel Oil Storage Tank – 2014-ANE-1910-OE
- Air-Cooled Condenser – 2014-ANE-1911-OE
- Switchyard Tower – 2014-ANE-1912-OE
- Administration Building Corners
    - 2014-ANE-1923-OE
    - 2014-ANE-1924-OE
    - 2014-ANE-1925-OE
    - 2014-ANE-1926-OE

We would like to purse a favorable determination at the heights submitted in these cases. Therefore, with this email, we are requesting additional review, which we understand will include public circularization for comment. Please do not hesitate to let us know if you require additional information or have questions with regard to this project. Thank you!

Lynn Gresock | Vice President – Energy Program
Office **978.203.5352** | Mobile **978.995.4450** | Fax **617.737.3480** | lynn.gresock@tetratech.com

Tetra Tech | Complex World, Clear Solutions™
238 Littleton Road, Suite 201B, Westford, MA 01886 | tetratech.com

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193

Aeronautical Study No.
2014-ANE-1770-OE

Issued Date: 01/21/2015

Andrew Bazinet
CPV Towantic, LLC
50 Braintree Hill Office Park
Suite 300
Braintree, MA 02184

**** PUBLIC NOTICE ****

The Federal Aviation Administration is conducting an aeronautical study concerning the following:

Structure:	Stack Stack #1
Location:	Oxford, CT
Latitude:	41-29-01.44N NAD 83
Longitude:	73-07-17.91W
Heights:	830 feet site elevation (SE)
	150 feet above ground level (AGL)
	980 feet above mean sea level (AMSL)

The structure above exceeds obstruction standards. To determine its effect upon the safe and efficient use of navigable airspace by aircraft and on the operation of air navigation facilities, the FAA is conducting an aeronautical study under the provisions of 49 U.S.C., Section 44718 and, if applicable, Title 14 of the Code of Federal Regulations, part 77.

** SEE REVERSE SIDE FOR ADDITIONAL INFORMATION **

In the study, consideration will be given to all facts relevant to the effect of the structure on existing and planned airspace use, air navigation facilities, airports, aircraft operations, procedures and minimum flight altitudes, and the air traffic control system.

Interested persons are invited to participate in the aeronautical study by submitting comments to the above FAA address or through the electronic notification system. To be eligible for consideration, comments must be relevant to the effect the structure would have on aviation, must provide sufficient detail to permit a clear understanding, must contain the aeronautical study number printed in the upper right hand corner of this notice, and must be received on or before 02/27/2015.

This notice may be reproduced and circulated by any interested person. Airport managers are encouraged to post this notice.

If we can be of further assistance, please contact our office at (404) 305-7084. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-ANE-1770-OE.

Darin Clipper
Specialist

Attachment(s)
Part 77
Additional Information
Case Description
Map(s)

Additional Information for ASN 2014-ANE-1770-OE

Proposal: To construct a(n) Stack to a height of 150 feet above ground level, 980 feet above mean sea level.

Location: The structure will be located 0.69 nautical miles northeast of OXC Airport reference point.

Part 77 Obstruction Standard(s) Exceeded:
Section 77.17 (a) (5) a height that affects an Airport Surface by penetrating:
Section 77.19 (a) Horizontal Surface by 104 feet as applied to OXC.

Preliminary FAA study indicates that the above mentioned structure would:
have no effect on any existing or proposed arrival, departure, or en route instrument flight rules (IFR) operations or procedures.
have no physical or electromagnetic effect on the operation of air navigation and communications facilities.
have no effect on any airspace and routes used by the military.

Additional information for ASN 2014-ANE-1770-OE

The proposal is for several structures (two stacks, air cooled condenser, administrative building, switchyard tower, auxiliary boiler stack, gantry crane, and fuel oil storage tank) associated with a new power plant that would be located 3,805 ft. - 4,353 ft. northeast of the Airport Reference Point for the Waterbury-Oxford Airport (OXC), Waterbury, CT. Each of the proposed structures is being studied separately under the following Aeronautical Study Numbers:

2014-ANE-1770-OE 41-29-01.44N 73-07-17.91W 150 ft. AGL/980 ft. AMSL (Stack)
2014-ANE-1771-OE 41-29-01.13N 73-07-19.66W 150 ft. AGL/980 ft. AMSL (Stack)
2014-ANE-1908-OE 41-29-02.91N 73-07-23.40W 62 ft. AGL/892 ft. AMSL (Aux Boiler Stack)
2014-ANE-1909-OE 41-29-02.56N 73-07-23.61W 83 ft. AGL/913 ft. AMSL (Gantry Crane)
2014-ANE-1910-OE 41-28-59.75N 73-07-17.26W 48 ft. AGL/878 ft. AMSL (Fuel Oil Tank)
2014-ANE-1911-OE 41-28-59.28N 73-07-22.57W 85 ft. AGL/915 ft. AMSL (Air Condenser)
2014-ANE-1912-OE 41-29-07.68N 73-07-22.37W 65 ft. AGL/895 ft. AMSL (Switchyard Tower)
2014-ANE-1923-OE 41-29-03.26N 73-07-23.61W 52 ft. AGL/882 ft. AMSL (Admin BLDG)
2014-ANE-1924-OE 41-29-02.69N 73-07-23.43W 52 ft. AGL/882 ft. AMSL (Admin BLDG)
2014-ANE-1925-OE 41-29-03.10N 73-07-21.05W 52 ft. AGL/882 ft. AMSL (Admin BLDG)
2014-ANE-1926-OE 41-29-03.67N 73-07-21.22W 52 ft. AGL/882 ft. AMSL (Admin BLDG)

To facilitate the public comment process, all eleven of the proposed structures which exceed a Title 14 CFR Part 77 obstruction standard, are being included in this public notice. However, separate determinations will be made. All comments received from this circularization will be considered in completing each of the determinations for the studies listed above.

The proposed structures are identified as an obstruction under the standards of Title 14 CFR Part 77, as applied to OXC as follows:

Section 77.17 (a) (5): The surface of a takeoff and landing area of an airport or any imaginary surface established under 77.19, 77.21, or 77.23. However, no part of the takeoff or landing area itself will be considered an obstruction.

Section 77.19 (a): A Horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by swinging arcs of a specified radii from the center of each end of the primary surface of each runway of each airport and connecting the adjacent arcs by lines tangent to those arcs.

2014-ANE-1770-OE: Exceeds by up to 104 ft.
2014-ANE-1771-OE: Exceeds by up to 104 ft.
2014-ANE-1908-OE: Exceeds by up to 16 ft.
2014-ANE-1909-OE: Exceeds by up to 37 ft.
2014-ANE-1910-OE: Exceeds by up to 2 ft.
2014-ANE-1911-OE: Exceeds by up to 39 ft.
2014-ANE-1912-OE: Exceeds by up to 19 ft.
2014-ANE-1923-OE: Exceeds by up to 6 ft.
2014-ANE-1924-OE: Exceeds by up to 6 ft.
2014-ANE-1925-OE: Exceeds by up to 6 ft.
2014-ANE-1926-OE: Exceeds by up to 6 ft.

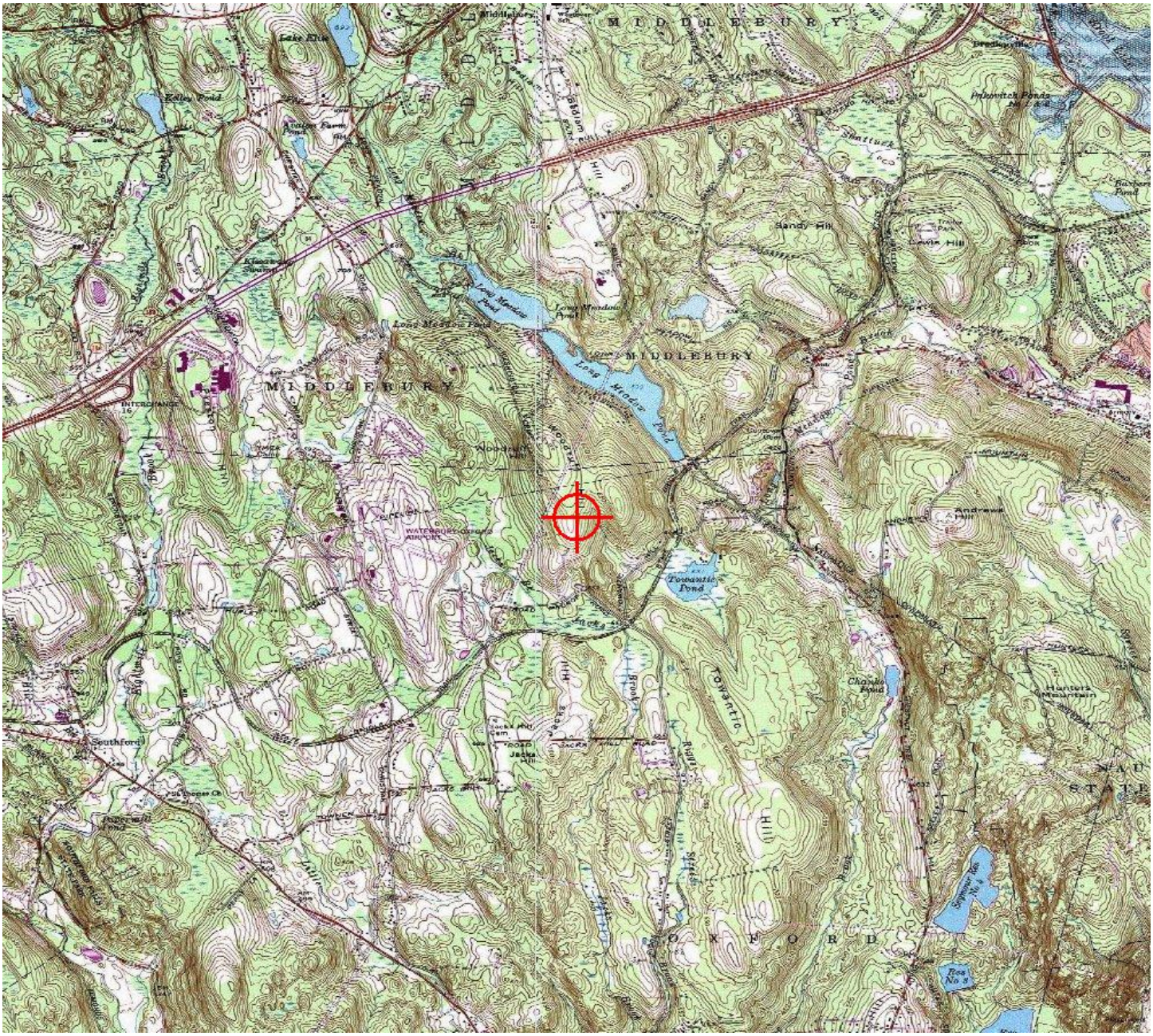
In addition, the structures would be located within the traffic pattern airspace (TPA) for all categories of aircraft using the Waterbury-Oxford Airport. The proposal would exceed the Part 77 horizontal surface as applied to a visual approach runway at OXC by the following:

2014-ANE-1770-OE: Exceeds by up to 104 ft.
2014-ANE-1771-OE: Exceeds by up to 104 ft.
2014-ANE-1908-OE: Exceeds by up to 16 ft.
2014-ANE-1909-OE: Exceeds by up to 37 ft.
2014-ANE-1910-OE: Exceeds by up to 2 ft.
2014-ANE-1911-OE: Exceeds by up to 39 ft.
2014-ANE-1912-OE: Exceeds by up to 19 ft.
2014-ANE-1923-OE: Exceeds by up to 6 ft.
2014-ANE-1924-OE: Exceeds by up to 6 ft.
2014-ANE-1925-OE: Exceeds by up to 6 ft.
2014-ANE-1926-OE: Exceeds by up to 6 ft.

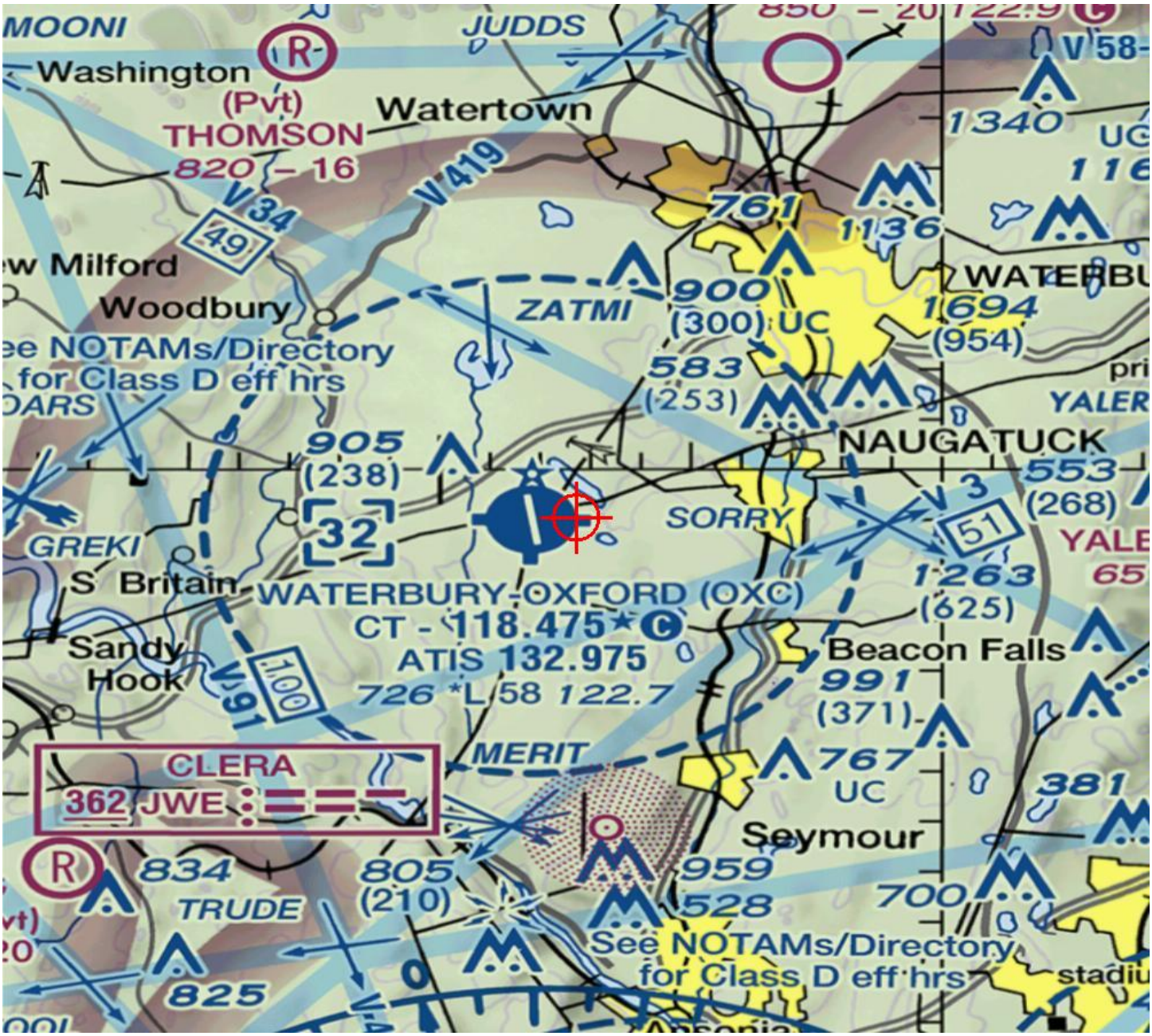
Case Description for ASN 2014-ANE-1770-OE

CPV Towantic, LLC is proposing development of a combined-cycle electric generating facility on the 26-acre property. This notice is a re-submission of 2014-ANE-931-OE, with a 1-foot decrease in base site elevation.

Map for ASN 2014-ANE-1770-OE



Map for ASN 2014-ANE-1770-OE



TETRA TECH

January 8, 2015

Mr. Kevin A. Dillon, A.A.E., Executive Director
Connecticut Airport Authority
Bradley International Airport Administrative Office
Terminal A, 3rd Floor
Windsor Locks, CT 06096

Subject: CPV Towantic Energy Center Background Information

Dear Mr. Dillon:

We appreciate having you take the time to meet with us earlier this week. In order to provide you with additional background regarding the CPV Towantic Energy Center project, we have assembled and are providing the following:

- A summary of the project's FAA review history, as best we know it, based on historical records;
- A copy of the Determination of No Hazard for each of the 150-foot stacks, issued in 2009 following circularization review;
- A copy of a map illustrating the project location relative to the airport and to existing penetrations of the VFR horizontal surface in the near vicinity;
- Copies of the most recent 7460-1s filed for the project for the two 150-foot stacks (the tallest structures) as well as the other features anticipated to penetrate the VFR horizontal surface;
- Copies of the Notices of Presumed Hazard that were expected and obtained, citing the penetration of the VFR horizontal surface; and
- Details of the stack lighting that were envisioned for the currently approved project configuration (consistent with what FAA had required) and that we would anticipate for the updated project as well.

Please let us know if you uncover additional, useful information in your review of historic project files. Also, we are further developing analysis of the project's exhaust plumes relative to air traffic and expect to provide you with some additional materials in that regard in the near future.

We believe that, in particular, the 2009 process resulting in a Determination of No Hazard reflects a similar process and analysis – with the same surface areas but closer stack locations – to our current review. For a variety of reasons, including this and CPV's favorable repositioning of the stacks, we genuinely believe that the project and the airport can exist and operate safely in proximity to one another. Again, we very much appreciate your time, and are eager to continue with open channels of communication as we work with the FAA towards circularization and a No Hazard Determination for the project. Do not hesitate to contact Andy Bazinet or me, if you have questions or comments.

Sincerely,

Tetra Tech, Inc.

Lynn Gresock

Lynn Gresock
Environmental Consultant

Enclosures

cc: Andrew Bazinet

Tetra Tech, Inc.
238 Littleton Road, Suite 201B, Westford, MA 01886
Tel 978.203.5352 Fax 978.692.4592 www.tetratech.com

CPV Towantic

FAA Review History – Best Available Information

Date	Action
6/21/1999	FAA issued a Determination of No Hazard for original location of stacks at elevation of 146 feet AGL or 980 feet AMSL (1999-ANE-52-OE)
2/17/2000	Towantic moved the stack locations about 300 feet and raised the elevation to 150 feet AGL
9/15/2000	The Determination of No Hazard was extended to 2/25/2002
1/31/2001	The FAA denied a petition for discretionary review, rejecting a claim about water vapor impacts and the stack relocations
7/24/2002	The Determination of No Hazard was extended to 1/24/04
2004 – 2007	Work on the project was suspended due to bankruptcy proceeding of project's then owner
3/31/2008	Form 7460-1 was filed for the two stacks (150 feet AGL/981 feet AMSL) and five other buildings in the development; the FAA initiated Aeronautical Studies 2008-ANE-416-OE and six others
5/20/2008	A Notice of Presumed Hazard was issued by FAA for the two stacks and three other structures; issues raised were the TERPS Circling Minimum Descent Altitude (exceeded by 18 feet), the Part 77 surface (exceeded by 105 feet), and Traffic Pattern Altitude. (2008-ANE-416-OE and 2008-ANE-417-OE)
Balance of 2008	Exchange of information to support circularization. During the circularization process, a single complaint was registered relative to the stack exhaust.
3/19/2009	FAA Determination of No Hazard issued for the 150-foot stacks (981 AMSL and within approximately 50 feet of identified location); lighting was required and the determination expired on 9/9/2010 (2008-ANE-416-OE and 2008-ANE-417-OE)
4/15/2009	Petition for discretionary review submitted by Mr. Raymond Pietrorazio citing FAA's analysis failing to take into consideration the effects of emissions in the Determinations of No Hazard
8/5/2009	FAA denies request for discretionary review reaffirms its Determination of No Hazard for Stacks #1 and #2 (2008-ANE-416-OE and 2008-ANE-417-OE) and other site structures (2008-ANE-420-OE through 2008-ANE-422-OE), sets expiration date for determinations of 3/5/2011
3/3/2011	Extensions to Determination of No Hazard granted for Air Cooled Condenser (2008-ANE-420-OE), Main Building (2008-ANE-421-OE) and Switchyard Towers (2008-ANE-422-OE)
6/13/2011	New applications submitted to FAA for Stack #1 and #2 (2011-ANE-1219-OE and 2011-ANE-1220-OE). FAA representative cited the need for new applications was triggered by the approval of new LPV approaches at the airport, although the new LPV matched the footprint of the existing ILS [not penetrated by the current layout]
6/17/2011	Determinations of No Hazard issued for two oil storage tanks (2011-ANE-825-OE and 2011-ANE-826-OE)
9/6/2011	FAA Notice of Presumed Hazard issued (2011-ANE-1219-OE and 2011-ANE-1220-OE)
2/2012	Applications withdrawn and aeronautical studies terminated due to pending addition of new joint venture partner and schedule uncertainty – although some coordination with the FAA continued; CPV Power Development, Inc., through its wholly owned subsidiary, acquires a majority interest in the project entity (now CPV Towantic, LLC)
6/6/2014	Form 7460-1 was filed for the two stacks (981 feet AMSL with base elevation of 831 feet) relocated further east
8/19/2014	Notice of Presumed Hazard issued citing the VFR Horizontal Surface and Expanded Category "A" Circling Approach Procedure (2014-ANE-931-OE and 2014-ANE-932-OE)

Date	Action
8/21/2014	Aeronautical study was terminated to adjust graded base elevation
8/26/2014	Form 7460-1 was filed for the two stacks (980 feet AMSL with base elevation of 830 feet), with 1A accuracy surveys (2014-ANE-1770-OE and 2014-ANE-1771-OE)
9/9/2014	Form 7460-1 filed for majority of other project-related structures that would penetrate the VFR Horizontal Surface, with 1A accuracy surveys
9/12/2014	Form 7460-1 filed for the four corners of the administrative/control/engineering building, with 1A accuracy survey; all elements of the project are linked for FAA review purposes
11/17/2014	Notices of Presumed Hazard issued for each filed facility element, as expected, citing the VFR Horizontal Surface
1/16/2015	Date by which further study, including a circularization for public comment, will be requested

Federal Aviation Administration
Air Traffic Airspace Branch, ASW-520
2601 Meacham Blvd.
Fort Worth, TX 76137-0520

Aeronautical Study No.
2008-ANE-416-OE

Issued Date: 03/19/2009

Mr. Mark Mellana
Towantic Energy, LLC
c/o GE Energy Financial Services, Inc.
120 Long Ridge Road
Stamford, CT 06927

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Stack Stack #1
Location:	Oxford, CT
Latitude:	41-28-59.95N NAD 83
Longitude:	73-07-22.47W
Heights:	150 feet above ground level (AGL)
	981 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is marked and/or lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, paint/red lights - Chapters 3(Marked),4,5(Red),&12.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be completed and returned to this office any time the project is abandoned or:

__X__ At least 10 days prior to start of construction (7460-2, Part I)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part II)

See attachment for additional condition(s) or information.

This determination expires on 09/19/2010 unless:

(a) extended, revised or terminated by the issuing office.
(b) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE POSTMARKED OR DELIVERED TO THIS OFFICE AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before April 18, 2009. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted in triplicate to the Manager, Airspace and Rules Division - Room 423, Federal Aviation Administration, 800 Independence Ave., Washington, D.C. 20591.

This determination becomes final on April 28, 2009 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Office of Airspace and Rules via telephone -- 202-267-8783 - or facsimile 202-267-9328.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

A copy of this determination will be forwarded to the Federal Communications Commission if the structure is subject to their licensing authority.

If we can be of further assistance, please contact Donna ONeill, at (816)329-2525. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2008-ANE-416-OE.

Signature Control No: 569067-108718758 (DNH)
Kevin P. Haggerty
Manager, Obstruction Evaluation Service

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2008-ANE-416-OE

The proposal is for several structures (two stacks, air cooler condenser building, switchyard tower, main plant building) associated with a new power plant that would be located 3,857 ft. - 4,014 ft. northeast of the Airport Reference Point for the Waterbury-Oxford Airport (OXC), Waterbury, CT. Each of the proposed structures has been studied separately under the following Aeronautical Study Numbers:

2008-ANE-416-OE	41-28-59.95N 73-07-22.47W	150 ft. AGL/981 ft. AMSL
2008-ANE-417-OE	41-29-00.21N 73-07-20.74W	150 ft. AGL/981 ft. AMSL
2008-ANE-420-OE	41-28-57.74N 73-07-20.29W	107 ft. AGL/938 ft. AMSL
2008-ANE-421-OE	41-29-01.00N 73-07-23.52W	96 ft. AGL/927 ft. AMSL
2008-ANE-422-OE	41-29-05.15N 73-07-23.35W	65 ft. AGL/896 ft. AMSL

To facilitate the public comment process, all five of the proposed structures, which exceed a Part 77 obstruction standard, were included in the public notice issued under 2008-ANE-416-OE. However, separate determinations will be made. All comments received from the circularization were considered in completing each of the determinations for the studies listed above. This determination concerns the proposed structure studied under Aeronautical Study Number 2008-ANE-416-OE.

This proposed structure is identified as an obstruction under the standards of 14 CFR, part 77, as applied to OXC as follows:

Section 77.23(a)(3): A height that increases a minimum instrument flight altitude within a terminal area (TERPS criteria); would exceed the Circling Minimum Descent Altitude (CMDA) for all approaches by 18 ft. and would increase the CMDA from 1280 ft. AMSL to 1340 ft. AMSL. This impact could be partially mitigated by the submission of a certified survey to 2C accuracy tolerances (+/- 50 ft. horizontal, +/- 20 ft. vertical). With a 2C survey the CMDA would increase from 1280 ft. AMSL to 1300 ft. AMSL. A 2C (or better) survey is required for this structure.

Section 77.23(a)(5): The surface of a takeoff and landing area of an airport imaginary surface established under 77.25, 77.28, or 77.29, a height exceeding the horizontal surface (150 ft. above airport elevation within a radius of 10,000 ft.), would exceed by 105 ft.

The proposal was circularized on August 11, 2008, to all known aviation interests and to non-aeronautical interests that may be affected by the proposal. One letter of objection was received as a result of the circularization; it is summarized below.

Objection: Responder is a concerned citizen (non-pilot) and submitted an extensive letter objecting to the proposal based on the potential adverse effect on aviation operations from the exhaust stack effluents (water vapor/heat).

Response: The FAA has studied the effects of stack effluents in the past including some studies that were quoted, in part, by the responder in his letter. As a word of caution, it would be important to read and understand the entire context of any study rather than just select excerpts if a decision is to be made based on that study. Current FAA policy does not consider stack effluents to be germane to an airspace study.

That said, although stack effluent is not germane to an airspace study the question was asked in the spirit of addressing the responder's concern. This is not a smoke stack. The effluents generated from this stack will be water vapor. The proponent has advised that in most atmospheric conditions no water vapor would be

visible. Under extremely cold outside air temperatures some visible water vapor could be generated but it would normally dissipate prior to reaching traffic pattern altitude. The expected temperature of the effluent as it reaches the top of the stack should be between 210 and 250 degrees Fahrenheit and would also rapidly dissipate. Prevailing winds in the area of OXC have a westerly or northerly component and would aid in moving any effluent away from the airport.

Aeronautical study disclosed that the proposed structure would have some adverse effect. The proponent has agreed to provide a minimum of a 2C survey to help mitigate the adverse effect to the Circling Minimum Descent Altitude. No objections were received from the public circularization to an increase in the CMDA. In this situation a 20 ft. increase in the CMDA is not considered to be a substantial adverse effect. There would be no effect on any other existing or proposed arrival, departure, or en route instrument flight rule (IFR) operations or procedures.

The proposed structure would lie within the Traffic Pattern Airspace (TPA) for all categories of aircraft that use the Waterbury-Oxford Airport. The normal flight path of an aircraft within a traffic pattern is based on the category/approach speed of that aircraft. The higher the category/approach speed, the larger the traffic pattern. Category A aircraft would have been the most likely aircraft affected by this proposed structure as their traffic pattern keeps them closer to the airport and to the proposed structure than the other categories of aircraft.

This proposed structure would be located abeam and approximately 1/2 mile from OXC Runway 18/36. This is in the level flight portion of the downwind leg of the traffic pattern (see note below). It is a commonly accepted practice for aircraft to establish the downwind leg of their traffic pattern approximately one nautical mile from the runway (farther for Category B or larger aircraft). The actual expected flight track of aircraft within the downwind leg of the traffic pattern would place an aircraft more than 2,000 ft. east of the proposed structure. It is unlikely that an aircraft would need to directly overfly this proposed structure. However, the proposed structure would be appropriately obstruction marked and lighted to make it more conspicuous to airmen should circumnavigation be necessary.

*Note: Downwind leg is defined as a flight path parallel to the landing runway in the opposite direction of landing.

Traffic pattern altitude at OXC is 1699 ft. AMSL for aircraft under 12,500 pounds or 2199 ft. for aircraft over 12,500 pounds. The airport elevation at Oxford is 726 feet AMSL and the proposed height of this structure is 981 feet AMSL. The differential is 255 feet. FAA Order 7400.2 states that structures up to 500 ft. AGL may be acceptable in the level flight portion of TPA based on the specific circumstances. In addition, aircraft operating at the established traffic pattern altitude should be approximately 718 ft. or more above this proposed structure.

Therefore, study for possible visual flight rules (VFR) effect disclosed that the proposed structure would have no substantial adverse effect on any existing or proposed arrival or departure VFR operations or procedures. It would not conflict with airspace required to conduct normal VFR traffic pattern operations at OXC or any other known public use or military airports. At 150 ft. AGL, the proposed structure would not have a substantial adverse effect on VFR en route flight operations.

The cumulative impact of the proposed structure, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any adverse effect on existing or proposed public-use or military airports or navigational facilities, nor would the proposal affect the capacity of any known existing or planned public-use or military airport.

Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation provided the conditions specified within this determination are met.

Additional Conditions

Due to the proximity of this proposal to several instrument approach procedures at the Manchester Airport a mandatory condition of this determination is the adherence to the following:

1. The site location (horizontal data) of the structure shall be within an accuracy of + / - 50 ft. of the location shown on Page 1. The overall AMSL height (vertical data) of the structure shall either be equal to or less than 981 ft. AMSL.

2. Once the structure has been built and has reached its greatest AMSL height, the sponsor shall submit to the FAA, within 5 days, a survey document. The preferred format is shown at the bottom of this page.

3. The survey shall contain data based on the National Geodetic Datum of 1983.

4. The survey should be on the surveyor's official letterhead with the official surveyor seal affixed.

5. The survey shall be submitted along with the FAA Form 7460-2, "Notice of Actual Construction or Alteration."

6. This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during the actual construction phase of this proposal. However, this equipment SHALL NOT EXCEED the overall height of the proposed structure. Temporary construction equipment that has a height greater than the proposed structure requires separate notice a minimum of 30 days in advance.

Survey Format

"For Aeronautical Study No. 2008-ANE-416-OE

I certify that the latitude _____ and longitude _____ are accurate within +50 feet horizontally; and the site elevation of _____' AMSL is accurate within +20 feet vertically. The horizontal datum (coordinates) are in terms of the North American Datum of 1983 (NAD 83) and expressed as degrees, minutes and seconds. The vertical datum heights are in terms of the North American Vertical Datum of 1988, and are determined to the nearest foot."

"SIGNED": _____

(Professional Engineering Title - REQUIRED)

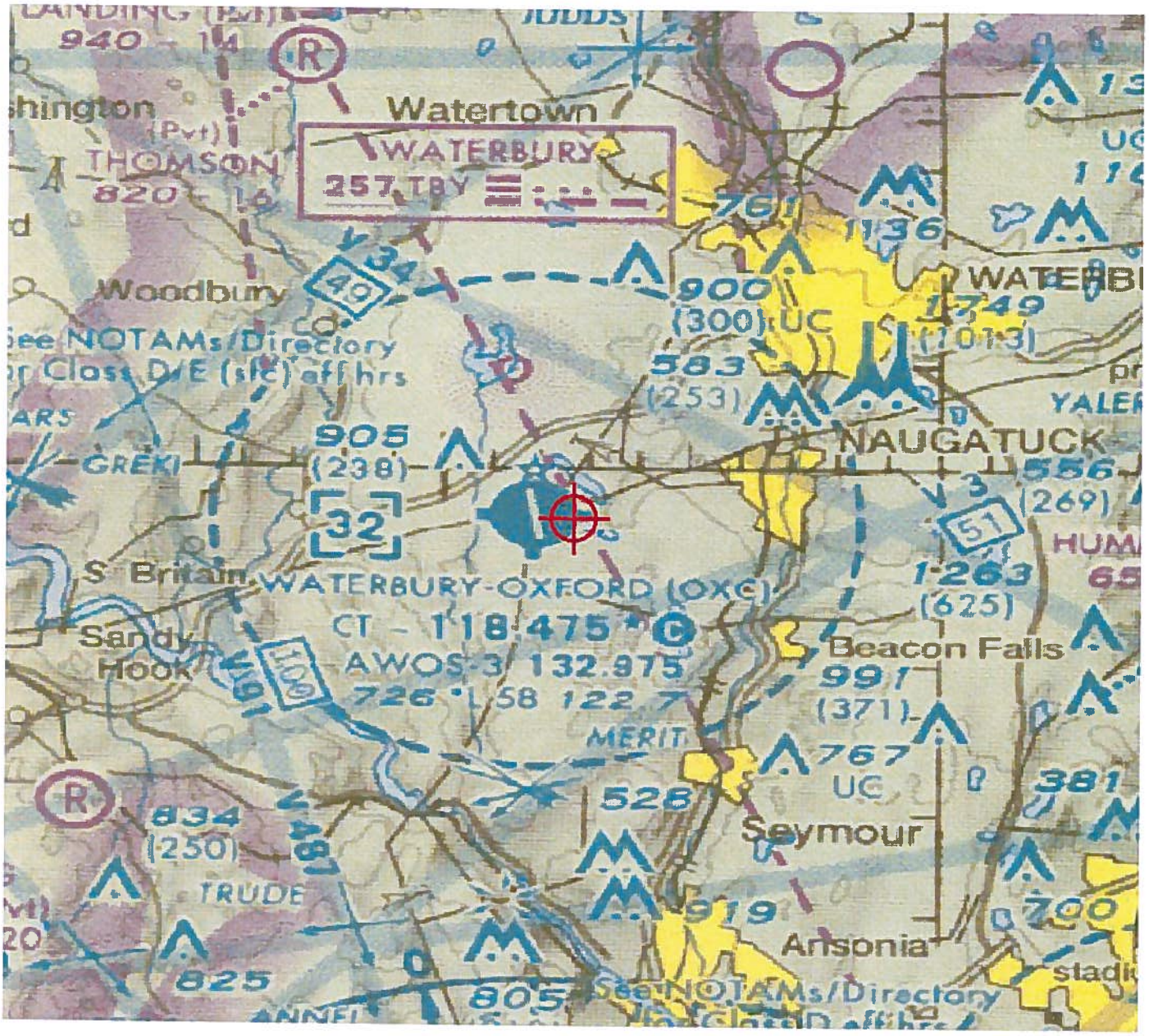
(With seal imprint)

"PRINTED": _____

_____

TOPO Map for ASN 2008-ANE-416-OE

Sectional Map for ASN 2008-ANE-416-OE



Federal Aviation Administration
Air Traffic Airspace Branch, ASW-520
2601 Meacham Blvd.
Fort Worth, TX 76137-0520

Aeronautical Study No.
2008-ANE-417-OE

Issued Date: 03/19/2009

Mr. Mark Mellana
Towantic Energy, LLC
c/o GE Energy Financial Services, Inc.
120 Long Ridge Road
Stamford, CT 06927

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Stack Stack #2
Location:	Oxford, CT
Latitude:	41-29-00.21N NAD 83
Longitude:	73-07-20.74W
Heights:	150 feet above ground level (AGL) 981 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is marked and/or lighted in accordance with FAA Advisory circular 70/7460-1 K Change 2, Obstruction Marking and Lighting, paint/red lights - Chapters 3(Marked),4,5(Red),&12.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be completed and returned to this office any time the project is abandoned or:

__X__ At least 10 days prior to start of construction (7460-2, Part I)
__X__ Within 5 days after the construction reaches its greatest height (7460-2, Part II)

See attachment for additional condition(s) or information.

This determination expires on 09/19/2010 unless:

(a) extended, revised or terminated by the issuing office.
(b) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within 6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE POSTMARKED OR DELIVERED TO THIS OFFICE AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before April 18, 2009. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted in triplicate to the Manager, Airspace and Rules Division - Room 423, Federal Aviation Administration, 800 Independence Ave., Washington, D.C. 20591.

This determination becomes final on April 28, 2009 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Office of Airspace and Rules via telephone -- 202-267-8783 - or facsimile 202-267-9328.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

A copy of this determination will be forwarded to the Federal Communications Commission if the structure is subject to their licensing authority.

If we can be of further assistance, please contact Donna ONeill, at (816)329-2525. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2008-ANE-417-OE.

Signature Control No: 569068-108719365 (DNH)
Kevin P. Haggerty
Manager, Obstruction Evaluation Service

Attachment(s)
Additional Information
Map(s)

Additional information for ASN 2008-ANE-417-OE

The proposal is for several structures (two stacks, air cooler condenser building, switchyard tower, main plant building) associated with a new power plant that would be located 3,857 ft. - 4,014 ft. northeast of the Airport Reference Point for the Waterbury-Oxford Airport (OXC), Waterbury, CT. Each of the proposed structures has been studied separately under the following Aeronautical Study Numbers:

2008-ANE-416-OE	41-28-59.95N 73-07-22.47W	150 ft. AGL/981 ft. AMSL
2008-ANE-417-OE	41-29-00.21N 73-07-20.74W	150 ft. AGL/981 ft. AMSL
2008-ANE-420-OE	41-28-57.74N 73-07-20.29W	107 ft. AGL/938 ft. AMSL
2008-ANE-421-OE	41-29-01.00N 73-07-23.52W	96 ft. AGL/927 ft. AMSL
2008-ANE-422-OE	41-29-05.15N 73-07-23.35W	65 ft. AGL/896 ft. AMSL

To facilitate the public comment process, all five of the proposed structures, which exceed a Part 77 obstruction standard, were included in the public notice issued under 2008-ANE-416-OE. However, separate determinations will be made. All comments received from the circularization were considered in completing each of the determinations for the studies listed above. This determination concerns the proposed structure studied under Aeronautical Study Number 2008-ANE-417-OE.

This proposed structure is identified as an obstruction under the standards of 14 CFR, part 77, as applied to OXC as follows:

Section 77.23(a)(3): A height that increases a minimum instrument flight altitude within a terminal area (TERPS criteria). would exceed the Circling Minimum Descent Altitude (CMDA) for all approaches by 18 ft. and would increase the CMDA from 1280 ft. AMSL to 1340 ft. AMSL. This impact could be partially mitigated by the submission of a certified survey to 2C accuracy tolerances (+/- 50 ft. horizontal, +/- 20 ft. vertical). With a 2C survey the CMDA would increase from 1280 ft. AMSL to 1300 ft. AMSL. A 2C (or better) survey is required for this structure.

Section 77.23(a)(5): The surface of a takeoff and landing area of an airport imaginary surface established under 77.25, 77.28, or 77.29, a height exceeding the horizontal surface (150 ft. above airport elevation within a radius of 10,000 ft.), would exceed by 105 ft.

The proposal was circularized on August 11, 2008, to all known aviation interests and to non-aeronautical interests that may be affected by the proposal. One letter of objection was received as a result of the circularization; it is summarized below.

Objection: Responder is a concerned citizen (non-pilot) and submitted an extensive letter objecting to the proposal based on the potential adverse effect on aviation operations from the exhaust stack effluents (water vapor/heat).

Response: The FAA has studied the effects of stack effluents in the past including some studies that were quoted, in part, by the responder in his letter. As a word of caution, it would be important to read and understand the entire context of any study rather than just select excerpts if a decision is to be made based on that study. Current FAA policy does not consider stack effluents to be germane to an airspace study.

That said, although stack effluent is not germane to an airspace study the question was asked in the spirit of addressing the responder's concern. This is not a smoke stack. The effluents generated from this stack will be water vapor. The proponent has advised that in most atmospheric conditions no water vapor would be

visible. Under extremely cold outside air temperatures some visible water vapor could be generated but it would normally dissipate prior to reaching traffic pattern altitude. The expected temperature of the effluent as it reaches the top of the stack should be between 210 and 250 degrees Fahrenheit and would also rapidly dissipate. Prevailing winds in the area of OXC have a westerly or northerly component and would aid in moving any effluent away from the airport.

Aeronautical study disclosed that the proposed structure would have some adverse effect. The proponent has agreed to provide a minimum of a 2C survey to help mitigate the adverse effect to the Circling Minimum Descent Altitude. No objections were received from the public circularization to an increase in the CMDA. In this situation a 20 ft. increase in the CMDA is not considered to be a substantial adverse effect. There would be no effect on any other existing or proposed arrival, departure, or en route instrument flight rule (IFR) operations or procedures.

The proposed structure would lie within the Traffic Pattern Airspace (TPA) for all categories of aircraft that use the Waterbury-Oxford Airport. The normal flight path of an aircraft within a traffic pattern is based on the category/approach speed of that aircraft. The higher the category/approach speed, the larger the traffic pattern. Category A aircraft would have been the most likely aircraft affected by this proposed structure as their traffic pattern keeps them closer to the airport and to the proposed structure than the other categories of aircraft.

This proposed structure would be located abeam and approximately 1/2 mile from OXC Runway 18/36. This is in the level flight portion of the downwind leg of the traffic pattern (see note below). It is a commonly accepted practice for aircraft to establish the downwind leg of their traffic pattern approximately one nautical mile from the runway (farther for Category B or larger aircraft). The actual expected flight track of aircraft within the downwind leg of the traffic pattern would place an aircraft more than 2,000 ft. east of the proposed structure. It is unlikely that an aircraft would need to directly overfly this proposed structure. However, the proposed structure would be appropriately obstruction marked and lighted to make it more conspicuous to airmen should circumnavigation be necessary.

*Note: Downwind leg is defined as a flight path parallel to the landing runway in the opposite direction of landing.

Traffic pattern altitude at OXC is 1699 ft. AMSL for aircraft under 12,500 pounds or 2199 ft. for aircraft over 12,500 pounds. The airport elevation at Oxford is 726 feet AMSL and the proposed height of this structure is 981 feet AMSL. The differential is 255 feet. FAA Order 7400.2 states that structures up to 500 ft. AGL may be acceptable in the level flight portion of TPA based on the specific circumstances. In addition, aircraft operating at the established traffic pattern altitude should be approximately 718 ft. or more above this proposed structure.

Therefore, study for possible visual flight rules (VFR) effect disclosed that the proposed structure would have no substantial adverse effect on any existing or proposed arrival or departure VFR operations or procedures. It would not conflict with airspace required to conduct normal VFR traffic pattern operations at OXC or any other known public use or military airports. At 150 ft. AGL, the proposed structure would not have a substantial adverse effect on VFR en route flight operations.

The cumulative impact of the proposed structure, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any adverse effect on existing or proposed public-use or military airports or navigational facilities, nor would the proposal affect the capacity of any known existing or planned public-use or military airport.

Therefore, it is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation provided the conditions specified within this determination are met.

Additional Conditions

Due to the proximity of this proposal to several instrument approach procedures at the Manchester Airport a mandatory condition of this determination is the adherence to the following:

1. The site location (horizontal data) of the structure shall be within an accuracy of + / - 50 ft. of the location shown on Page 1.

2. Once the structure has been built and has reached its greatest AMSL height, the sponsor shall submit to the FAA, within 5 days, a survey document. The preferred format is shown at the bottom of this page.

3. The survey shall contain data based on the National Geodetic Datum of 1983.

4. The survey should be on the surveyor's official letterhead with the official surveyor seal affixed.

5. The survey shall be submitted along with the FAA Form 7460-2, "Notice of Actual Construction or Alteration."

6. This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during the actual construction phase of this proposal. However, this equipment SHALL NOT EXCEED the overall height of the proposed structure. Temporary construction equipment that has a height greater than the proposed structure requires separate notice a minimum of 30 days in advance.

Survey Format

"For Aeronautical Study No. 2008-ANE-417-OE

I certify that the latitude _____ and longitude _____ are accurate within +50 feet horizontally; and the site elevation of _____' AMSL is accurate within +20 feet vertically. The horizontal datum (coordinates) are in terms of the North American Datum of 1983 (NAD 83) and expressed as degrees, minutes and seconds. The vertical datum heights are in terms of the North American Vertical Datum of 1988, and are determined to the nearest foot."

"SIGNED": _____

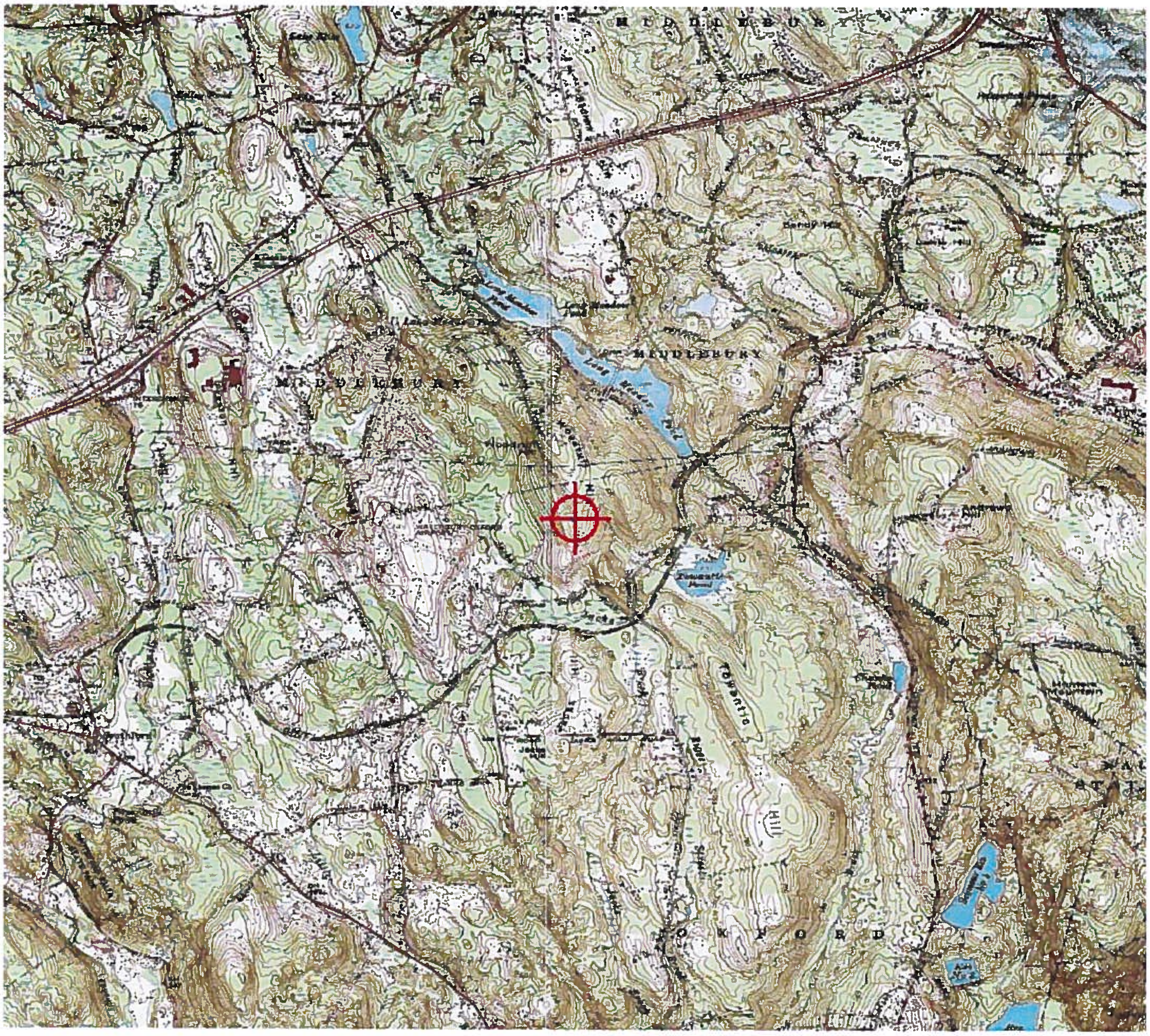
(Professional Engineering Title - REQUIRED)

(With seal imprint)

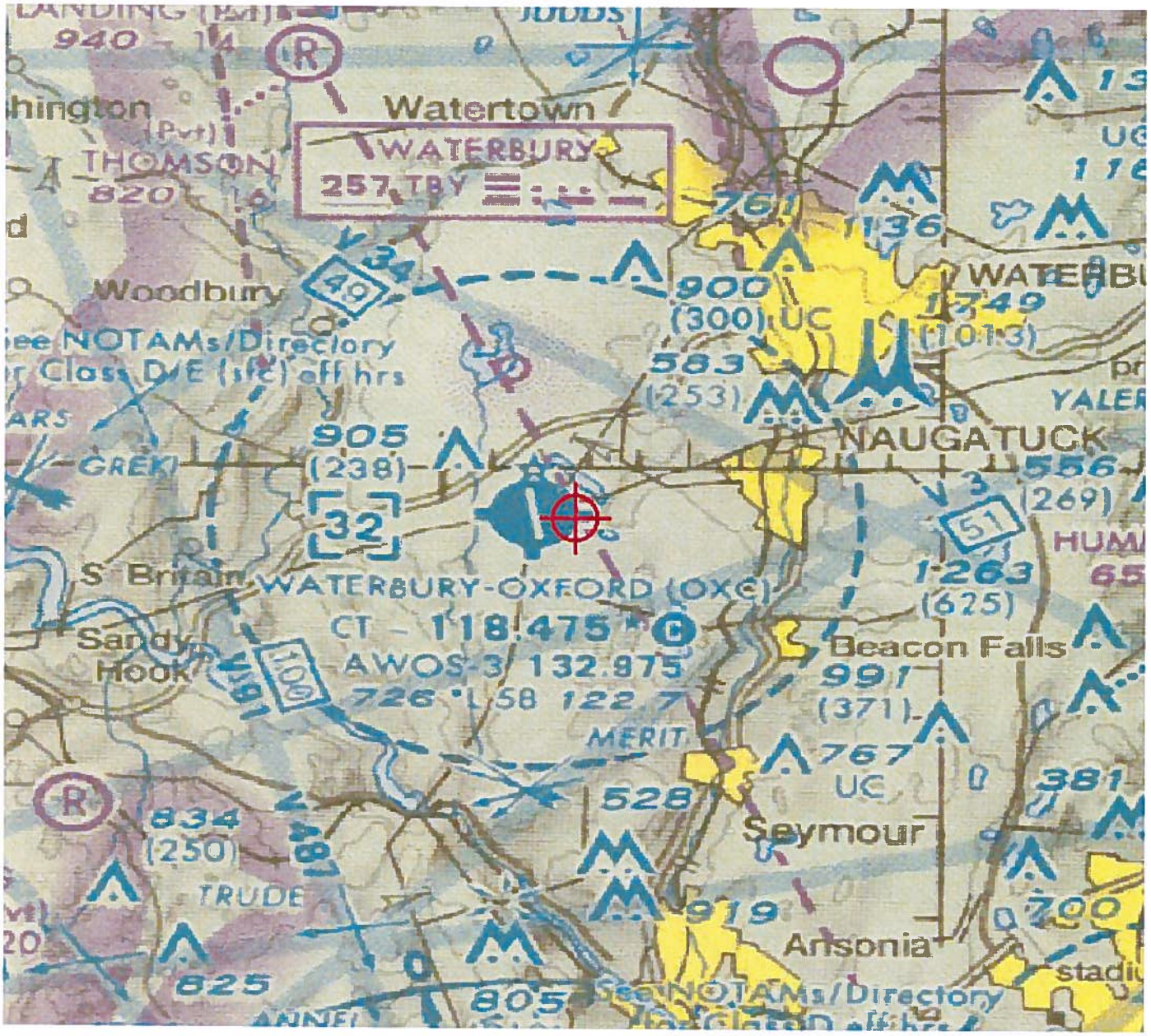
"PRINTED": _____

_____

TOPO Map for ASN 2008-ANE-417-OE



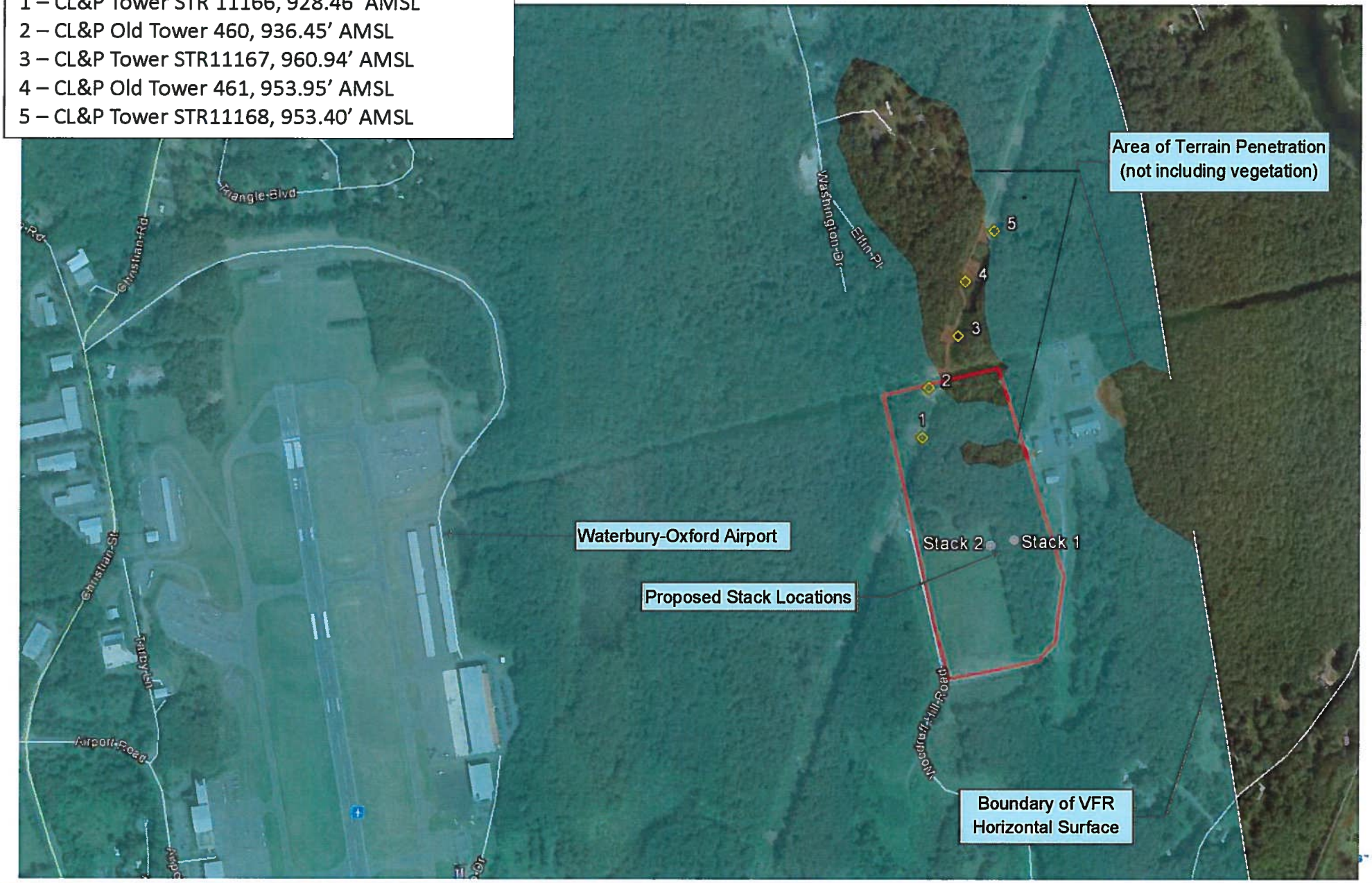
Sectional Map for ASN 2008-ANE-417-OE



TETRA TECH

Existing Penetrations

1 – CL&P Tower STR 11166, 928.46' AMSL
2 – CL&P Old Tower 460, 936.45' AMSL
3 – CL&P Tower STR11167, 960.94' AMSL
4 – CL&P Old Tower 461, 953.95' AMSL
5 – CL&P Tower STR11168, 953.40' AMSL



Federal Aviation Administration

« OE/AAA

Notice of Proposed Construction or Alteration - Off Airport

Add a new Case Off Airport - Desk Reference Guide V_2014.3.0

Project Name: CPV T-000288471-14 **Sponsor:** CPV Towantic, LLC

Details for Case : Administrative Building

Show Project Summary

Case Status

ASN: 2014-ANE-1926-OE
Status: Accepted
Public Comments: None

Date Accepted: 09/12/2014
Date Determined:
Letters: None
Documents: 09/11/2014 C310.pdf
09/11/2014 FAA 1A Survey Cer...

Project Documents:
None

Construction / Alteration Information

Notice Of: Construction
Duration: Permanent
if Temporary : Months: Days:
Work Schedule - Start: 12/01/2015
Work Schedule - End: 05/28/2018

For temporary cranes-Does the permanent structure require separate notice to the FAA? To find out, use the Notice Criteria Tool. If separate notice is required, please ensure it is filed. If it is not filed, please state the reason in the Description of Proposal.

State Filing:

Structure Summary

Structure Type: Building
Structure Name: Administrative Building
FDC NOTAM:
NOTAM Number:
FCC Number:
Prior ASN:

Structure Details

Latitude: 41° 29' 3.67" N
Longitude: 73° 7' 21.22" W
Horizontal Datum: NAD83
Site Elevation (SE): 830 (nearest foot)
Structure Height (AGL): 52 (nearest foot)
Current Height (AGL): (nearest foot)
** For notice of alteration or existing provide the current AGL height of the existing structure. Include details in the Description of Proposal*

Max Operating Height (AGL): (nearest foot)
** For aeronautical study of a crane or construction equipment the maximum height should be listed above as the Structure Height (AGL). Additionally, provide the maximum operating height to avoid delays if impacts are identified that require negotiation to a reduced height. If the Structure Height and maximum operating height are the same enter the same value in both fields.*

Nacelle Height (AGL): (nearest foot)
** For Wind Turbines 500ft AGL or greater*

Requested Marking/Lighting: None
Other :
Recommended Marking/Lighting:
Current Marking/Lighting: N/A Proposed Structure
Other :

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Nearest City:	Oxford
Nearest State:	Connecticut
Description of Location: ***On the Project Summary page upload any certified survey.***	The 26-acre property is located within the City of Oxford in New Haven County, just south of the Middlebury line. The property consists of undeveloped, industrially-zoned land designated for the Woodruff Hill Industrial Park.
Description of Proposal:	CPV Towantic, LLC is proposing development of a combined-cycle electric generating facility on the 26-acre property.

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Federal Aviation Administration

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Notice of Proposed Construction or Alteration - Off Airport

Add a new Case Off Airport - Desk Reference Guide V_2014.3.0

Project Name: CPV T-000287688-14 **Sponsor:** CPV Towantic, LLC

Details for Case : Switchyard Tower

Show Project Summary

Case Status

ASN:	2014-ANE-1912-OE	**Date Accepted:**	09/09/2014
Status:	Accepted	**Date Determined:**	
		Letters:	None
		Documents:	09/04/2014 C310.pdf
Public Comments:	None		09/04/2014 FAA 1A Survey Cer...
			Project Documents: None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
If Temporary :	Months: Days:
Work Schedule - Start:	12/01/2015
Work Schedule - End:	05/28/2018

For temporary cranes-Does the permanent structure require separate notice to the FAA? To find out, use the Notice Criteria Tool. If separate notice is required, please ensure it is filed. If it is not filed, please state the reason in the Description of Proposal.

State Filing:

Structure Summary

Structure Type:	Other w/o Antenna
Structure Name:	Switchyard Tower
FDC NOTAM:	
NOTAM Number:	
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	41° 29' 7.68" N
Longitude:	73° 7' 22.37" W
Horizontal Datum:	NAD83
Site Elevation (SE):	830 (nearest foot)
Structure Height (AGL):	65 (nearest foot)
Current Height (AGL): **** For notice of alteration or existing provide the current AGL height of the existing structure. Include details in the Description of Proposal***	(nearest foot)
Max Operating Height (AGL): **** For aeronautical study of a crane or construction equipment the maximum height should be listed above as the Structure Height (AGL). Additionally, provide the maximum operating height to avoid delays if impacts are identified that require negotiation to a reduced height. If the Structure Height and maximum operating height are the same enter the same value in both fields.***	(nearest foot)
Nacelle Height (AGL): **** For Wind Turbines 500ft AGL or greater***	(nearest foot)
Requested Marking/Lighting:	None
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A Proposed Structure
Other :	

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Nearest City:	Oxford
Nearest State:	Connecticut
Description of Location: ***On the Project Summary page upload any certified survey.***	The 26-acre property is located within the City of Oxford in New Haven County, just south of the Middlebury line. The property consists of undeveloped, industrially-zoned land designated for the Woodruff Hill Industrial Park.
Description of Proposal:	CPV Towantic, LLC is proposing development of a combined-cycle electric generating facility on the 26-acre property.

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Federal Aviation Administration

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Notice of Proposed Construction or Alteration - Off Airport

Add a new Case Off Airport - Desk Reference Guide V_2014.3.0

Project Name: CPV T-000287691-14 **Sponsor:** CPV Towantic, LLC

Details for Case : Stack #2

Show Project Summary

Case Status

ASN: 2014-ANE-1771-OE
Status: Work In Progress
Public Comments: None

Date Accepted: 08/26/2014
Date Determined:
Letters: None
Documents: 08/26/2014 FAA 1A Survey Cer...
08/26/2014 C310.pdf

Project Documents:
None

Construction / Alteration Information

Notice Of: Construction
Duration: Permanent
if Temporary : Months: Days:
Work Schedule - Start: 12/01/2015
Work Schedule - End: 05/28/2018

For temporary cranes-Does the permanent structure require separate notice to the FAA? To find out, use the Notice Criteria Tool. If separate notice is required, please ensure it is filed. If it is not filed, please state the reason in the Description of Proposal.

State Filing:

Structure Summary

Structure Type: Stack
Structure Name: Stack #2
FDC NOTAM:
NOTAM Number:
FCC Number:
Prior ASN:

Structure Details

Latitude: 41° 29' 1.13" N
Longitude: 73° 7' 19.66" W
Horizontal Datum: NAD83
Site Elevation (SE): 830 (nearest foot)
Structure Height (AGL): 150 (nearest foot)
Current Height (AGL): (nearest foot)
** For notice of alteration or existing provide the current AGL height of the existing structure. Include details in the Description of Proposal*

Max Operating Height (AGL): (nearest foot)
** For aeronautical study of a crane or construction equipment the maximum height should be listed above as the Structure Height (AGL). Additionally, provide the maximum operating height to avoid delays if impacts are identified that require negotiation to a reduced height. If the Structure Height and maximum operating height are the same enter the same value in both fields.*

Nacelle Height (AGL): (nearest foot)
** For Wind Turbines 500ft AGL or greater*

Requested Marking/Lighting: None
Other :
Recommended Marking/Lighting:
Current Marking/Lighting: N/A Proposed Structure
Other :

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Nearest City:	Oxford
Nearest State:	Connecticut
Description of Location: ***On the Project Summary page upload any certified survey.***	The 26-acre property is located within the City of Oxford in New Haven County, just south of the Middlebury line. The property consists of undeveloped, industrially-zoned land designated for the Woodruff Hill Industrial Park.
Description of Proposal:	CPV Towantic, LLC is proposing development of a combined-cycle electric generating facility on the 26-acre property. This notice is a re-submission of 2014-ANE-932-OE, with a 1-foot decrease in base site elevation.

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Federal Aviation Administration

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Notice of Proposed Construction or Alteration - Off Airport

Add a new Case Off Airport - Desk Reference Guide V_2014.3.0

Project Name: CPV T-000287691-14 **Sponsor:** CPV Towantic, LLC

Details for Case : Stack #1

Show Project Summary

Case Status

ASN: 2014-ANE-1770-OE
Status: Work In Progress
Public Comments: None

Date Accepted: 08/26/2014
Date Determined:
Letters: None
Documents: 08/26/2014 FAA 1A Survey Cer...
08/26/2014 C310.pdf

Project Documents:
None

Construction / Alteration Information

Notice Of: Construction
Duration: Permanent
if Temporary : Months: Days:
Work Schedule - Start: 12/01/2015
Work Schedule - End: 05/28/2018
For temporary cranes-Does the permanent structure require separate notice to the FAA? To find out, use the Notice Criteria Tool. If separate notice is required, please ensure it is filed. If it is not filed, please state the reason in the Description of Proposal.
State Filing:

Structure Summary

Structure Type: Stack
Structure Name: Stack #1
FDC NOTAM:
NOTAM Number:
FCC Number:
Prior ASN:

Structure Details

Latitude: 41° 29' 1.44" N
Longitude: 73° 7' 17.91" W
Horizontal Datum: NAD83
Site Elevation (SE): 830 (nearest foot)
Structure Height (AGL): 150 (nearest foot)
Current Height (AGL): (nearest foot)
** For notice of alteration or existing provide the current AGL height of the existing structure. Include details in the Description of Proposal*

Max Operating Height (AGL): (nearest foot)
** For aeronautical study of a crane or construction equipment the maximum height should be listed above as the Structure Height (AGL). Additionally, provide the maximum operating height to avoid delays if impacts are identified that require negotiation to a reduced height. If the Structure Height and maximum operating height are the same enter the same value in both fields.*

Nacelle Height (AGL): (nearest foot)
** For Wind Turbines 500ft AGL or greater*

Requested Marking/Lighting: None
Other :
Recommended Marking/Lighting:
Current Marking/Lighting: N/A Proposed Structure
Other :

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Nearest City:	Oxford
Nearest State:	Connecticut
Description of Location: ***On the Project Summary page upload any certified survey.***	The 26-acre property is located within the City of Oxford in New Haven County, just south of the Middlebury line. The property consists of undeveloped, industrially-zoned land designated for the Woodruff Hill Industrial Park.
Description of Proposal:	CPV Towantic, LLC is proposing development of a combined-cycle electric generating facility on the 26-acre property. This notice is a re-submission of 2014-ANE-931-OE, with a 1-foot decrease in base site elevation.

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Federal Aviation Administration

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Notice of Proposed Construction or Alteration - Off Airport

Add a new Case Off Airport - Desk Reference Guide V_2014.3.0

Project Name: CPV T-000287688-14 **Sponsor:** CPV Towantic, LLC

Details for Case : Gantry Crane

Show Project Summary

Case Status

ASN: 2014-ANE-1909-OE
Status: Add Letter
Public Comments: None

Date Accepted: 09/09/2014
Date Determined:
Letters: 09/09/2014 ADD
Documents: 09/04/2014 C310.pdf
09/04/2014 Gantry Crane Top ...

Project Documents:
None

Construction / Alteration Information

Notice Of: Construction
Duration: Permanent
if Temporary : Months: Days:
Work Schedule - Start: 12/01/2015
Work Schedule - End: 05/28/2018

For temporary cranes-Does the permanent structure require separate notice to the FAA? To find out, use the Notice Criteria Tool. If separate notice is required, please ensure it is filed. If it is not filed, please state the reason in the Description of Proposal.

State Filing:

Structure Summary

Structure Type: Crane
Structure Name: Gantry Crane
FDC NOTAM:
NOTAM Number:
FCC Number:
Prior ASN:

Structure Details

Latitude: 41° 29' 2.56" N
Longitude: 73° 7' 23.61" W
Horizontal Datum: NAD83
Site Elevation (SE): 830 (nearest foot)
Structure Height (AGL): 83 (nearest foot)
Current Height (AGL): (nearest foot)
**** For notice of alteration or existing provide the current AGL height of the existing structure. Include details in the Description of Proposal***

Max Operating Height (AGL): 83 (nearest foot)
**** For aeronautical study of a crane or construction equipment the maximum height should be listed above as the Structure Height (AGL). Additionally, provide the maximum operating height to avoid delays if impacts are identified that require negotiation to a reduced height. If the Structure Height and maximum operating height are the same enter the same value in both fields.***

Nacelle Height (AGL): (nearest foot)
**** For Wind Turbines 500ft AGL or greater***

Requested Marking/Lighting: None
Other :
Recommended Marking/Lighting:
Current Marking/Lighting: N/A Proposed Structure
Other :

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Nearest City:	Oxford
Nearest State:	Connecticut
Description of Location: ***On the Project Summary page upload any certified survey.***	The 26-acre property is located within the City of Oxford in New Haven County, just south of the Middlebury line. The property consists of undeveloped, industrially-zoned land designated for the Woodruff Hill Industrial Park.
Description of Proposal:	CPV Towantic, LLC is proposing development of a combined-cycle electric generating facility on the 26-acre property.

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Federal Aviation Administration

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Notice of Proposed Construction or Alteration - Off Airport

Add a new Case Off Airport - Desk Reference Guide V_2014.3.0

Project Name: CPV T-000287688-14 **Sponsor:** CPV Towantic, LLC

Details for Case : Fuel Oil Storage Tank

Show Project Summary

Case Status

ASN:	2014-ANE-1910-OE	**Date Accepted:**	09/09/2014
Status:	Accepted	**Date Determined:**	
		Letters:	None
		Documents:	09/04/2014 C310.pdf
Public Comments:	None		09/04/2014 Fuel Oil Storage ...
			Project Documents: None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	12/01/2015
Work Schedule - End:	05/28/2018

For temporary cranes-Does the permanent structure require separate notice to the FAA? To find out, use the Notice Criteria Tool. If separate notice is required, please ensure it is filed. If it is not filed, please state the reason in the Description of Proposal

State Filing:

Structure Summary

Structure Type:	Other w/o Antenna
Structure Name:	Fuel Oil Storage Tank
FDC NOTAM:	
NOTAM Number:	
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	41° 28' 59.75" N
Longitude:	73° 7' 17.26" W
Horizontal Datum:	NAD83
Site Elevation (SE):	830 (nearest foot)
Structure Height (AGL):	48 (nearest foot)
Current Height (AGL): **** For notice of alteration or existing provide the current AGL height of the existing structure. Include details in the Description of Proposal***	(nearest foot)
Max Operating Height (AGL): **** For aeronautical study of a crane or construction equipment the maximum height should be listed above as the Structure Height (AGL). Additionally, provide the maximum operating height to avoid delays if impacts are identified that require negotiation to a reduced height. If the Structure Height and maximum operating height are the same enter the same value in both fields.***	(nearest foot)
Nacelle Height (AGL): **** For Wind Turbines 500ft AGL or greater***	(nearest foot)
Requested Marking/Lighting:	None
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A Proposed Structure

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Other :	
Nearest City:	Oxford
Nearest State:	Connecticut
Description of Location: ***On the Project Summary page upload any certified survey.***	The 26-acre property is located within the City of Oxford in New Haven County, just south of the Middlebury line. The property consists of undeveloped, industrially-zoned land designated for the Woodruff Hill Industrial Park.
Description of Proposal:	CPV Towantic, LLC is proposing development of a combined-cycle electric generating facility on the 26-acre property.

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Federal Aviation Administration

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Notice of Proposed Construction or Alteration - Off Airport

Add a new Case Off Airport - Desk Reference Guide V_2014.3.0

Project Name: CPV T-000287688-14 **Sponsor:** CPV Towantic, LLC

Details for Case : Auxiliary Boiler Stack

Show Project Summary

Case Status

ASN:	2014-ANE-1908-OE	**Date Accepted:**	09/09/2014
Status:	Accepted	**Date Determined:**	
		Letters:	None
		Documents:	09/04/2014 C310.pdf
Public Comments:	None		09/04/2014 Auxiliary Boiler ...
			Project Documents: None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	12/01/2015
Work Schedule - End:	05/28/2018

For temporary cranes-Does the permanent structure require separate notice to the FAA? To find out, use the Notice Criteria Tool. If separate notice is required, please ensure it is filed. If it is not filed, please state the reason in the Description of Proposal.

State Filing:

Structure Summary

Structure Type:	Stack
Structure Name:	Auxiliary Boiler Stack
FDC NOTAM:	
NOTAM Number:	
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	41° 29' 2.91" N
Longitude:	73° 7' 23.40" W
Horizontal Datum:	NAD83
Site Elevation (SE):	830 (nearest foot)
Structure Height (AGL):	62 (nearest foot)
Current Height (AGL): **** For notice of alteration or existing provide the current AGL height of the existing structure. Include details in the Description of Proposal***	(nearest foot)
Max Operating Height (AGL): **** For aeronautical study of a crane or construction equipment the maximum height should be listed above as the Structure Height (AGL). Additionally, provide the maximum operating height to avoid delays if impacts are identified that require negotiation to a reduced height. If the Structure Height and maximum operating height are the same enter the same value in both fields.***	(nearest foot)
Nacelle Height (AGL): **** For Wind Turbines 500ft AGL or greater***	(nearest foot)
Requested Marking/Lighting:	None
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A Proposed Structure

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Other :	
Nearest City:	Oxford
Nearest State:	Connecticut
Description of Location: ***On the Project Summary page upload any certified survey.***	The 26-acre property is located within the City of Oxford in New Haven County, just south of the Middlebury line. The property consists of undeveloped, industrially-zoned land designated for the Woodruff Hill Industrial Park.
Description of Proposal:	CPV Towantic, LLC is proposing development of a combined-cycle electric generating facility on the 26-acre property.

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Federal Aviation Administration

« OE/AAA

Notice of Proposed Construction or Alteration - Off Airport

Add a new Case Off Airport - Desk Reference Guide V_2014.3.0

Project Name: CPV T-000287688-14 **Sponsor:** CPV Towantic, LLC

Details for Case : Air-Cooled Condenser

Show Project Summary

Case Status

ASN:	2014-ANE-1911-OE	**Date Accepted:**	09/09/2014
Status:	Accepted	**Date Determined:**	
		Letters:	None
		Documents:	09/04/2014 C310.pdf
Public Comments:	None		09/04/2014 Air-Cooled Conden...
			Project Documents: None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	12/01/2015
Work Schedule - End:	05/28/2018

For temporary cranes-Does the permanent structure require separate notice to the FAA? To find out, use the Notice Criteria Tool. If separate notice is required, please ensure it is filed. If it is not filed, please state the reason in the Description of Proposal.

State Filing:

Structure Summary

Structure Type:	Other w/o Antenna
Structure Name:	Air-Cooled Condenser
FDC NOTAM:	
NOTAM Number:	
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	41° 28' 59.28" N
Longitude:	73° 7' 22.57" W
Horizontal Datum:	NAD83
Site Elevation (SE):	830 (nearest foot)
Structure Height (AGL):	85 (nearest foot)
Current Height (AGL): ** For notice of alteration or existing provide the current AGL height of the existing structure. Include details in the Description of Proposal*	(nearest foot)
Max Operating Height (AGL): ** For aeronautical study of a crane or construction equipment the maximum height should be listed above as the Structure Height (AGL). Additionally, provide the maximum operating height to avoid delays if impacts are identified that require negotiation to a reduced height. If the Structure Height and maximum operating height are the same enter the same value in both fields.*	(nearest foot)
Nacelle Height (AGL): ** For Wind Turbines 500ft AGL or greater*	(nearest foot)
Requested Marking/Lighting:	None
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A Proposed Structure
Other :	

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Nearest City:	Oxford
Nearest State:	Connecticut
Description of Location: ***On the Project Summary page upload any certified survey.***	The 26-acre property is located within the City of Oxford in New Haven County, just south of the Middlebury line. The property consists of undeveloped, industrially-zoned land designated for the Woodruff Hill Industrial Park.
Description of Proposal:	CPV Towantic, LLC is proposing development of a combined-cycle electric generating facility on the 26-acre property.

Previous Back to Search Result Next

Federal Aviation Administration

« OE/AAA

Notice of Proposed Construction or Alteration - Off Airport

Add a new Case Off Airport - Desk Reference Guide V_2014.3.0

Project Name: CPV T-000288471-14 **Sponsor:** CPV Towantic, LLC

Details for Case : Administrative Building

Show Project Summary

Case Status

ASN:	2014-ANE-1924-OE	**Date Accepted:**	09/12/2014
Status:	Accepted	**Date Determined:**	
		Letters:	None
		Documents:	09/11/2014 C310.pdf
Public Comments:	None		09/11/2014 FAA 1A Survey Cer...
			Project Documents: None

Construction / Alteration Information

Notice Of:	Construction
Duration:	Permanent
if Temporary :	Months: Days:
Work Schedule - Start:	12/01/2015
Work Schedule - End:	05/28/2018

For temporary cranes-Does the permanent structure require separate notice to the FAA? To find out, use the Notice Criteria Tool. If separate notice is required, please ensure it is filed. If it is not filed, please state the reason in the Description of Proposal.

State Filing:

Structure Summary

Structure Type:	Building
Structure Name:	Administrative Building
FDC NOTAM:	
NOTAM Number:	
FCC Number:	
Prior ASN:	

Structure Details

Latitude:	41° 29' 2.69" N
Longitude:	73° 7' 23.43" W
Horizontal Datum:	NAD83
Site Elevation (SE):	830 (nearest foot)
Structure Height (AGL):	52 (nearest foot)
Current Height (AGL): ** For notice of alteration or existing provide the current AGL height of the existing structure. Include details in the Description of Proposal*	(nearest foot)
Max Operating Height (AGL): ** For aeronautical study of a crane or construction equipment the maximum height should be listed above as the Structure Height (AGL). Additionally, provide the maximum operating height to avoid delays if impacts are identified that require negotiation to a reduced height. If the Structure Height and maximum operating height are the same enter the same value in both fields.*	(nearest foot)
Nacelle Height (AGL): ** For Wind Turbines 500ft AGL or greater*	(nearest foot)
Requested Marking/Lighting:	None
Other :	
Recommended Marking/Lighting:	
Current Marking/Lighting:	N/A Proposed Structure
Other :	

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Nearest City:	Oxford
Nearest State:	Connecticut
Description of Location: ***On the Project Summary page upload any certified survey.***	The 26-acre property is located within the City of Oxford in New Haven County, just south of the Middlebury line. The property consists of undeveloped, industrially-zoned land designated for the Woodruff Hill Industrial Park.
Description of Proposal:	CPV Towantic, LLC is proposing development of a combined-cycle electric generating facility on the 26-acre property.

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Federal Aviation Administration

« OE/AAA

Notice of Proposed Construction or Alteration - Off Airport

Add a new Case Off Airport - Desk Reference Guide V_2014.3.0

Project Name: CPV T-000288471-14 **Sponsor:** CPV Towantic, LLC

Details for Case : Administrative Building

Show Project Summary

Case Status

ASN: 2014-ANE-1925-OE
Status: Accepted
Public Comments: None

Date Accepted: 09/12/2014
Date Determined:
Letters: None
Documents: 09/11/2014 C310.pdf
09/11/2014 FAA 1A Survey Cer...

Project Documents:
None

Construction / Alteration Information

Notice Of: Construction
Duration: Permanent
if Temporary : Months: Days:
Work Schedule - Start: 12/01/2015
Work Schedule - End: 05/28/2018

For temporary cranes-Does the permanent structure require separate notice to the FAA? To find out, use the Notice Criteria Tool. If separate notice is required, please ensure it is filed. If it is not filed, please state the reason in the Description of Proposal.

State Filing:

Structure Summary

Structure Type: Building
Structure Name: Administrative Building
FDC NOTAM:
NOTAM Number:
FCC Number:
Prior ASN:

Structure Details

Latitude: 41° 29' 3.10" N
Longitude: 73° 7' 21.05" W
Horizontal Datum: NAD83
Site Elevation (SE): 830 (nearest foot)
Structure Height (AGL): 52 (nearest foot)
Current Height (AGL): (nearest foot)
** For notice of alteration or existing provide the current AGL height of the existing structure. Include details in the Description of Proposal*

Max Operating Height (AGL): (nearest foot)
** For aeronautical study of a crane or construction equipment the maximum height should be listed above as the Structure Height (AGL). Additionally, provide the maximum operating height to avoid delays if impacts are identified that require negotiation to a reduced height. If the Structure Height and maximum operating height are the same enter the same value in both fields.*

Nacelle Height (AGL): (nearest foot)
** For Wind Turbines 500ft AGL or greater*

Requested Marking/Lighting: None
Other :
Recommended Marking/Lighting:
Current Marking/Lighting: N/A Proposed Structure
Other :

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Nearest City:	Oxford
Nearest State:	Connecticut
Description of Location: ***On the Project Summary page upload any certified survey.***	The 26-acre property is located within the City of Oxford in New Haven County, just south of the Middlebury line. The property consists of undeveloped, industrially-zoned land designated for the Woodruff Hill Industrial Park.
Description of Proposal:	CPV Towantic, LLC is proposing development of a combined-cycle electric generating facility on the 26-acre property.

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Federal Aviation Administration

« OE/AAA

Notice of Proposed Construction or Alteration - Off Airport

Add a new Case Off Airport - Desk Reference Guide V_2014.3.0

Project Name: CPV T-000288471-14 **Sponsor:** CPV Towantic, LLC

Details for Case : Administrative Building

Show Project Summary

Case Status

ASN: 2014-ANE-1923-OE
Status: Accepted
Public Comments: None

Date Accepted: 09/12/2014
Date Determined:
Letters: None
Documents: 09/11/2014 FAA 1A Survey Cer...
09/11/2014 C310.pdf

Project Documents:
None

Construction / Alteration Information

Notice Of: Construction
Duration: Permanent
if Temporary : Months: Days:
Work Schedule - Start: 12/01/2015
Work Schedule - End: 05/28/2018

For temporary cranes-Does the permanent structure require separate notice to the FAA? To find out, use the Notice Criteria Tool. If separate notice is required, please ensure it is filed. If it is not filed, please state the reason in the Description of Proposal.

State Filing:

Structure Summary

Structure Type: Building
Structure Name: Administrative Building
FDC NOTAM:
NOTAM Number:
FCC Number:
Prior ASN:

Structure Details

Latitude: 41° 29' 3.26" N
Longitude: 73° 7' 23.60" W
Horizontal Datum: NAD83
Site Elevation (SE): 830 (nearest foot)
Structure Height (AGL): 52 (nearest foot)
Current Height (AGL): (nearest foot)
** For notice of alteration or existing provide the current AGL height of the existing structure. Include details in the Description of Proposal*

Max Operating Height (AGL): (nearest foot)
** For aeronautical study of a crane or construction equipment the maximum height should be listed above as the Structure Height (AGL). Additionally, provide the maximum operating height to avoid delays if impacts are identified that require negotiation to a reduced height. If the Structure Height and maximum operating height are the same enter the same value in both fields.*

Nacelle Height (AGL): (nearest foot)
** For Wind Turbines S00ft AGL or greater*

Requested Marking/Lighting: None
Other :
Recommended Marking/Lighting:
Current Marking/Lighting: N/A Proposed Structure
Other :

Common Frequency Bands

Low Freq	High Freq	Freq Unit	ERP	ERP Unit

Specific Frequencies

Nearest City:	Oxford
Nearest State:	Connecticut
Description of Location: ***On the Project Summary page upload any certified survey.***	The 26-acre property is located within the City of Oxford in New Haven County, just south of the Middlebury line. The property consists of undeveloped, industrially-zoned land designated for the Woodruff Hill Industrial Park.
Description of Proposal:	CPV Towantic, LLC is proposing development of a combined-cycle electric generating facility on the 26-acre property.

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Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193

Aeronautical Study No.
2014-ANE-1911-OE

Issued Date: 11/17/2014

Andrew Bazinet
CPV Towantic, LLC
50 Braintree Hill Office Park
Suite 300
Braintree, MA 02184

**** NOTICE OF PRESUMED HAZARD ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Air-Cooled Condenser
Location:	Oxford, CT
Latitude:	41-28-59.28N NAD 83
Longitude:	73-07-22.57W
Heights:	830 feet site elevation (SE)
	85 feet above ground level (AGL)
	915 feet above mean sea level (AMSL)

Initial findings of this study indicate that the structure as described exceeds obstruction standards and/or would have an adverse physical or electromagnetic interference effect upon navigable airspace or air navigation facilities. Pending resolution of the issues described below, the structure is presumed to be a hazard to air navigation.

If the structure were reduced in height so as not to exceed 46 feet above ground level (876 feet above mean sea level), it would not exceed obstruction standards and a favorable determination could subsequently be issued.

To pursue a favorable determination at the originally submitted height, further study would be necessary. Further study entails distribution to the public for comment, and may extend the study period up to 120 days. The outcome cannot be predicted prior to public circularization.

If you would like the FAA to conduct further study, you must make the request within 60 days from the date of issuance of this letter.

See Attachment for Additional information.

NOTE: PENDING RESOLUTION OF THE ISSUE(S) DESCRIBED ABOVE, THE STRUCTURE IS PRESUMED TO BE A HAZARD TO AIR NAVIGATION. THIS LETTER DOES NOT AUTHORIZE CONSTRUCTION OF THE STRUCTURE EVEN AT A REDUCED HEIGHT. ANY RESOLUTION OF THE ISSUE(S) DESCRIBED ABOVE MUST BE COMMUNICATED TO THE FAA SO THAT A FAVORABLE DETERMINATION CAN SUBSEQUENTLY BE ISSUED.

IF MORE THAN 60 DAYS FROM THE DATE OF THIS LETTER HAS ELAPSED WITHOUT ATTEMPTED RESOLUTION, IT WILL BE NECESSARY FOR YOU TO REACTIVATE THE STUDY BY FILING A NEW FAA FORM 7460-1, NOTICE OF PROPOSED CONSTRUCTION OR ALTERATION.

If we can be of further assistance, please contact our office at (404) 305-7084. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-ANE-1911-OE.

Signature Control No: 228977202-234591464 (NPH)
Darin Clipper
Specialist

Attachment(s)
Additional Information
Case Description
Map(s)

Additional information for ASN 2014-ANE-1911-OE

The proposed air cooled condenser at a height of 85 feet (ft.) AGL / 915 ft. AMSL, would be located approximately 3,975 ft. east of the Runway 18/36 at Waterbury- Oxford Airport (OXC), Oxford, CT. The proposed structure has been identified as an obstruction under the standards of Title 14, Code of Federal Regulations (CFR), Part 77, as applied to OXC as follows:

Section 77.17 (a) (5): The surface of a takeoff and landing area of an airport or any imaginary surface established under 77.19, 77.21, or 77.23. However, no part of the takeoff or landing area itself will be considered an obstruction.

Section 77.19 (a): A Horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by swinging arcs of a specified radii from the center of each end of the primary surface of each runway of each airport and connecting the adjacent arcs by lines tangent to those arcs. The proposed structure exceeds the Horizontal Surface by up to 39 ft.

The proposed structure would also be located within the traffic pattern airspace (TPA) for all categories of aircraft using the Waterbury-Oxford Airport. The proposal would exceed the Part 77 horizontal surface as applied to visual approach runways at OXC by 39 ft. Records indicate this airport has approximately 47,987 operations per year. Therefore, it is reasonable to conclude that an average of at least one VFR operation per day would be affected and this would constitute substantial adverse effect unless the proposed height for this structure is reduced to 46 ft. AGL / 876 ft. AMSL.

Options for this study include the following:

1. Accept lowering the height to 46 ft. AGL / 876 ft. AMSL and a favorable determination can be issued.

2. To pursue the possibility of receiving a favorable determination at the originally submitted height of 85 ft. AGL/915 ft. AMSL, further study would be necessary. Further study entails public circularization for comment which could take up to 120 days and the outcome cannot be predicted.

3. Request termination of the study.

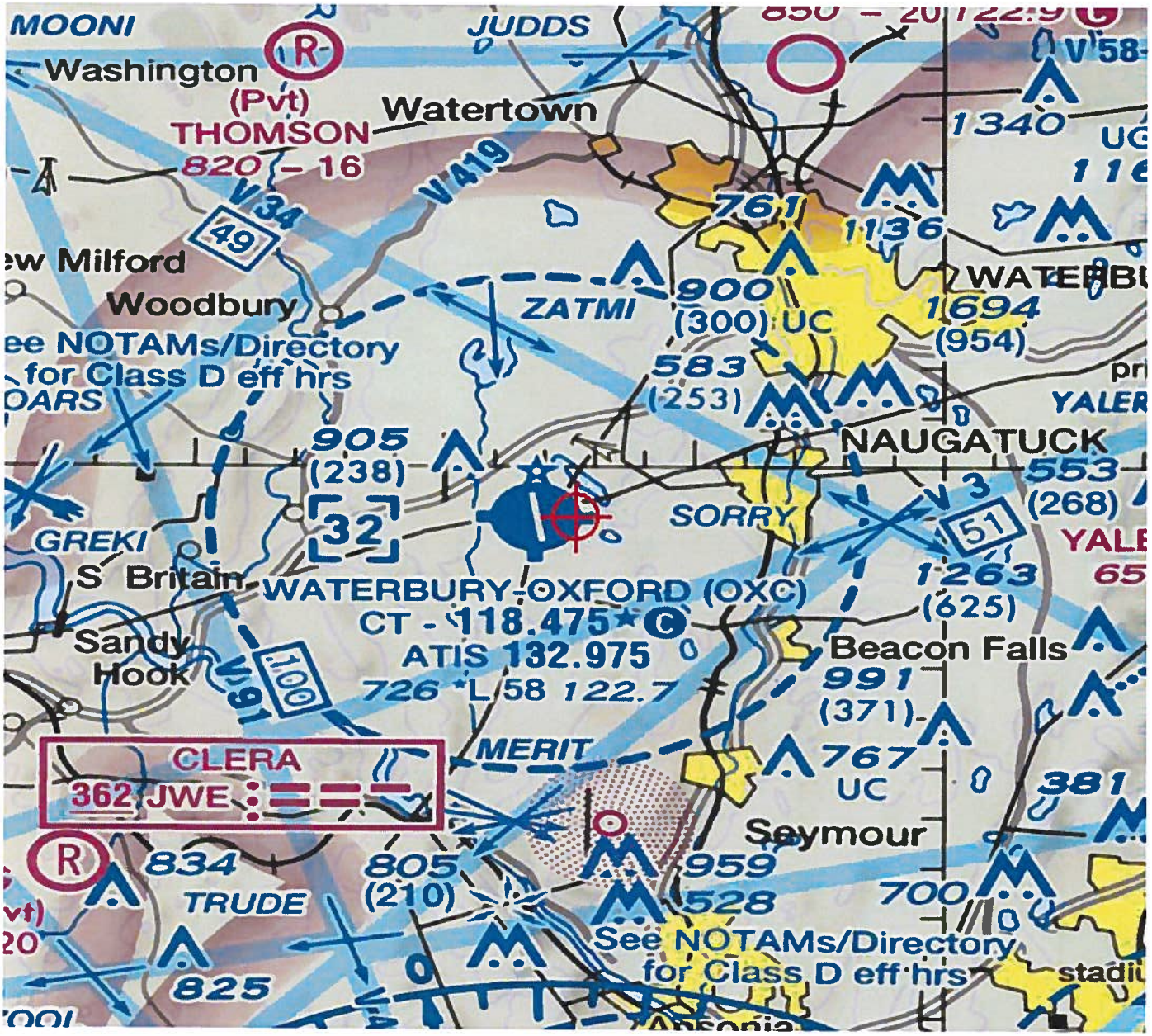
Your response may be e-mailed to darin.clipper@faa.gov. If the FAA does not receive a response to this letter within 60 days, the study will expire as noted on Page 1.

Case Description for ASN 2014-ANE-1911-OE

CPV Towantic, LLC is proposing development of a combined-cycle electric generating facility on the 26-acre property.

TOPO Map for ASN 2014-ANE-1911-OE

Sectional Map for ASN 2014-ANE-1911-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193

Aeronautical Study No.
2014-ANE-1912-OE

Issued Date: 11/17/2014

Andrew Bazinet
CPV Towantic, LLC
50 Braintree Hill Office Park
Suite 300
Braintree, MA 02184

**** NOTICE OF PRESUMED HAZARD ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Switchyard Tower
Location:	Oxford, CT
Latitude:	41-29-07.68N NAD 83
Longitude:	73-07-22.37W
Heights:	830 feet site elevation (SE)
	65 feet above ground level (AGL)
	895 feet above mean sea level (AMSL)

Initial findings of this study indicate that the structure as described exceeds obstruction standards and/or would have an adverse physical or electromagnetic interference effect upon navigable airspace or air navigation facilities. Pending resolution of the issues described below, the structure is presumed to be a hazard to air navigation.

If the structure were reduced in height so as not to exceed 46 feet above ground level (876 feet above mean sea level), it would not exceed obstruction standards and a favorable determination could subsequently be issued.

To pursue a favorable determination at the originally submitted height, further study would be necessary. Further study entails distribution to the public for comment, and may extend the study period up to 120 days. The outcome cannot be predicted prior to public circularization.

If you would like the FAA to conduct further study, you must make the request within 60 days from the date of issuance of this letter.

See Attachment for Additional information.

NOTE: PENDING RESOLUTION OF THE ISSUE(S) DESCRIBED ABOVE, THE STRUCTURE IS PRESUMED TO BE A HAZARD TO AIR NAVIGATION. THIS LETTER DOES NOT AUTHORIZE CONSTRUCTION OF THE STRUCTURE EVEN AT A REDUCED HEIGHT. ANY RESOLUTION OF THE ISSUE(S) DESCRIBED ABOVE MUST BE COMMUNICATED TO THE FAA SO THAT A FAVORABLE DETERMINATION CAN SUBSEQUENTLY BE ISSUED.

IF MORE THAN 60 DAYS FROM THE DATE OF THIS LETTER HAS ELAPSED WITHOUT ATTEMPTED RESOLUTION, IT WILL BE NECESSARY FOR YOU TO REACTIVATE THE STUDY BY FILING A NEW FAA FORM 7460-1, NOTICE OF PROPOSED CONSTRUCTION OR ALTERATION.

If we can be of further assistance, please contact our office at (404) 305-7084. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-ANE-1912-OE.

Signature Control No: 228977203-234594981 (NPH)
Darin Clipper
Specialist

Attachment(s)
Additional Information
Case Description
Map(s)

Additional information for ASN 2014-ANE-1912-OE

The proposed tower at a height of 65 feet (ft.) AGL / 895 ft. AMSL, would be located approximately 3,844 ft. east of the Runway 18/36 at Waterbury- Oxford Airport (OXC), Oxford, CT. The proposed structure has been identified as an obstruction under the standards of Title 14, Code of Federal Regulations (CFR), Part 77, as applied to OXC as follows:

Section 77.17 (a) (5): The surface of a takeoff and landing area of an airport or any imaginary surface established under 77.19, 77.21, or 77.23. However, no part of the takeoff or landing area itself will be considered an obstruction.

Section 77.19 (a): A Horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by swinging arcs of a specified radii from the center of each end of the primary surface of each runway of each airport and connecting the adjacent arcs by lines tangent to those arcs. The proposed structure exceeds the Horizontal Surface by up to 19 ft.

The proposed structure would also be located within the traffic pattern airspace (TPA) for all categories of aircraft using the Waterbury-Oxford Airport. The proposal would exceed the Part 77 horizontal surface as applied to visual approach runways at OXC by 19 ft. Records indicate this airport has approximately 47,987 operations per year. Therefore, it is reasonable to conclude that an average of at least one VFR operation per day would be affected and this would constitute substantial adverse effect unless the proposed height for this proposed structure is reduced to 46 ft. AGL / 876 ft. AMSL.

Options for this study include the following:

1. Accept lowering the height to 46 ft. AGL / 876 ft. AMSL and a favorable determination can be issued.

2. To pursue the possibility of receiving a favorable determination at the originally submitted height of 65 ft. AGL / 895 ft. AMSL, further study would be necessary. Further study entails public circularization for comment which could take up to 120 days and the outcome cannot be predicted.

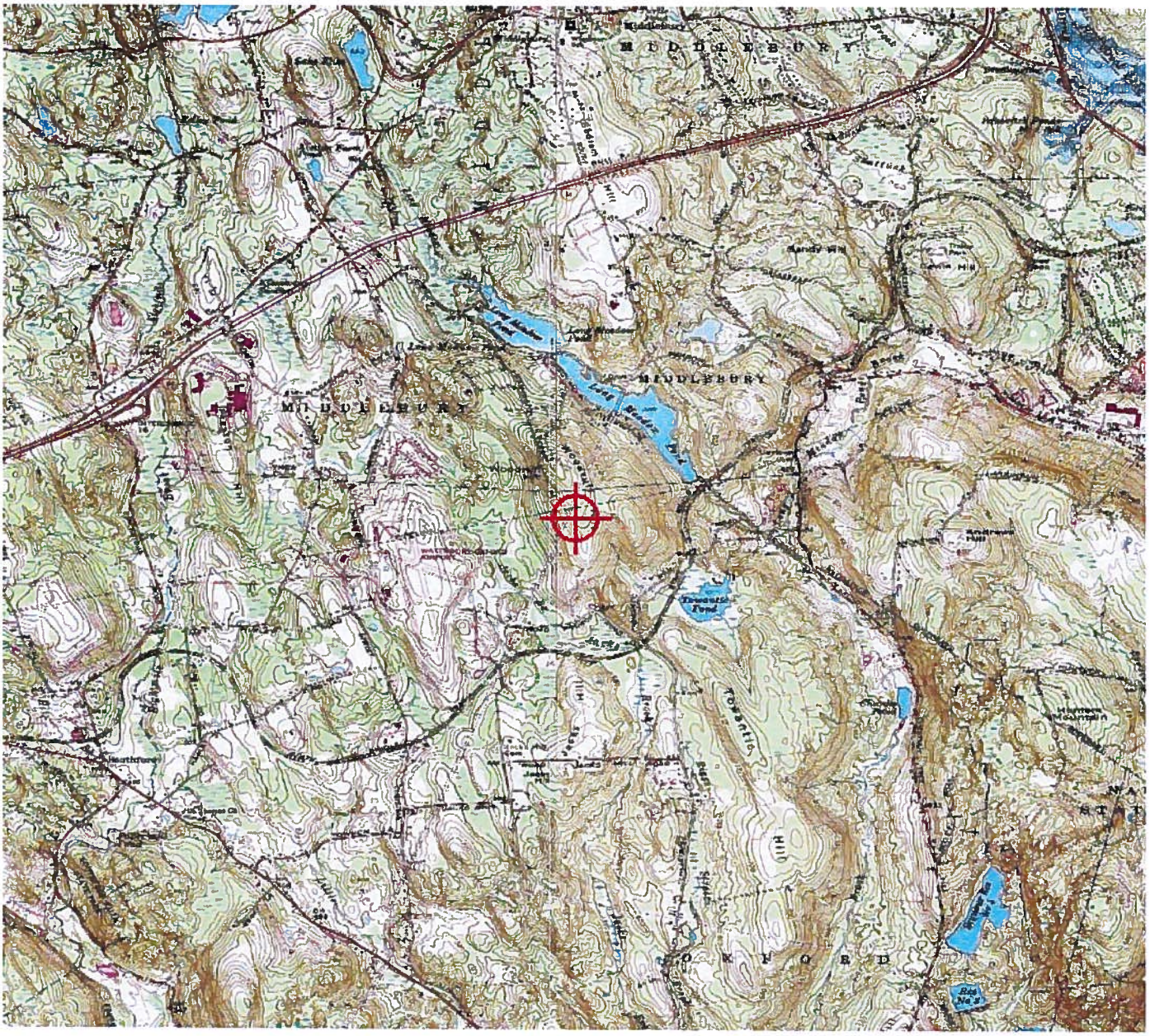
3. Request termination of the study.

Your response may be e-mailed to darin.clipper@faa.gov. If the FAA does not receive a response to this letter within 60 days, the study will expire as noted on Page 1.

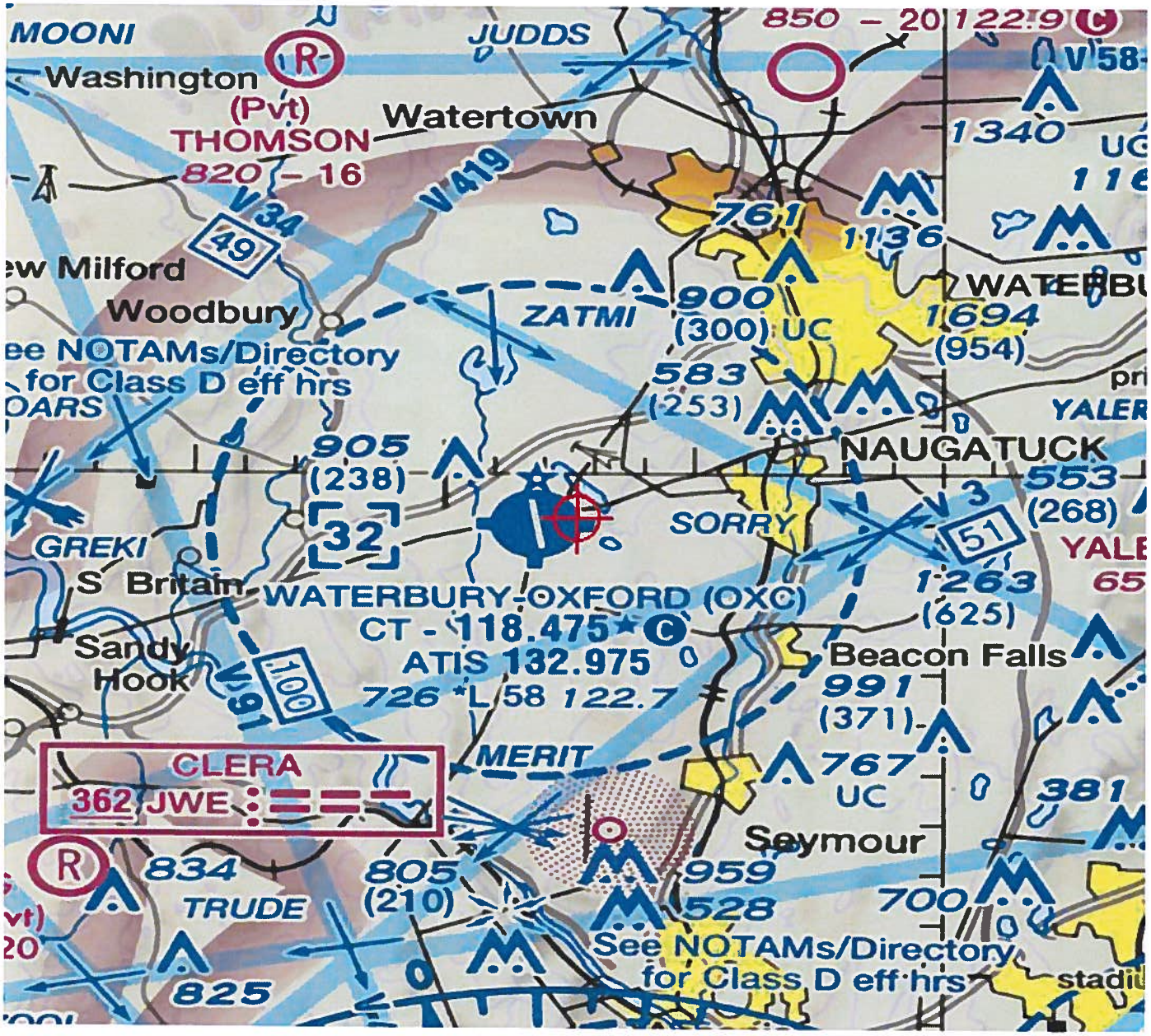
Case Description for ASN 2014-ANE-1912-OE

CPV Towantic, LLC is proposing development of a combined-cycle electric generating facility on the 26-acre property.

TOPO Map for ASN 2014-ANE-1912-OE



Sectional Map for ASN 2014-ANE-1912-OE



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Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193

Aeronautical Study No.
2014-ANE-1771-OE

Issued Date: 11/17/2014

Andrew Bazinet
CPV Towantic, LLC
50 Braintree Hill Office Park
Suite 300
Braintree, MA 02184

**** NOTICE OF PRESUMED HAZARD ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Stack Stack #2
Location:	Oxford, CT
Latitude:	41-29-01.13N NAD 83
Longitude:	73-07-19.66W
Heights:	830 feet site elevation (SE)
	150 feet above ground level (AGL)
	980 feet above mean sea level (AMSL)

Initial findings of this study indicate that the structure as described exceeds obstruction standards and/or would have an adverse physical or electromagnetic interference effect upon navigable airspace or air navigation facilities. Pending resolution of the issues described below, the structure is presumed to be a hazard to air navigation.

If the structure were reduced in height so as not to exceed 46 feet above ground level (876 feet above mean sea level), it would not exceed obstruction standards and a favorable determination could subsequently be issued.

To pursue a favorable determination at the originally submitted height, further study would be necessary. Further study entails distribution to the public for comment, and may extend the study period up to 120 days. The outcome cannot be predicted prior to public circularization.

If you would like the FAA to conduct further study, you must make the request within 60 days from the date of issuance of this letter.

See Attachment for Additional information.

NOTE: PENDING RESOLUTION OF THE ISSUE(S) DESCRIBED ABOVE, THE STRUCTURE IS PRESUMED TO BE A HAZARD TO AIR NAVIGATION. THIS LETTER DOES NOT AUTHORIZE CONSTRUCTION OF THE STRUCTURE EVEN AT A REDUCED HEIGHT. ANY RESOLUTION OF THE ISSUE(S) DESCRIBED ABOVE MUST BE COMMUNICATED TO THE FAA SO THAT A FAVORABLE DETERMINATION CAN SUBSEQUENTLY BE ISSUED.

IF MORE THAN 60 DAYS FROM THE DATE OF THIS LETTER HAS ELAPSED WITHOUT ATTEMPTED RESOLUTION, IT WILL BE NECESSARY FOR YOU TO REACTIVATE THE STUDY BY FILING A NEW FAA FORM 7460-1, NOTICE OF PROPOSED CONSTRUCTION OR ALTERATION.

If we can be of further assistance, please contact our office at (404) 305-7084. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-ANE-1771-OE.

Signature Control No: 227940258-234596018 (NPH)
Darin Clipper
Specialist

Attachment(s)
Additional Information
Case Description
Map(s)

Additional information for ASN 2014-ANE-1771-OE

The proposed stack #2 at a height of 150 feet (ft.) AGL / 980 ft. AMSL, would be located approximately 4,143 ft. east of the Runway 18/36 at Waterbury- Oxford Airport (OXC), Oxford, CT. The proposed structure has been identified as an obstruction under the standards of Title 14, Code of Federal Regulations (CFR), Part 77, as applied to OXC as follows:

Section 77.17 (a) (5): The surface of a takeoff and landing area of an airport or any imaginary surface established under 77.19, 77.21, or 77.23. However, no part of the takeoff or landing area itself will be considered an obstruction.

Section 77.19 (a): A Horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by swinging arcs of a specified radii from the center of each end of the primary surface of each runway of each airport and connecting the adjacent arcs by lines tangent to those arcs. The proposed structure exceeds the Horizontal Surface by up to 104 ft.

The proposed structure would also be located within the traffic pattern airspace (TPA) for all categories of aircraft using the Waterbury-Oxford Airport. The proposal would exceed the Part 77 horizontal surface as applied to visual approach runways at OXC by 104 ft. Records indicate this airport has approximately 47,987 operations per year. Therefore, it is reasonable to conclude that an average of at least one VFR operation per day would be affected and this would constitute substantial adverse effect unless the proposed height for this proposed structure is reduced to 46 ft. AGL / 876 ft. AMSL.

Options for this study include the following:

1. Accept lowering the height to 46 ft. AGL / 876 ft. AMSL and a favorable determination can be issued.

2. To pursue the possibility of receiving a favorable determination at the originally submitted height of 150 ft. AGL / 980 ft. AMSL, further study would be necessary. Further study entails public circularization for comment which could take up to 120 days and the outcome cannot be predicted.

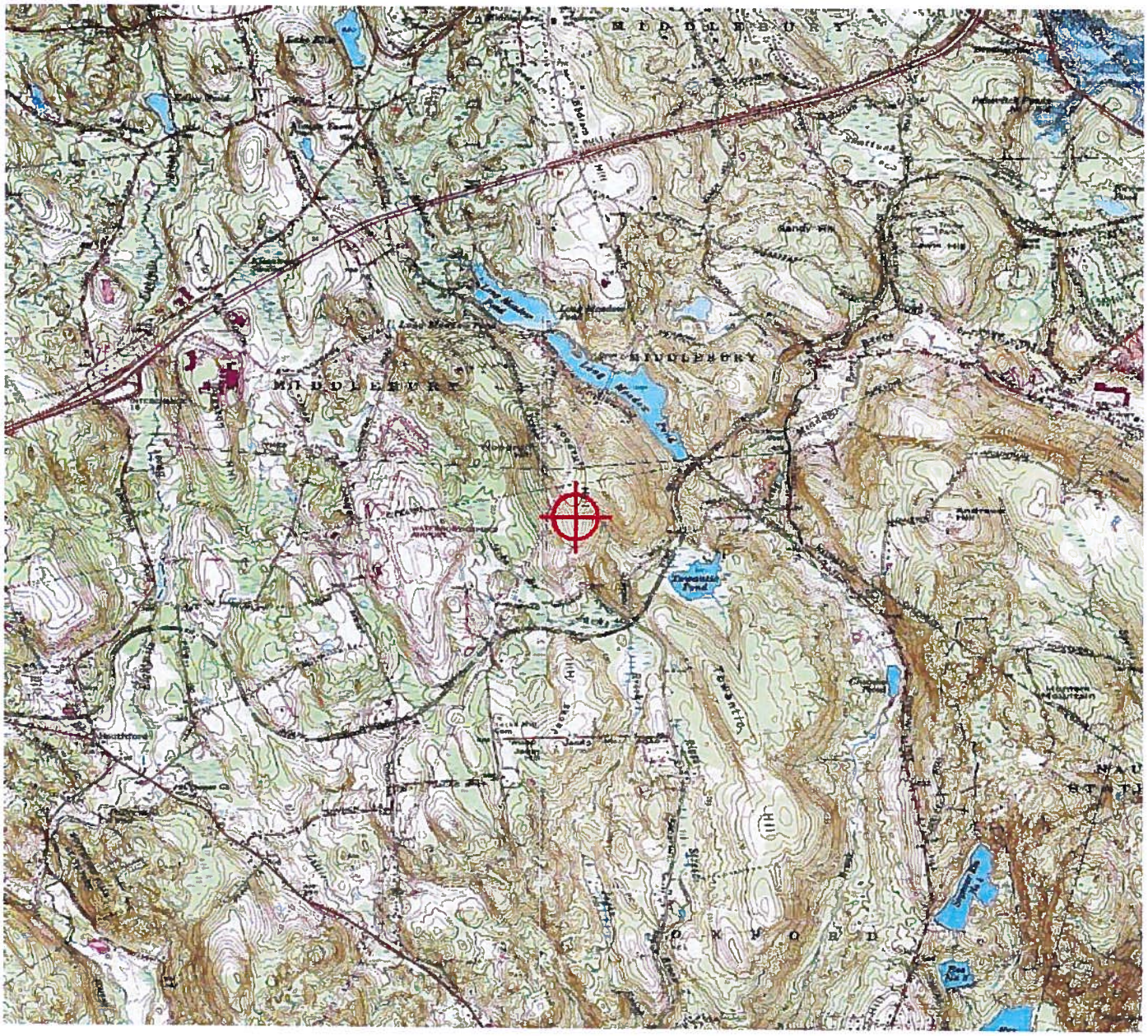
3. Request termination of the study.

Your response may be e-mailed to darin.clipper@faa.gov. If the FAA does not receive a response to this letter within 60 days, the study will expire as noted on Page 1.

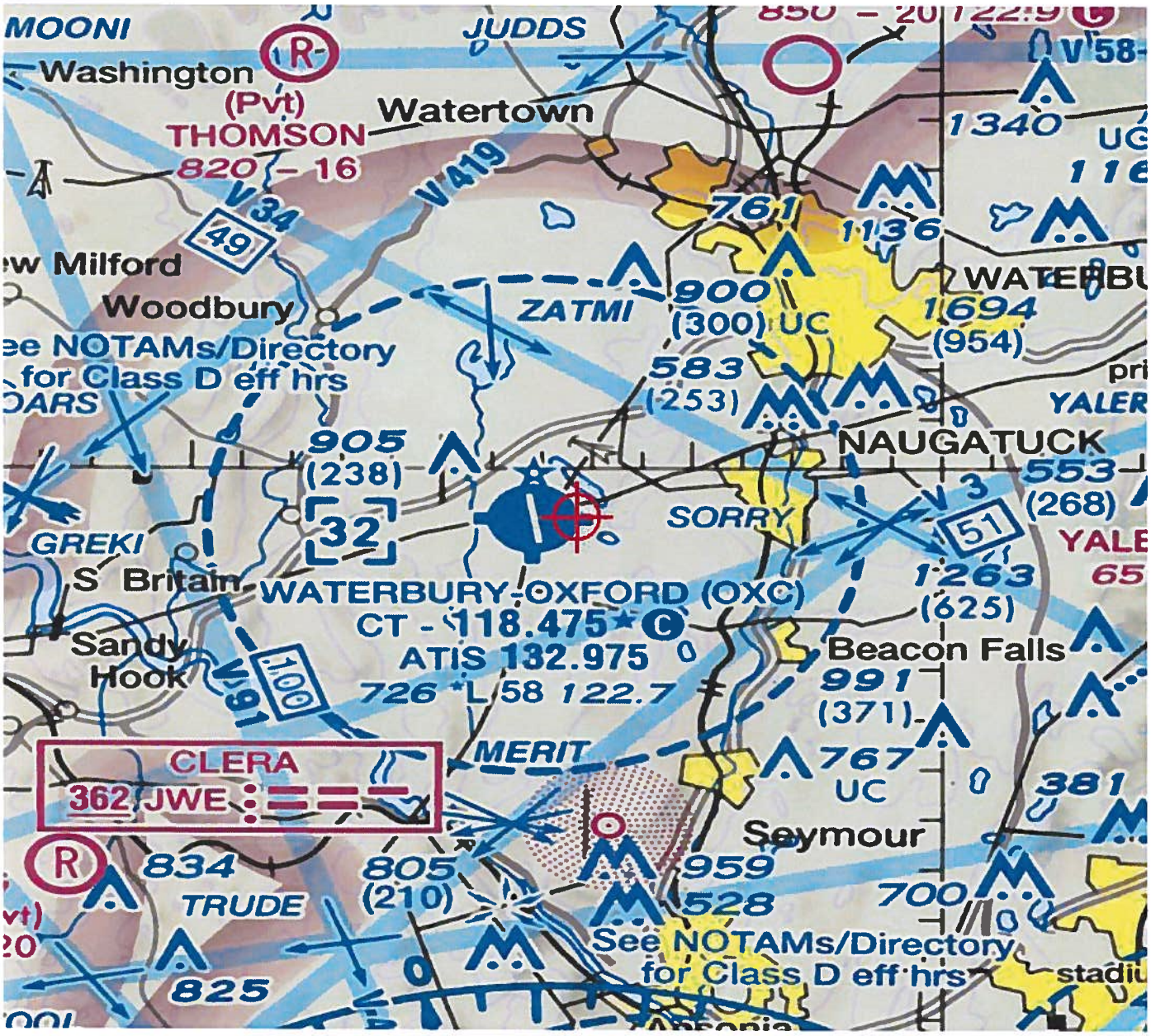
Case Description for ASN 2014-ANE-1771-OE

CPV Towantic, LLC is proposing development of a combined-cycle electric generating facility on the 26-acre property. This notice is a re-submission of 2014-ANE-932-OE, with a 1-foot decrease in base site elevation.

TOPO Map for ASN 2014-ANE-1771-OE



Sectional Map for ASN 2014-ANE-1771-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193

Aeronautical Study No.
2014-ANE-1770-OE

Issued Date: 11/17/2014

Andrew Bazinet
CPV Towantic, LLC
50 Braintree Hill Office Park
Suite 300
Braintree, MA 02184

**** NOTICE OF PRESUMED HAZARD ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Stack Stack #1
Location:	Oxford, CT
Latitude:	41-29-01.44N NAD 83
Longitude:	73-07-17.91W
Heights:	830 feet site elevation (SE)
	150 feet above ground level (AGL)
	980 feet above mean sea level (AMSL)

Initial findings of this study indicate that the structure as described exceeds obstruction standards and/or would have an adverse physical or electromagnetic interference effect upon navigable airspace or air navigation facilities. Pending resolution of the issues described below, the structure is presumed to be a hazard to air navigation.

If the structure were reduced in height so as not to exceed 46 feet above ground level (876 feet above mean sea level), it would not exceed obstruction standards and a favorable determination could subsequently be issued.

To pursue a favorable determination at the originally submitted height, further study would be necessary. Further study entails distribution to the public for comment, and may extend the study period up to 120 days. The outcome cannot be predicted prior to public circularization.

If you would like the FAA to conduct further study, you must make the request within 60 days from the date of issuance of this letter.

See Attachment for Additional information.

NOTE: PENDING RESOLUTION OF THE ISSUE(S) DESCRIBED ABOVE, THE STRUCTURE IS PRESUMED TO BE A HAZARD TO AIR NAVIGATION. THIS LETTER DOES NOT AUTHORIZE CONSTRUCTION OF THE STRUCTURE EVEN AT A REDUCED HEIGHT. ANY RESOLUTION OF THE ISSUE(S) DESCRIBED ABOVE MUST BE COMMUNICATED TO THE FAA SO THAT A FAVORABLE DETERMINATION CAN SUBSEQUENTLY BE ISSUED.

IF MORE THAN 60 DAYS FROM THE DATE OF THIS LETTER HAS ELAPSED WITHOUT ATTEMPTED RESOLUTION, IT WILL BE NECESSARY FOR YOU TO REACTIVATE THE STUDY BY FILING A NEW FAA FORM 7460-1, NOTICE OF PROPOSED CONSTRUCTION OR ALTERATION.

If we can be of further assistance, please contact our office at (404) 305-7084. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-ANE-1770-OE.

Signature Control No: 227940257-234595972 (NPH)
Darin Clipper
Specialist

Attachment(s)
Additional Information
Case Description
Map(s)

Additional information for ASN 2014-ANE-1770-OE

The proposed stack #1 at a height of 150 feet (ft.) AGL / 980 ft. AMSL, would be located approximately 4,267 ft. east of the Runway 18/36 at Waterbury- Oxford Airport (OXC), Oxford, CT. The proposed structure has been identified as an obstruction under the standards of Title 14, Code of Federal Regulations (CFR), Part 77, as applied to OXC as follows:

Section 77.17 (a) (5): The surface of a takeoff and landing area of an airport or any imaginary surface established under 77.19, 77.21, or 77.23. However, no part of the takeoff or landing area itself will be considered an obstruction.

Section 77.19 (a): A Horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by swinging arcs of a specified radii from the center of each end of the primary surface of each runway of each airport and connecting the adjacent arcs by lines tangent to those arcs. The proposed structure exceeds the Horizontal Surface by up to 104 ft.

The proposed structure would also be located within the traffic pattern airspace (TPA) for all categories of aircraft using the Waterbury-Oxford Airport. The proposal would exceed the Part 77 horizontal surface as applied to visual approach runways at OXC by 104 ft. Records indicate this airport has approximately 47,987 operations per year. Therefore, it is reasonable to conclude that an average of at least one VFR operation per day would be affected and this would constitute substantial adverse effect unless the proposed height for this proposed structure is reduced to 46 ft. AGL / 876 ft. AMSL.

Options for this study include the following:

1. Accept lowering the height to 46 ft. AGL / 876 ft. AMSL and a favorable determination can be issued.

2. To pursue the possibility of receiving a favorable determination at the originally submitted height of 150 ft. AGL / 980 ft. AMSL, further study would be necessary. Further study entails public circularization for comment which could take up to 120 days and the outcome cannot be predicted.

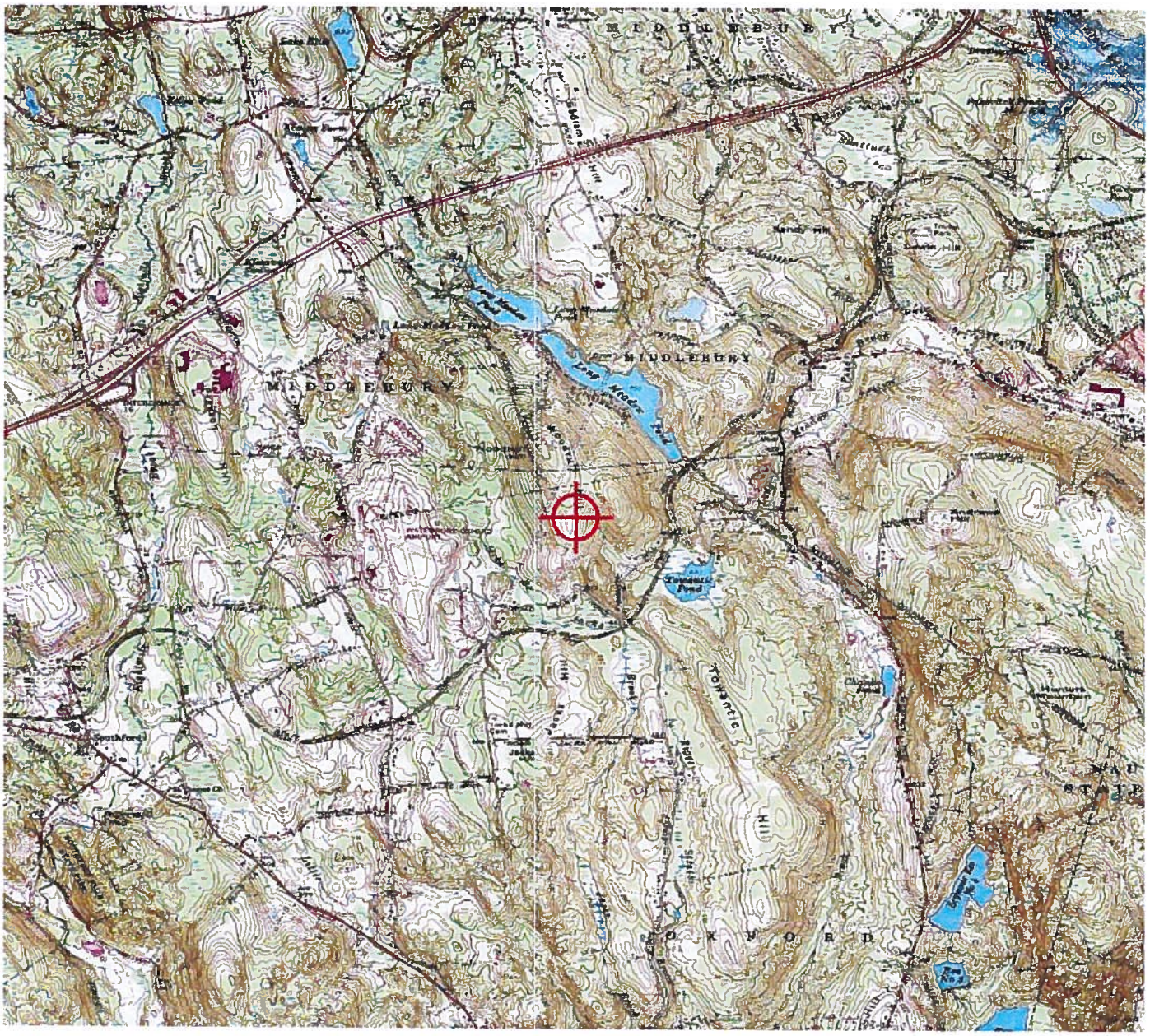
3. Request termination of the study.

Your response may be e-mailed to darin.clipper@faa.gov. If the FAA does not receive a response to this letter within 60 days, the study will expire as noted on Page 1.

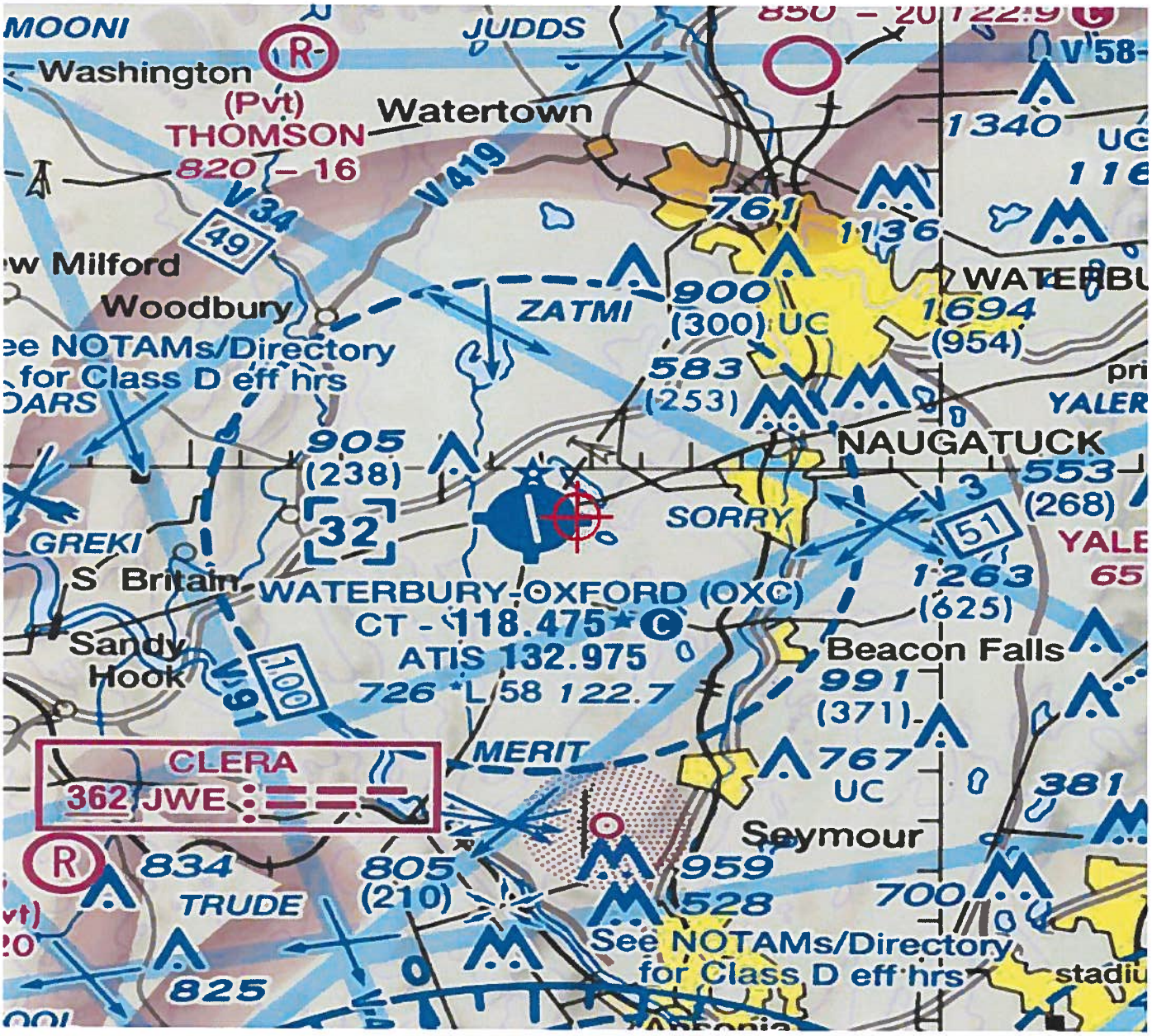
Case Description for ASN 2014-ANE-1770-OE

CPV Towantic, LLC is proposing development of a combined-cycle electric generating facility on the 26-acre property. This notice is a re-submission of 2014-ANE-931-OE, with a 1-foot decrease in base site elevation.

TOPO Map for ASN 2014-ANE-1770-OE



Sectional Map for ASN 2014-ANE-1770-OE



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Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193

Aeronautical Study No.
2014-ANE-1909-OE

Issued Date: 11/17/2014

Andrew Bazinet
CPV Towantic, LLC
50 Braintree Hill Office Park
Suite 300
Braintree, MA 02184

**** NOTICE OF PRESUMED HAZARD ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Crane Gantry Crane
Location:	Oxford, CT
Latitude:	41-29-02.56N NAD 83
Longitude:	73-07-23.61W
Heights:	830 feet site elevation (SE)
	83 feet above ground level (AGL)
	913 feet above mean sea level (AMSL)

Initial findings of this study indicate that the structure as described exceeds obstruction standards and/or would have an adverse physical or electromagnetic interference effect upon navigable airspace or air navigation facilities. Pending resolution of the issues described below, the structure is presumed to be a hazard to air navigation.

If the structure were reduced in height so as not to exceed 46 feet above ground level (876 feet above mean sea level), it would not exceed obstruction standards and a favorable determination could subsequently be issued.

To pursue a favorable determination at the originally submitted height, further study would be necessary. Further study entails distribution to the public for comment, and may extend the study period up to 120 days. The outcome cannot be predicted prior to public circularization.

If you would like the FAA to conduct further study, you must make the request within 60 days from the date of issuance of this letter.

See Attachment for Additional information.

NOTE: PENDING RESOLUTION OF THE ISSUE(S) DESCRIBED ABOVE, THE STRUCTURE IS PRESUMED TO BE A HAZARD TO AIR NAVIGATION. THIS LETTER DOES NOT AUTHORIZE CONSTRUCTION OF THE STRUCTURE EVEN AT A REDUCED HEIGHT. ANY RESOLUTION OF THE ISSUE(S) DESCRIBED ABOVE MUST BE COMMUNICATED TO THE FAA SO THAT A FAVORABLE DETERMINATION CAN SUBSEQUENTLY BE ISSUED.

IF MORE THAN 60 DAYS FROM THE DATE OF THIS LETTER HAS ELAPSED WITHOUT ATTEMPTED RESOLUTION, IT WILL BE NECESSARY FOR YOU TO REACTIVATE THE STUDY BY FILING A NEW FAA FORM 7460-1, NOTICE OF PROPOSED CONSTRUCTION OR ALTERATION.

If we can be of further assistance, please contact our office at (404) 305-7084. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-ANE-1909-OE.

Signature Control No: 228977200-234593391 (NPH)
Darin Clipper
Specialist

Attachment(s)
Additional Information
Case Description
Map(s)

Additional information for ASN 2014-ANE-1909-OE

The proposed permanent crane at a height of 83 feet (ft.) AGL / 913 ft. AMSL, would be located approximately 3,819 ft. east of the Runway 18/36 at Waterbury- Oxford Airport (OXC), Oxford, CT. The proposed structure has been identified as an obstruction under the standards of Title 14, Code of Federal Regulations (CFR), Part 77, as applied to OXC as follows:

Section 77.17 (a) (5): The surface of a takeoff and landing area of an airport or any imaginary surface established under 77.19, 77.21, or 77.23. However, no part of the takeoff or landing area itself will be considered an obstruction.

Section 77.19 (a): A Horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by swinging arcs of a specified radii from the center of each end of the primary surface of each runway of each airport and connecting the adjacent arcs by lines tangent to those arcs. The proposed structure exceeds the Horizontal Surface by up to 37 ft.

The proposed structure would also be located within the traffic pattern airspace (TPA) for all categories of aircraft using the Waterbury-Oxford Airport. The proposal would exceed the Part 77 horizontal surface as applied to visual approach runways at OXC by 37 ft. Records indicate this airport has approximately 47,987 operations per year. Therefore, it is reasonable to conclude that an average of at least one VFR operation per day would be affected and this would constitute substantial adverse effect unless the proposed height for this proposed structure is reduced to 46 ft. AGL / 876 ft. AMSL.

Options for this study include the following:

1. Accept lowering the height to 46 ft. AGL / 876 ft. AMSL and a favorable determination can be issued.

2. To pursue the possibility of receiving a favorable determination at the originally submitted height of 83 ft. AGL / 913 ft. AMSL, further study would be necessary. Further study entails public circularization for comment which could take up to 120 days and the outcome cannot be predicted.

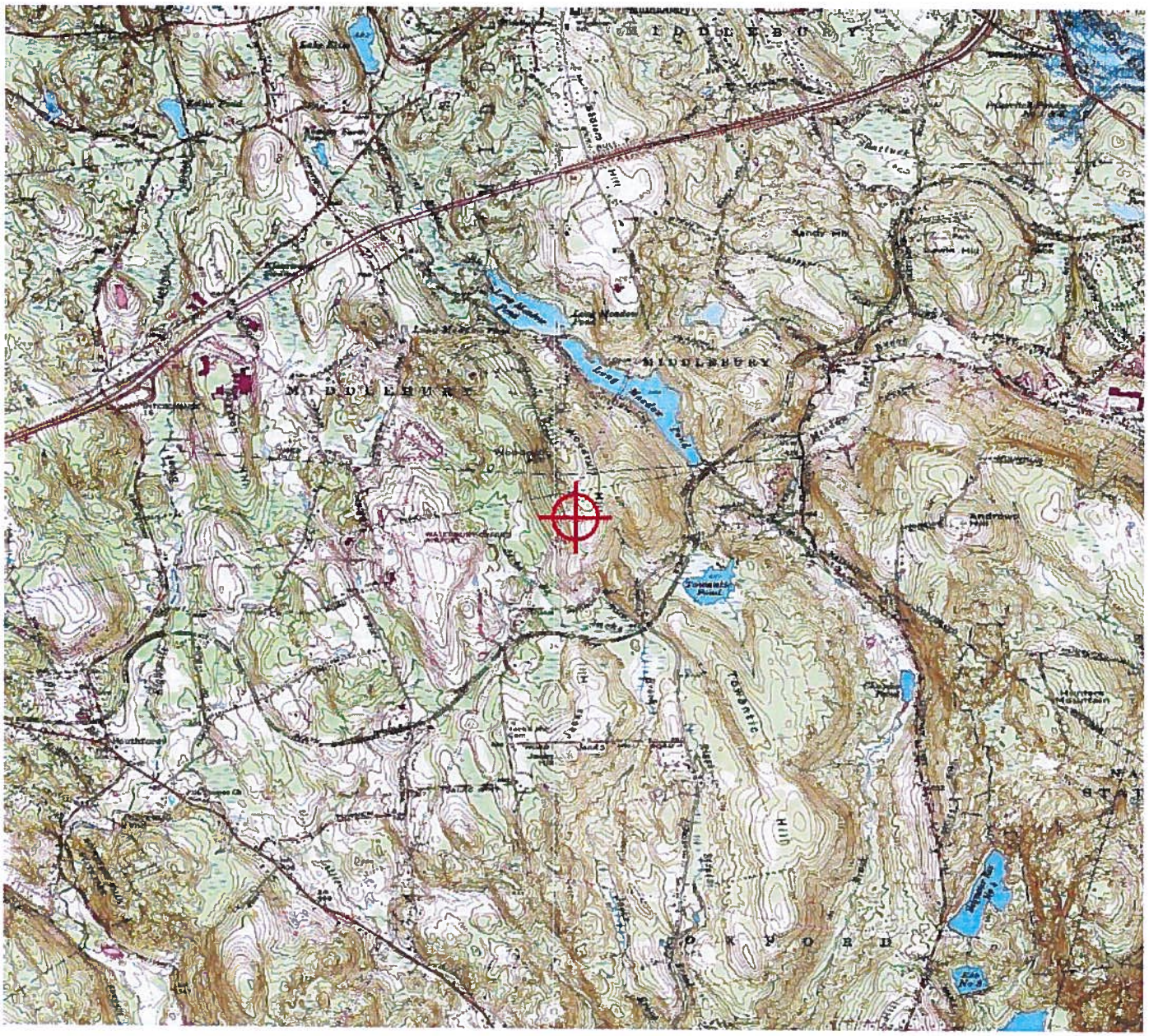
3. Request termination of the study.

Your response may be e-mailed to darin.clipper@faa.gov. If the FAA does not receive a response to this letter within 60 days, the study will expire as noted on Page 1.

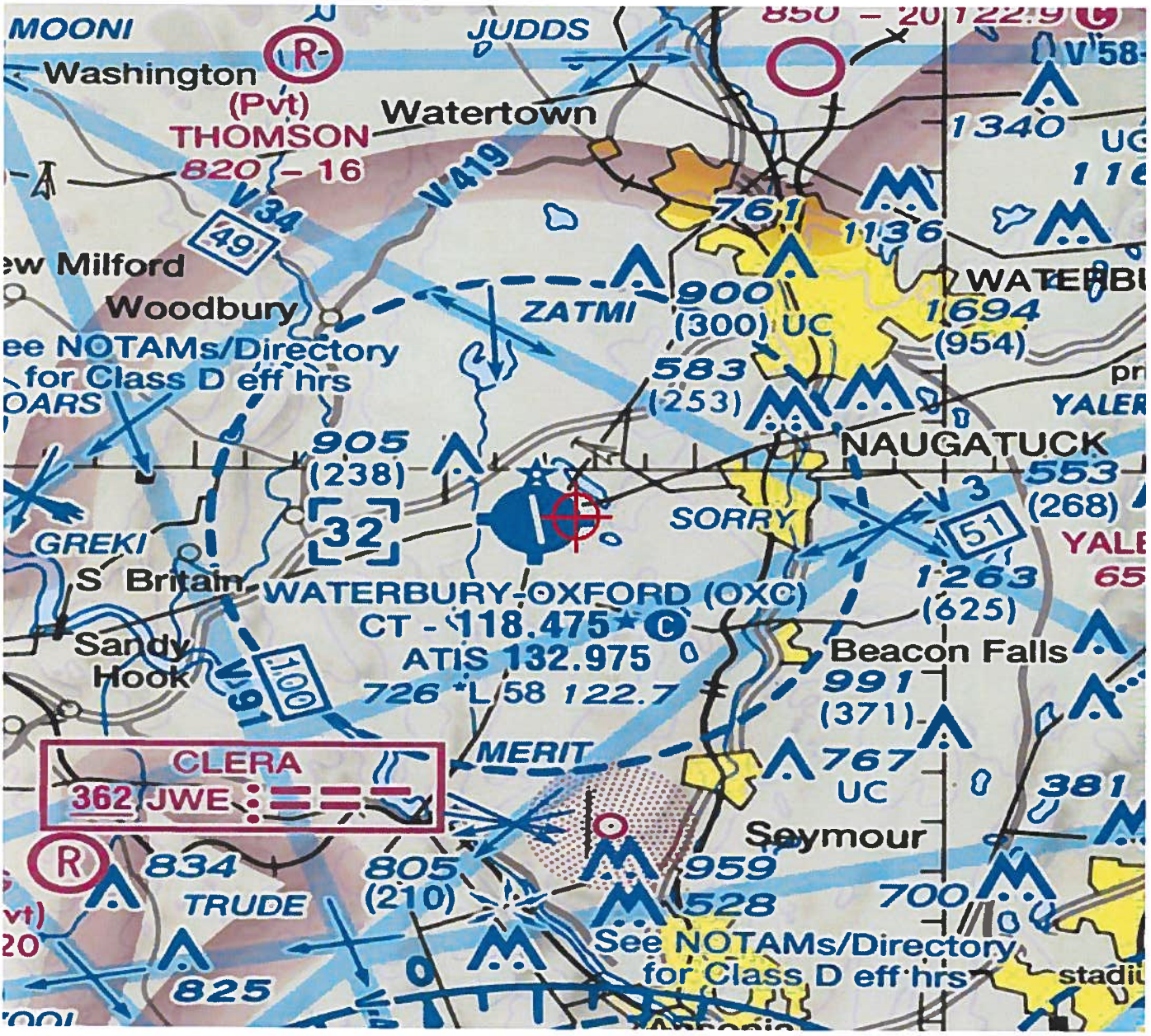
Case Description for ASN 2014-ANE-1909-OE

CPV Towantic, LLC is proposing development of a combined-cycle electric generating facility on the 26-acre property.

TOPO Map for ASN 2014-ANE-1909-OE



Sectional Map for ASN 2014-ANE-1909-OE



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Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193

Aeronautical Study No.
2014-ANE-1910-OE

Issued Date: 11/17/2014

Andrew Bazinet
CPV Towantic, LLC
50 Braintree Hill Office Park
Suite 300
Braintree, MA 02184

**** NOTICE OF PRESUMED HAZARD ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Fuel Oil Storage Tank
Location:	Oxford, CT
Latitude:	41-28-59.75N NAD 83
Longitude:	73-07-17.26W
Heights:	830 feet site elevation (SE)
	48 feet above ground level (AGL)
	878 feet above mean sea level (AMSL)

Initial findings of this study indicate that the structure as described exceeds obstruction standards and/or would have an adverse physical or electromagnetic interference effect upon navigable airspace or air navigation facilities. Pending resolution of the issues described below, the structure is presumed to be a hazard to air navigation.

If the structure were reduced in height so as not to exceed 46 feet above ground level (876 feet above mean sea level), it would not exceed obstruction standards and a favorable determination could subsequently be issued.

To pursue a favorable determination at the originally submitted height, further study would be necessary. Further study entails distribution to the public for comment, and may extend the study period up to 120 days. The outcome cannot be predicted prior to public circularization.

If you would like the FAA to conduct further study, you must make the request within 60 days from the date of issuance of this letter.

See Attachment for Additional information.

NOTE: PENDING RESOLUTION OF THE ISSUE(S) DESCRIBED ABOVE, THE STRUCTURE IS PRESUMED TO BE A HAZARD TO AIR NAVIGATION. THIS LETTER DOES NOT AUTHORIZE CONSTRUCTION OF THE STRUCTURE EVEN AT A REDUCED HEIGHT. ANY RESOLUTION OF THE ISSUE(S) DESCRIBED ABOVE MUST BE COMMUNICATED TO THE FAA SO THAT A FAVORABLE DETERMINATION CAN SUBSEQUENTLY BE ISSUED.

IF MORE THAN 60 DAYS FROM THE DATE OF THIS LETTER HAS ELAPSED WITHOUT ATTEMPTED RESOLUTION, IT WILL BE NECESSARY FOR YOU TO REACTIVATE THE STUDY BY FILING A NEW FAA FORM 7460-1, NOTICE OF PROPOSED CONSTRUCTION OR ALTERATION.

If we can be of further assistance, please contact our office at (404) 305-7084. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-ANE-1910-OE.

Signature Control No: 228977201-234592845 (NPH)
Darin Clipper
Specialist

Attachment(s)
Additional Information
Case Description
Map(s)

Additional information for ASN 2014-ANE-1910-OE

The proposed fuel oil storage tank at a height of 48 feet (ft.) AGL / 878 ft. AMSL, would be located approximately 4,353 ft. east of the Runway 18/36 at Waterbury- Oxford Airport (OXC), Oxford, CT. The proposed structure has been identified as an obstruction under the standards of Title 14, Code of Federal Regulations (CFR), Part 77, as applied to OXC as follows:

Section 77.17 (a) (5): The surface of a takeoff and landing area of an airport or any imaginary surface established under 77.19, 77.21, or 77.23. However, no part of the takeoff or landing area itself will be considered an obstruction.

Section 77.19 (a): A Horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by swinging arcs of a specified radii from the center of each end of the primary surface of each runway of each airport and connecting the adjacent arcs by lines tangent to those arcs. The proposed structure exceeds the Horizontal Surface by up to 2 ft.

The proposed structure would also be located within the traffic pattern airspace (TPA) for all categories of aircraft using the Waterbury-Oxford Airport. The proposal would exceed the Part 77 horizontal surface as applied to visual approach runways at OXC by 2 ft. Records indicate this airport has approximately 47,987 operations per year. Therefore, it is reasonable to conclude that an average of at least one VFR operation per day would be affected and this would constitute substantial adverse effect unless the proposed height for this proposed structure is reduced to 46 ft. AGL / 876 ft. AMSL.

Options for this study include the following:

1. Accept lowering the height to 46 ft. AGL / 876 ft. AMSL and a favorable determination can be issued.

2. To pursue the possibility of receiving a favorable determination at the originally submitted height of 48 ft. AGL / 878 ft. AMSL, further study would be necessary. Further study entails public circularization for comment which could take up to 120 days and the outcome cannot be predicted.

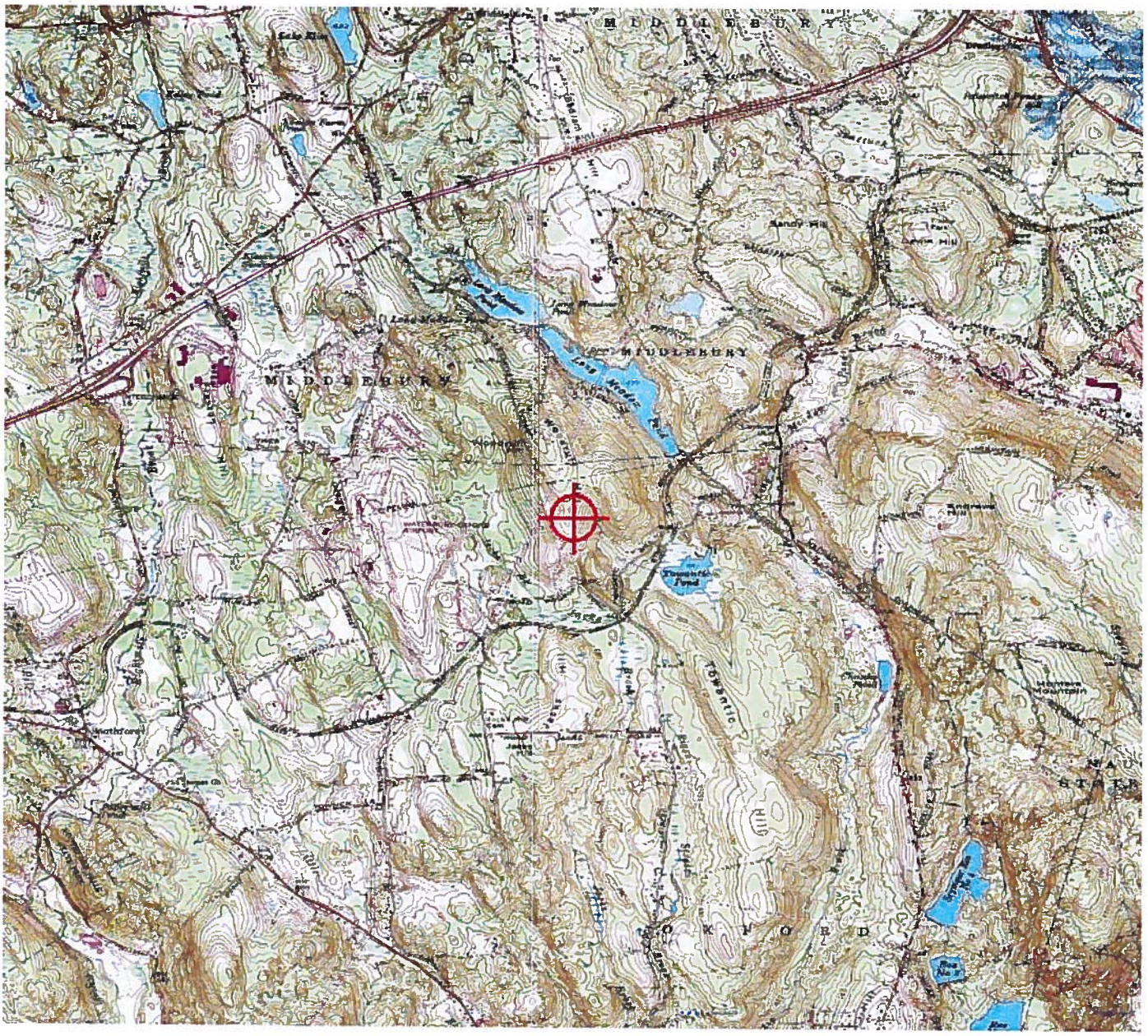
3. Request termination of the study.

Your response may be e-mailed to darin.clipper@faa.gov. If the FAA does not receive a response to this letter within 60 days, the study will expire as noted on Page 1.

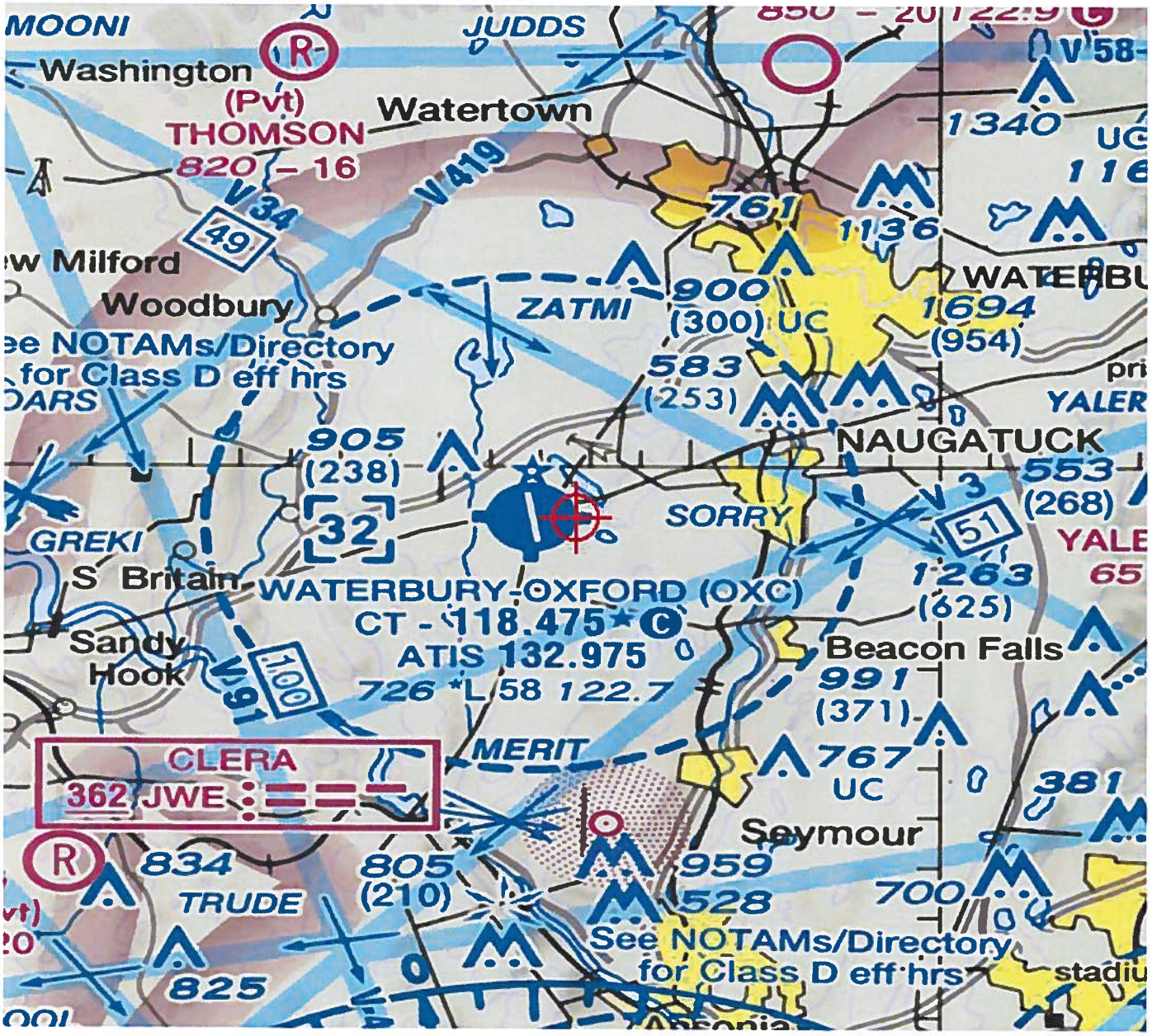
Case Description for ASN 2014-ANE-1910-OE

CPV Towantic, LLC is proposing development of a combined-cycle electric generating facility on the 26-acre property.

TOPO Map for ASN 2014-ANE-1910-OE



Sectional Map for ASN 2014-ANE-1910-OE



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Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193

Aeronautical Study No.
2014-ANE-1908-OE

Issued Date: 11/17/2014

Andrew Bazinet
CPV Towantic, LLC
50 Braintree Hill Office Park
Suite 300
Braintree, MA 02184

**** NOTICE OF PRESUMED HAZARD ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Stack Auxiliary Boiler Stack
Location:	Oxford, CT
Latitude:	41-29-02.91N NAD 83
Longitude:	73-07-23.40W
Heights:	830 feet site elevation (SE)
	62 feet above ground level (AGL)
	892 feet above mean sea level (AMSL)

Initial findings of this study indicate that the structure as described exceeds obstruction standards and/or would have an adverse physical or electromagnetic interference effect upon navigable airspace or air navigation facilities. Pending resolution of the issues described below, the structure is presumed to be a hazard to air navigation.

If the structure were reduced in height so as not to exceed 46 feet above ground level (876 feet above mean sea level), it would not exceed obstruction standards and a favorable determination could subsequently be issued.

To pursue a favorable determination at the originally submitted height, further study would be necessary. Further study entails distribution to the public for comment, and may extend the study period up to 120 days. The outcome cannot be predicted prior to public circularization.

If you would like the FAA to conduct further study, you must make the request within 60 days from the date of issuance of this letter.

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IF MORE THAN 60 DAYS FROM THE DATE OF THIS LETTER HAS ELAPSED WITHOUT ATTEMPTED RESOLUTION, IT WILL BE NECESSARY FOR YOU TO REACTIVATE THE STUDY BY FILING A NEW FAA FORM 7460-1, NOTICE OF PROPOSED CONSTRUCTION OR ALTERATION.

If we can be of further assistance, please contact our office at (404) 305-7084. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-ANE-1908-OE.

Signature Control No: 228977199-234594583 (NPH)
Darin Clipper
Specialist

Attachment(s)
Additional Information
Case Description
Map(s)

Additional information for ASN 2014-ANE-1908-OE

The proposed auxiliary boiler stack at a height of 62 feet (ft.) AGL / 892 ft. AMSL, would be located approximately 3,828 ft. east of the Runway 18/36 at Waterbury- Oxford Airport (OXC), Oxford, CT. The proposed structure has been identified as an obstruction under the standards of Title 14, Code of Federal Regulations (CFR), Part 77, as applied to OXC as follows:

Section 77.17 (a) (5): The surface of a takeoff and landing area of an airport or any imaginary surface established under 77.19, 77.21, or 77.23. However, no part of the takeoff or landing area itself will be considered an obstruction.

Section 77.19 (a): A Horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by swinging arcs of a specified radii from the center of each end of the primary surface of each runway of each airport and connecting the adjacent arcs by lines tangent to those arcs. The proposed structure exceeds the Horizontal Surface by up to 16 ft.

The proposed structure would also be located within the traffic pattern airspace (TPA) for all categories of aircraft using the Waterbury-Oxford Airport. The proposal would exceed the Part 77 horizontal surface as applied to visual approach runways at OXC by 16 ft. Records indicate this airport has approximately 47,987 operations per year. Therefore, it is reasonable to conclude that an average of at least one VFR operation per day would be affected and this would constitute substantial adverse effect unless the proposed height for this proposed structure is reduced to 46 ft. AGL / 876 ft. AMSL.

Options for this study include the following:

1. Accept lowering the height to 46 ft. AGL / 876 ft. AMSL and a favorable determination can be issued.

2. To pursue the possibility of receiving a favorable determination at the originally submitted height of 62 ft. AGL / 892 ft. AMSL, further study would be necessary. Further study entails public circularization for comment which could take up to 120 days and the outcome cannot be predicted.

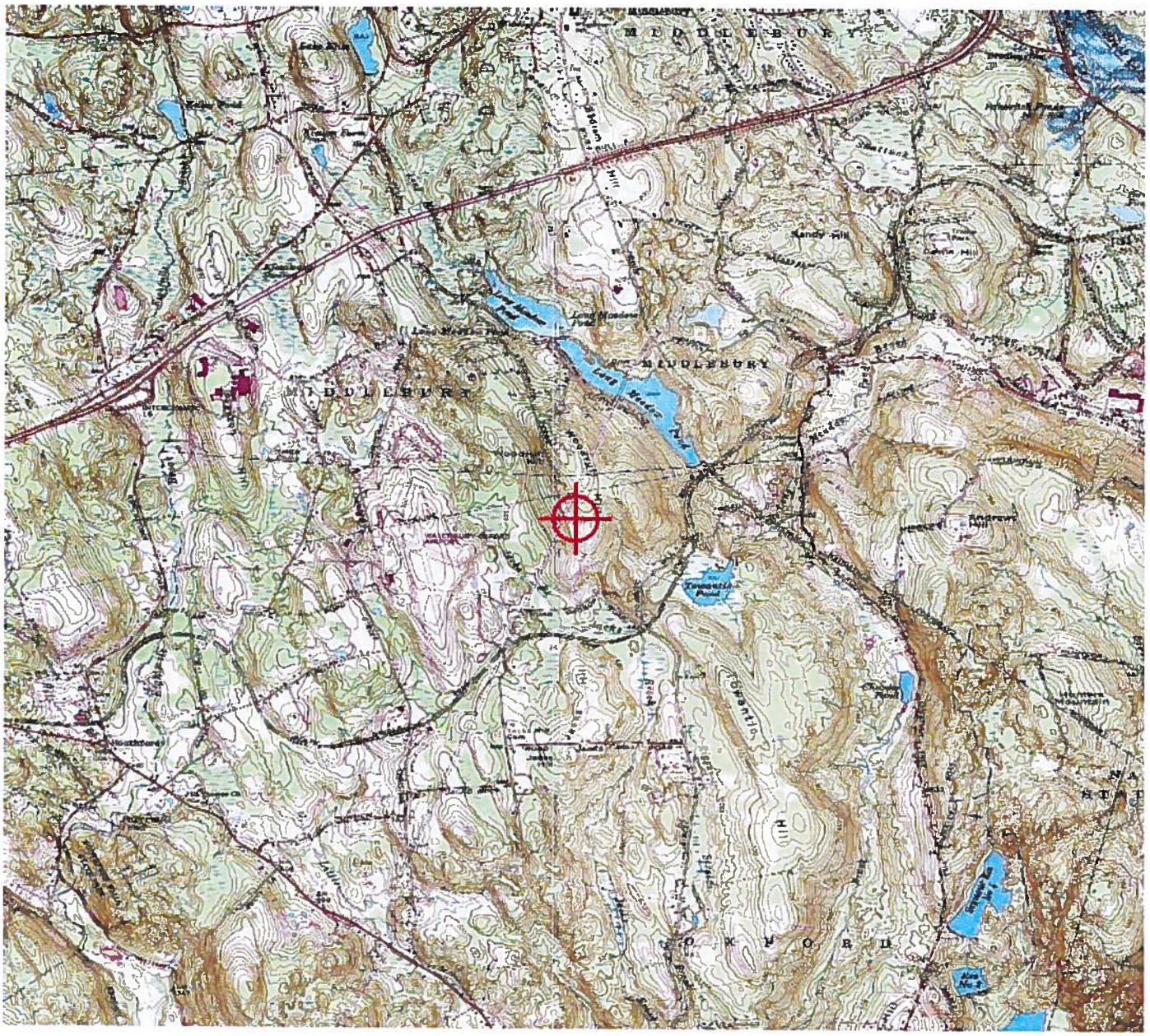
3. Request termination of the study.

Your response may be e-mailed to darin.clipper@faa.gov. If the FAA does not receive a response to this letter within 60 days, the study will expire as noted on Page 1.

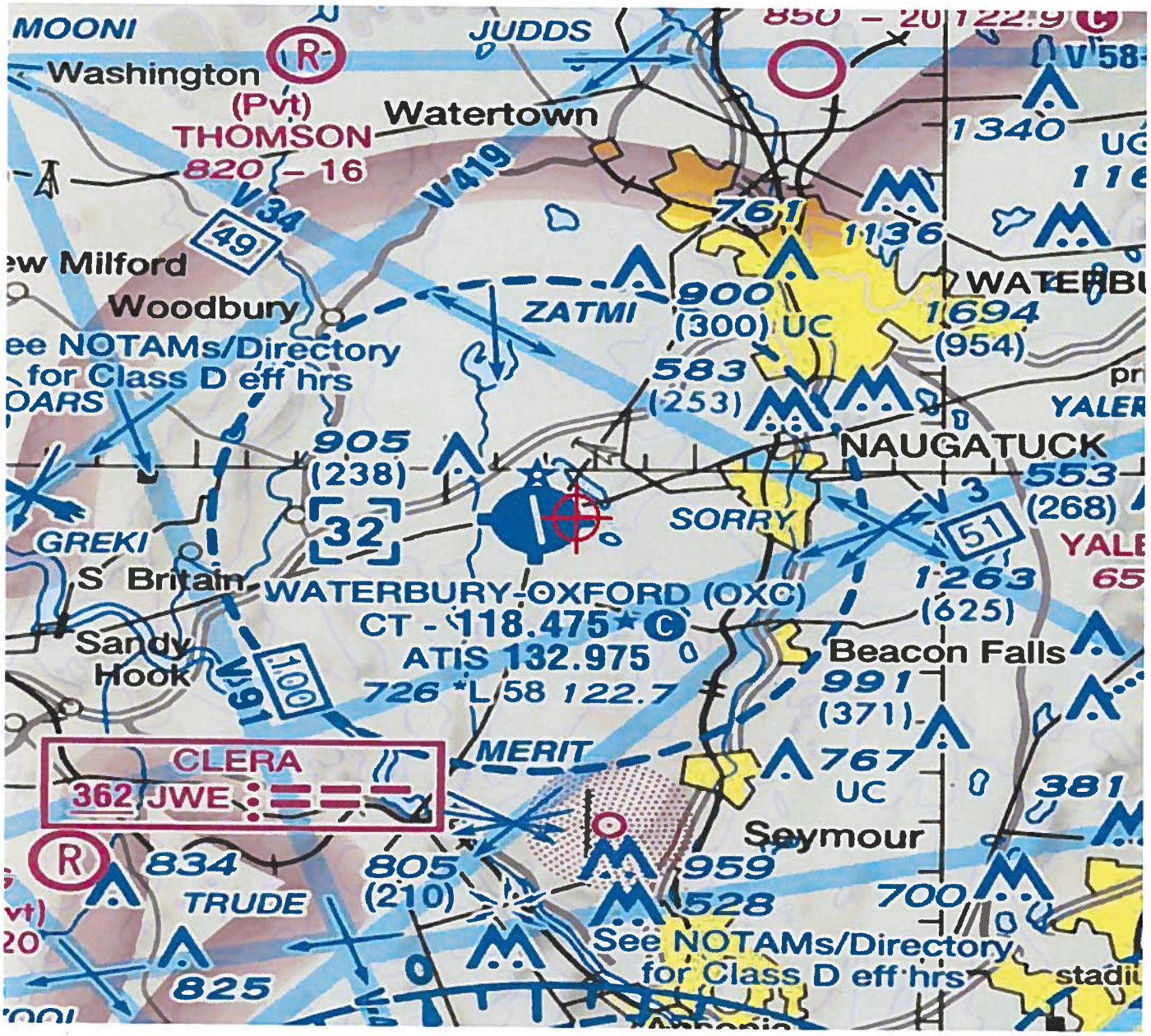
Case Description for ASN 2014-ANE-1908-OE

CPV Towantic, LLC is proposing development of a combined-cycle electric generating facility on the 26-acre property.

TOPO Map for ASN 2014-ANE-1908-OE



Sectional Map for ASN 2014-ANE-1908-OE



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Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193

Aeronautical Study No.
2014-ANE-1924-OE

Issued Date: 11/17/2014

Andrew Bazinet
CPV Towantic, LLC
50 Braintree Hill Office Park
Suite 300
Braintree, MA 02184

**** NOTICE OF PRESUMED HAZARD ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Building Administrative Building (SW Corner)
Location:	Oxford, CT
Latitude:	41-29-02.69N NAD 83
Longitude:	73-07-23.43W
Heights:	830 feet site elevation (SE)
	52 feet above ground level (AGL)
	882 feet above mean sea level (AMSL)

Initial findings of this study indicate that the structure as described exceeds obstruction standards and/or would have an adverse physical or electromagnetic interference effect upon navigable airspace or air navigation facilities. Pending resolution of the issues described below, the structure is presumed to be a hazard to air navigation.

If the structure were reduced in height so as not to exceed 46 feet above ground level (876 feet above mean sea level), it would not exceed obstruction standards and a favorable determination could subsequently be issued.

To pursue a favorable determination at the originally submitted height, further study would be necessary. Further study entails distribution to the public for comment, and may extend the study period up to 120 days. The outcome cannot be predicted prior to public circularization.

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If we can be of further assistance, please contact our office at (404) 305-7084. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-ANE-1924-OE.

Signature Control No: 229148143-234610547 (NPH)
Darin Clipper
Specialist

Attachment(s)
Additional Information
Case Description
Map(s)

Additional information for ASN 2014-ANE-1924-OE

The proposed Administrative building's SW corner at a height of 52 feet (ft.) AGL / 882 ft. AMSL, would be located approximately 3,830 ft. east of the Runway 18/36 at Waterbury- Oxford Airport (OXC), Oxford, CT. The proposed structure has been identified as an obstruction under the standards of Title 14, Code of Federal Regulations (CFR), Part 77, as applied to OXC as follows:

Section 77.17 (a) (5): The surface of a takeoff and landing area of an airport or any imaginary surface established under 77.19, 77.21, or 77.23. However, no part of the takeoff or landing area itself will be considered an obstruction.

Section 77.19 (a): A Horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by swinging arcs of a specified radii from the center of each end of the primary surface of each runway of each airport and connecting the adjacent arcs by lines tangent to those arcs. The proposed structure exceeds the Horizontal Surface by up to 6 ft.

The proposed structure would also be located within the traffic pattern airspace (TPA) for all categories of aircraft using the Waterbury-Oxford Airport. The proposal would exceed the Part 77 horizontal surface as applied to visual approach runways at OXC by 6 ft. Records indicate this airport has approximately 47,987 operations per year. Therefore, it is reasonable to conclude that an average of at least one VFR operation per day would be affected and this would constitute substantial adverse effect unless the proposed height for this proposed structure is reduced to 46 ft. AGL / 876 ft. AMSL.

Options for this study include the following:

1. Accept lowering the height to 46 ft. AGL / 876 ft. AMSL and a favorable determination can be issued.

2. To pursue the possibility of receiving a favorable determination at the originally submitted height of 52 ft. AGL / 882 ft. AMSL, further study would be necessary. Further study entails public circularization for comment which could take up to 120 days and the outcome cannot be predicted.

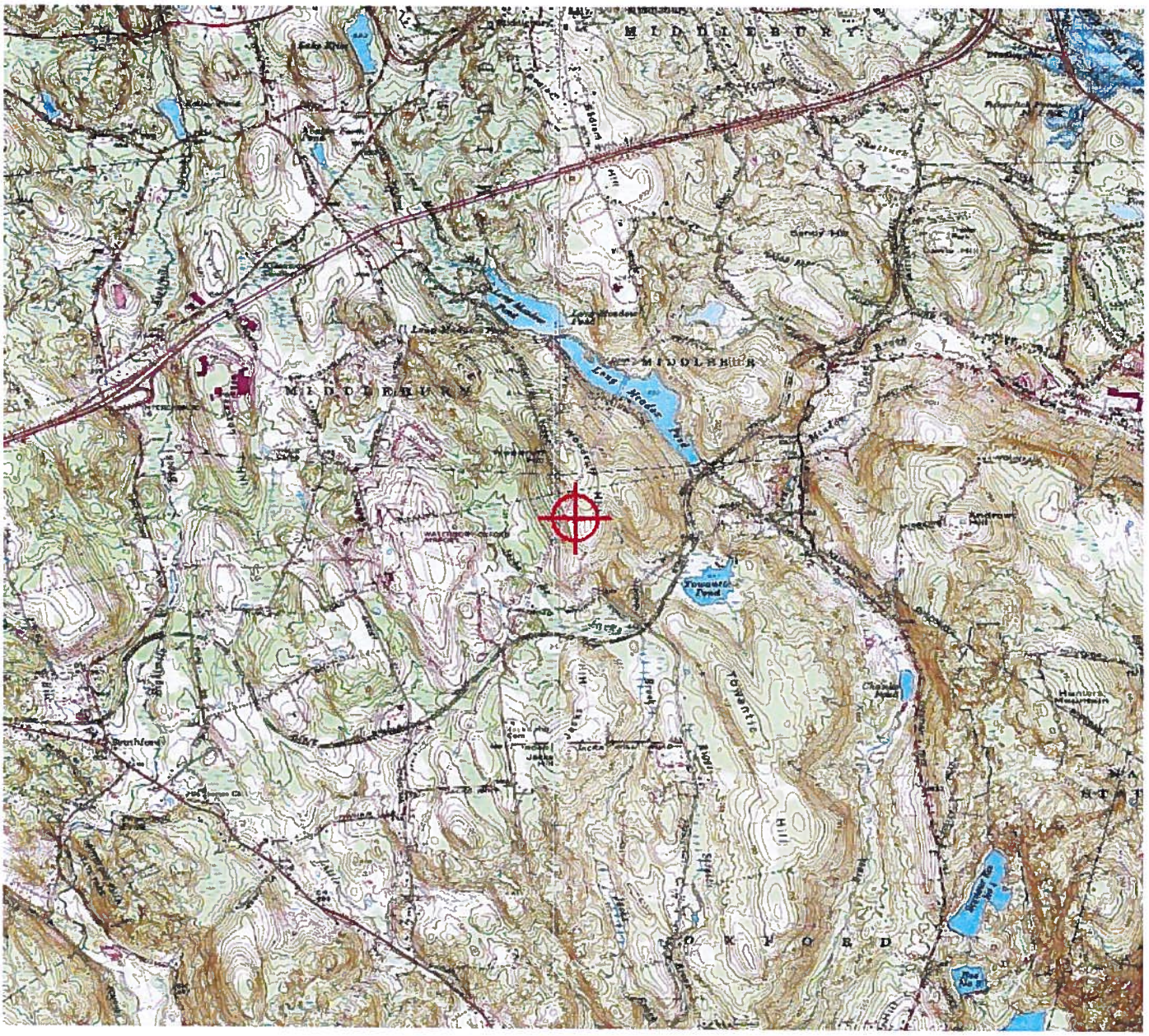
3. Request termination of the study.

Your response may be e-mailed to darin.clipper@faa.gov. If the FAA does not receive a response to this letter within 60 days, the study will expire as noted on Page 1.

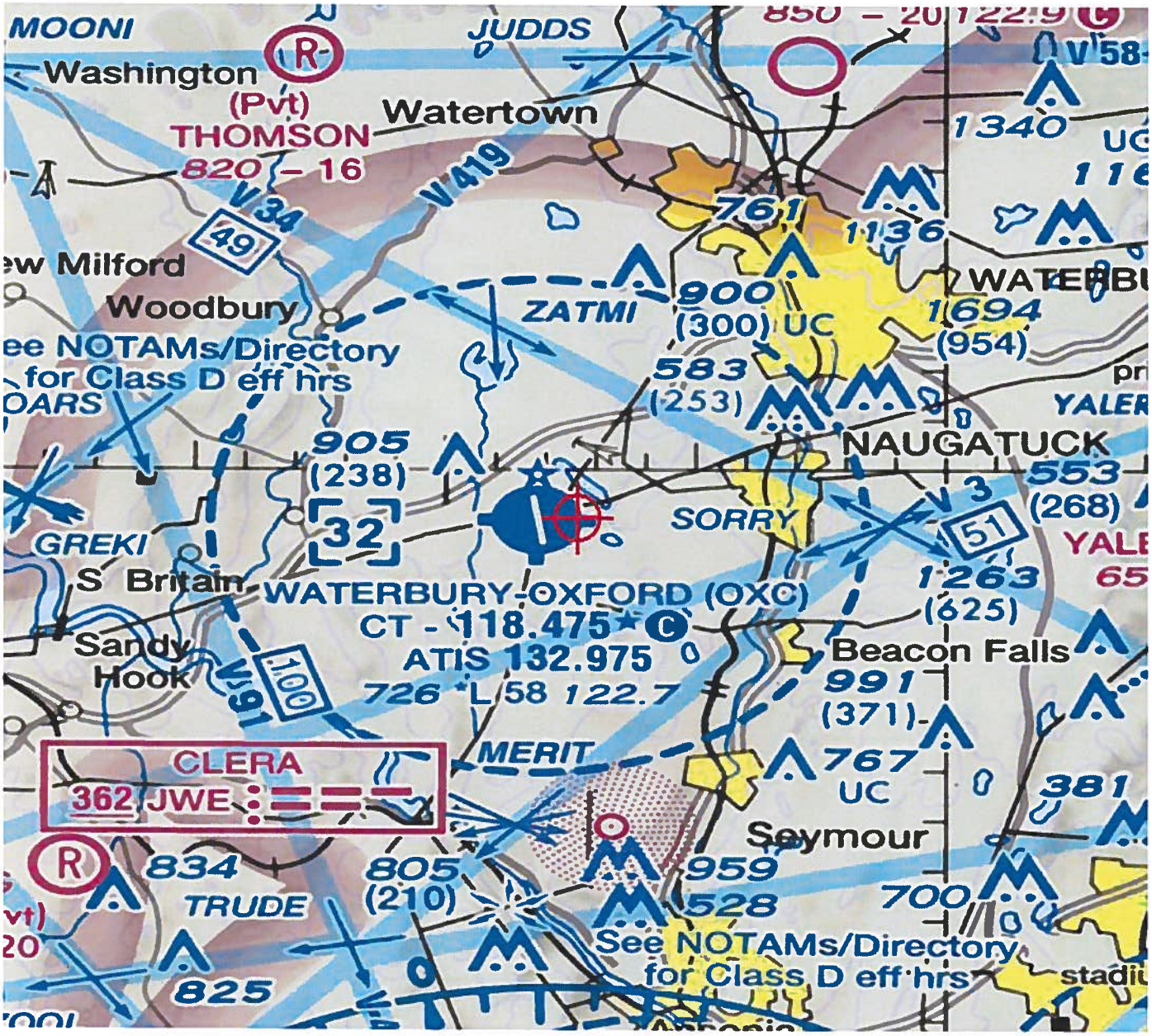
Case Description for ASN 2014-ANE-1924-OE

CPV Towantic, LLC is proposing development of a combined-cycle electric generating facility on the 26-acre property.

TOPO Map for ASN 2014-ANE-1924-OE



Sectional Map for ASN 2014-ANE-1924-OE



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Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193

Aeronautical Study No.
2014-ANE-1925-OE

Issued Date: 11/17/2014

Andrew Bazinet
CPV Towantic, LLC
50 Braintree Hill Office Park
Suite 300
Braintree, MA 02184

**** NOTICE OF PRESUMED HAZARD ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Building Administrative Building (SE Corner)
Location:	Oxford, CT
Latitude:	41-29-03.10N NAD 83
Longitude:	73-07-21.05W
Heights:	830 feet site elevation (SE)
	52 feet above ground level (AGL)
	882 feet above mean sea level (AMSL)

Initial findings of this study indicate that the structure as described exceeds obstruction standards and/or would have an adverse physical or electromagnetic interference effect upon navigable airspace or air navigation facilities. Pending resolution of the issues described below, the structure is presumed to be a hazard to air navigation.

If the structure were reduced in height so as not to exceed 46 feet above ground level (876 feet above mean sea level), it would not exceed obstruction standards and a favorable determination could subsequently be issued.

To pursue a favorable determination at the originally submitted height, further study would be necessary. Further study entails distribution to the public for comment, and may extend the study period up to 120 days. The outcome cannot be predicted prior to public circularization.

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See Attachment for Additional information.

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Signature Control No: 229148145-234613025 (NPH)
Darin Clipper
Specialist

Attachment(s)
Additional Information
Case Description
Map(s)

Additional information for ASN 2014-ANE-1925-OE

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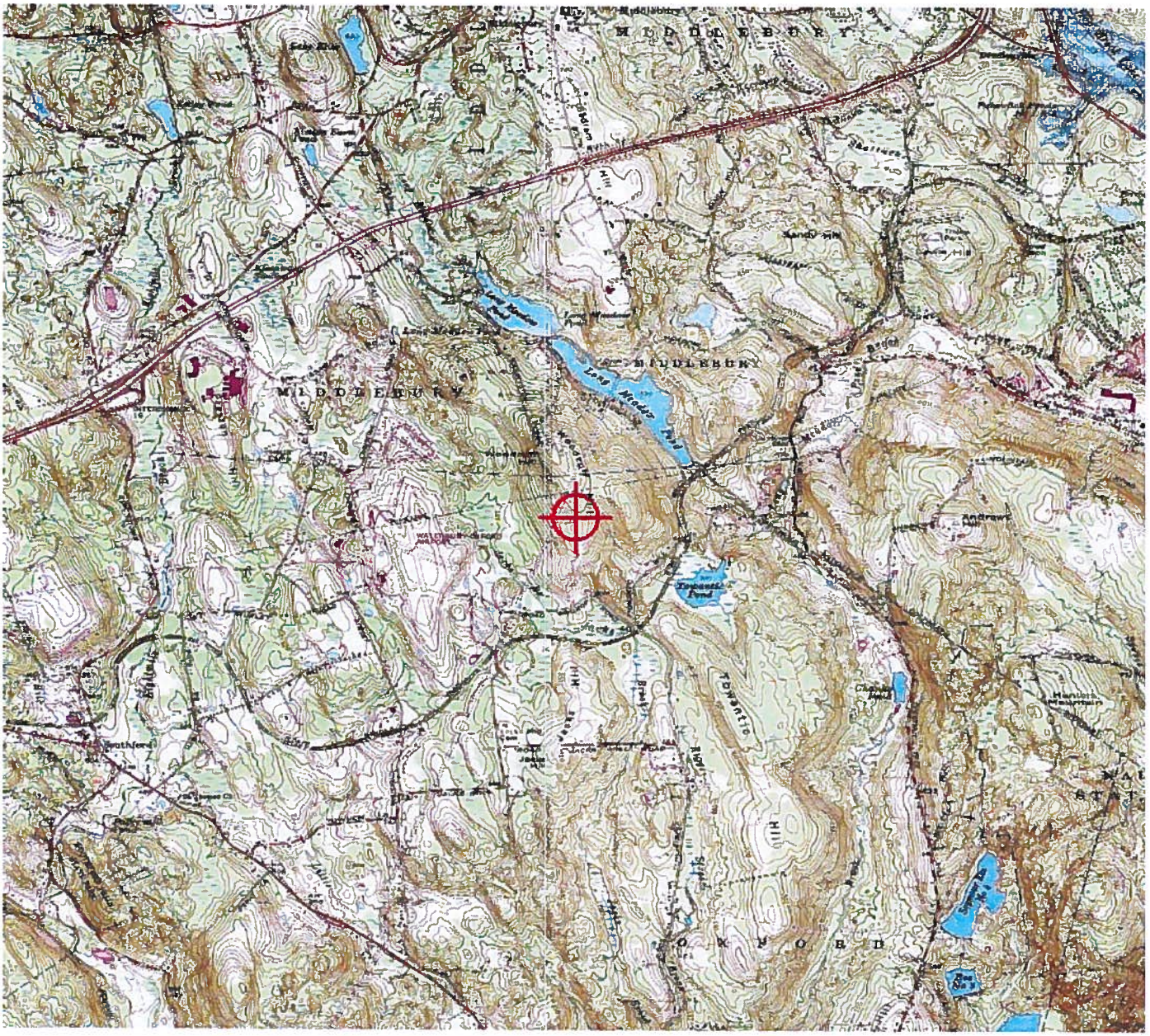
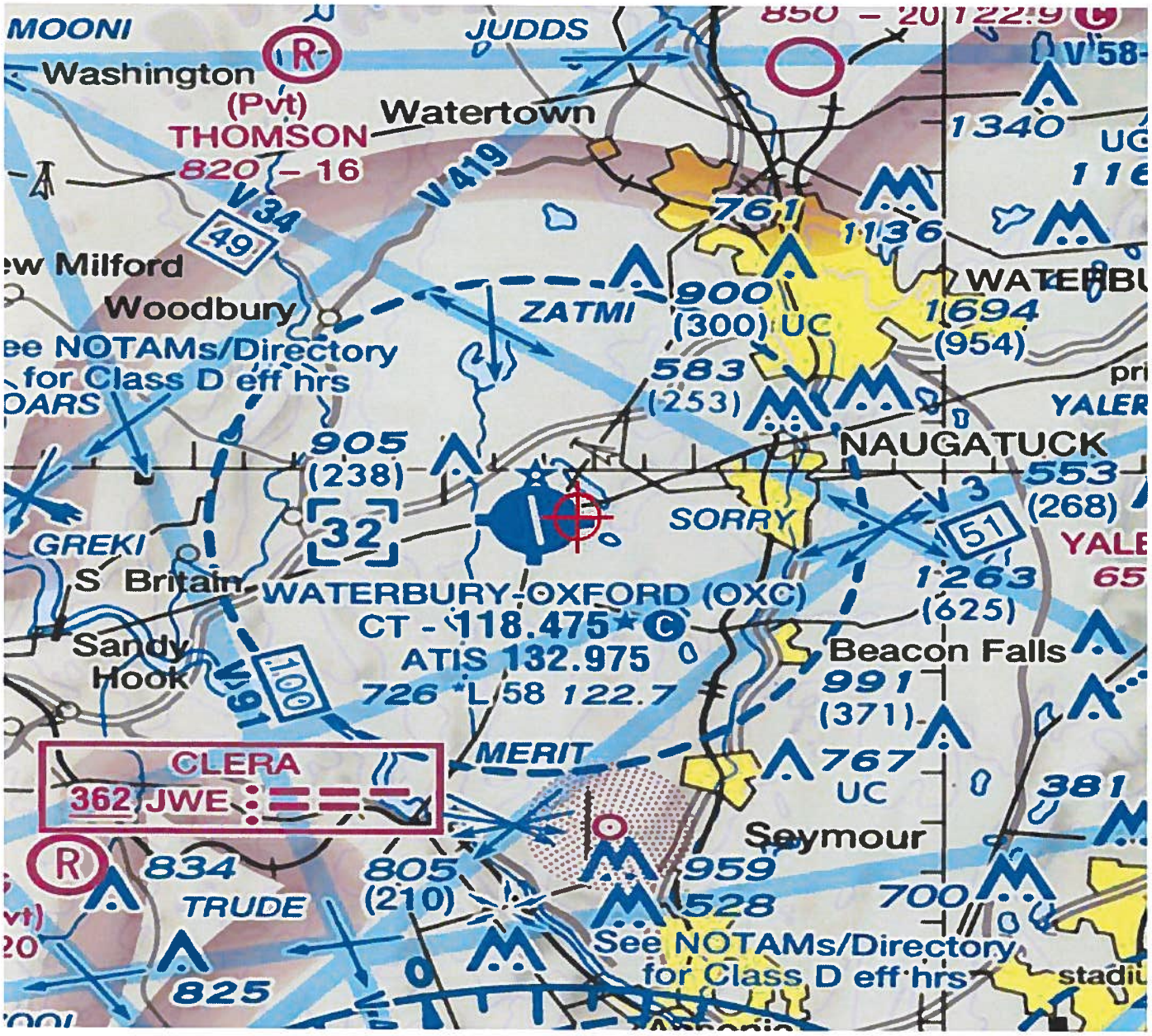
TOPO Map for ASN 2014-ANE-1925-OE



Sectional Map for ASN 2014-ANE-1925-OE



Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193

Aeronautical Study No.
2014-ANE-1923-OE

Issued Date: 11/17/2014

Andrew Bazinet
CPV Towantic, LLC
50 Braintree Hill Office Park
Suite 300
Braintree, MA 02184

**** NOTICE OF PRESUMED HAZARD ****

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Building Administrative Building (NW Corner)
Location:	Oxford, CT
Latitude:	41-29-03.26N NAD 83
Longitude:	73-07-23.61W
Heights:	830 feet site elevation (SE)
	52 feet above ground level (AGL)
	882 feet above mean sea level (AMSL)

Initial findings of this study indicate that the structure as described exceeds obstruction standards and/or would have an adverse physical or electromagnetic interference effect upon navigable airspace or air navigation facilities. Pending resolution of the issues described below, the structure is presumed to be a hazard to air navigation.

If the structure were reduced in height so as not to exceed 46 feet above ground level (876 feet above mean sea level), it would not exceed obstruction standards and a favorable determination could subsequently be issued.

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Signature Control No: 229148142-234608597 (NPH)
Darin Clipper
Specialist

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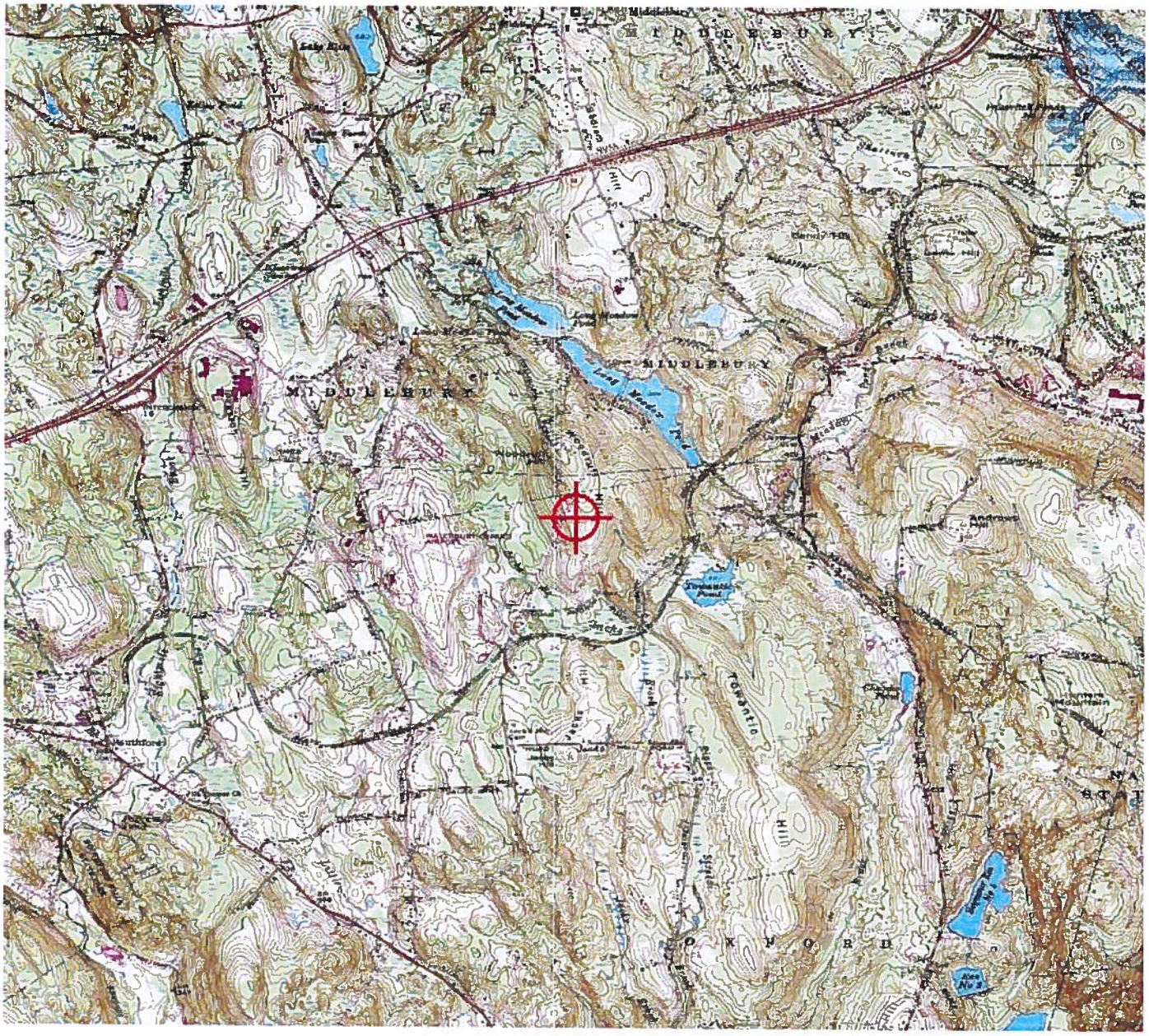

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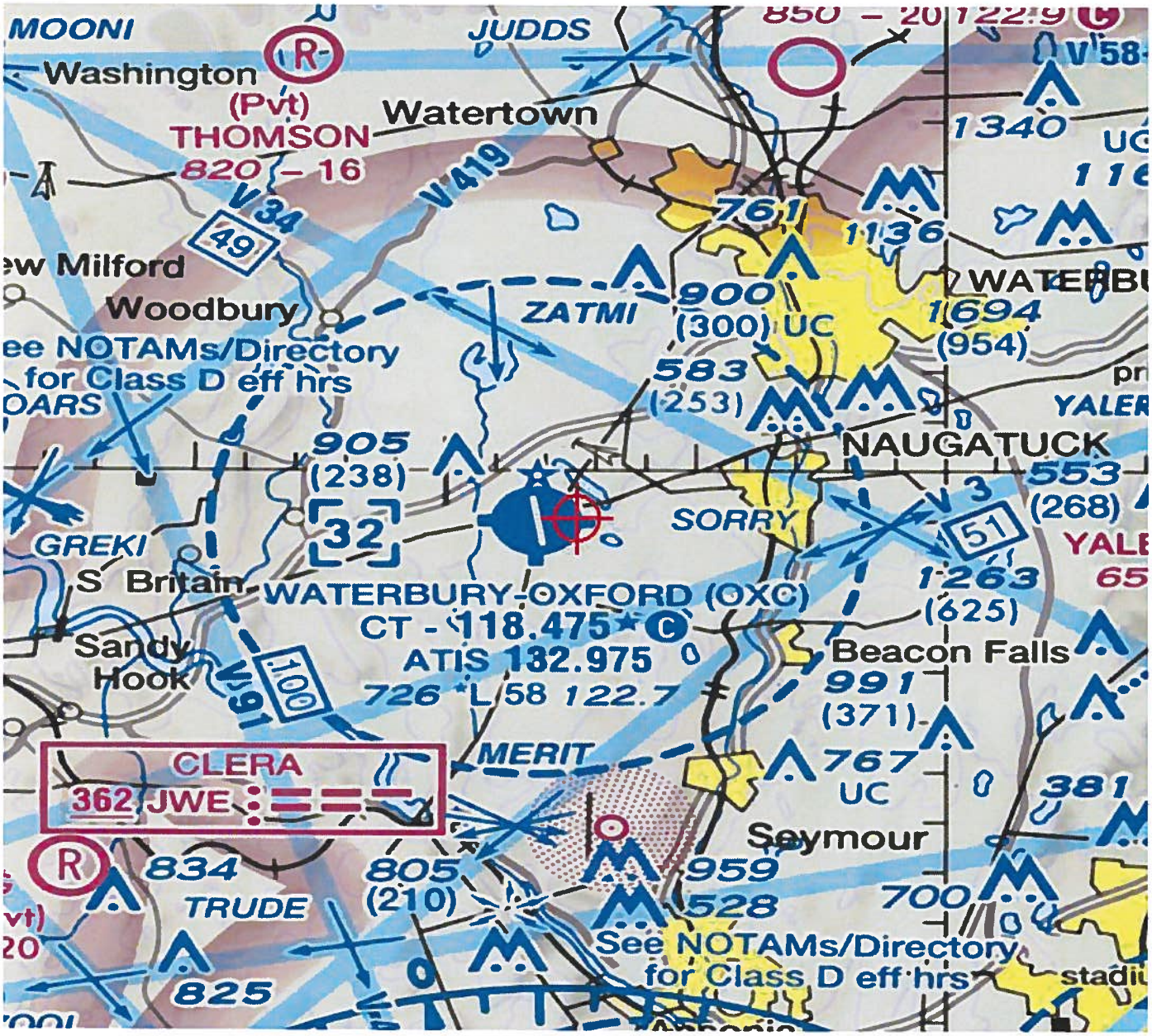

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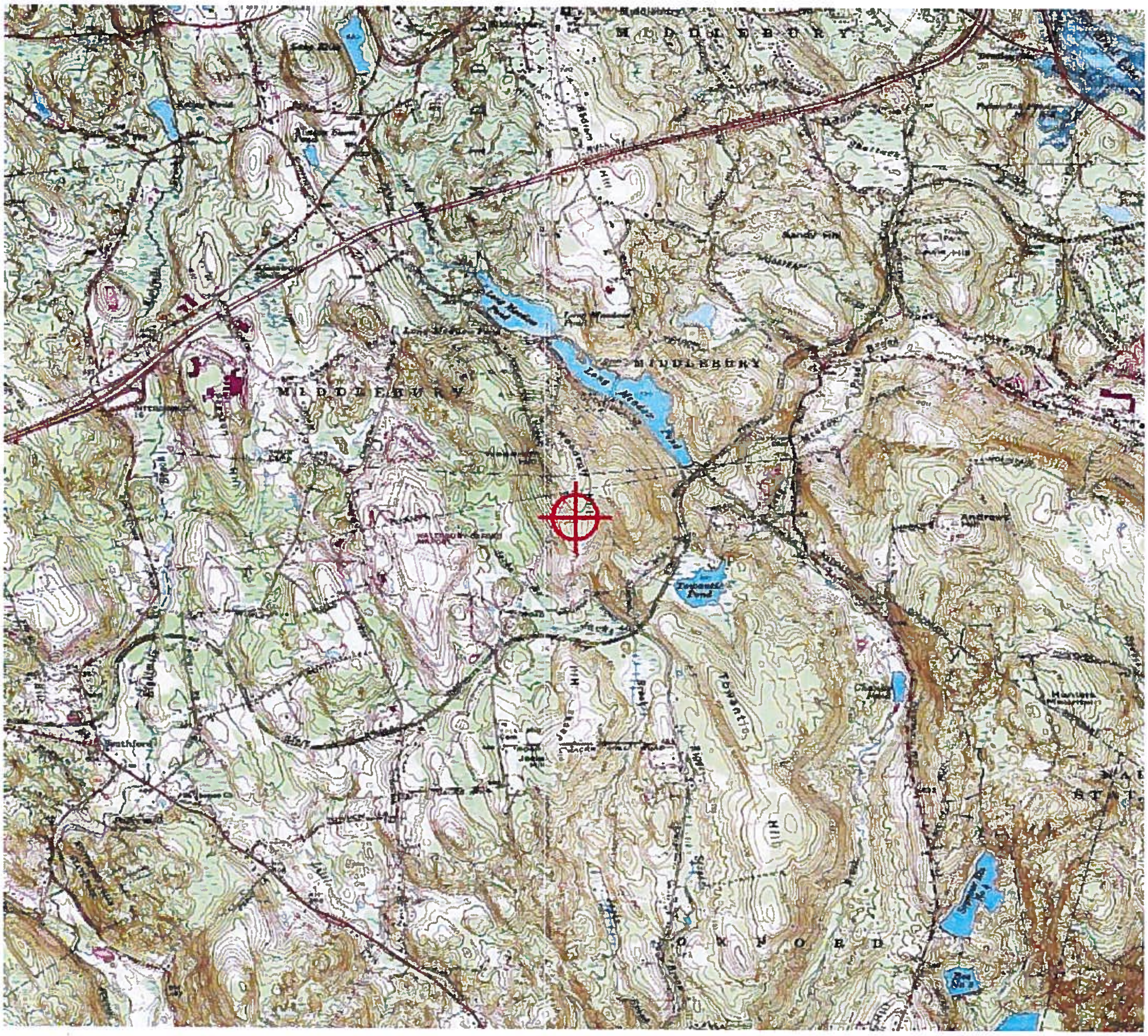

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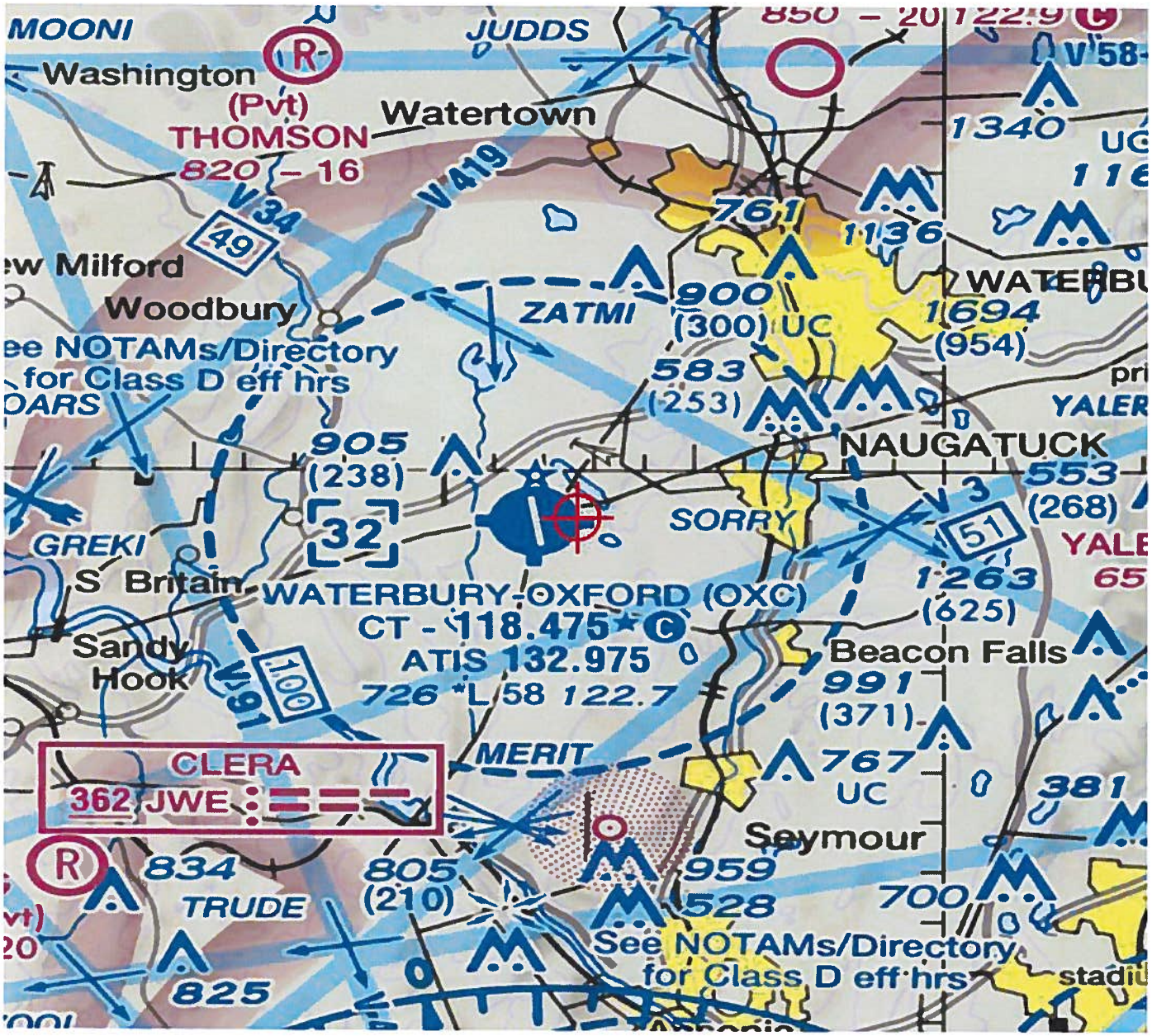


DOCKET NO. 192

TOWANTIC ENERGY LLC

CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED
DEVELOPMENT AND MANAGEMENT PLAN
CONDITION 2.i – STACK LIGHTING CONFIGURATION

In accordance with the Connecticut Siting Council's June 23, 1999 Decision and Order (Docket No. 192, Item 2.i)) approving the Towantic Energy LLC's (Towantic) Application for a Certificate of Environmental Compatibility and Public Need (Certificate or Application), Towantic herewith submits documentation concerning the planned stack lighting for the Towantic Energy Project (Project).

Stack lighting for each of the two 150 foot stacks will include dual lighting with red lights for nighttime operation and medium intensity flashing white lights for day time operation. Lights will be installed in accordance with U. S. Department of Transportation, Federal Aviation Administration, Advisory Circular AC No. 70/7460-1K, dated 3-1-00. Lights will be installed on three sides of each stack with the side facing the other stack without a light. One level of dual lights will be installed within 20 feet of the stack tips in accordance with the above Circular requirements. A copy of Circular AC No. 70/7460-1K, Chapter 8 – Dual Lighting with Red/Medium Intensity Flashing White Systems, is attached. Also attached is the proposed manufacturer's catalog specification for the lighting controls.

CHAPTER 8. DUAL LIGHTING WITH RED/MEDIUM INTENSITY FLASHING WHITE SYSTEMS

80. PURPOSE

This dual lighting system includes red lights (L-864) for nighttime and medium intensity flashing white lights (L-865) for daytime and twilight use. This lighting system may be used in lieu of operating a medium intensity flashing white lighting system at night. There may be some populated areas where the use of medium intensity at night may cause significant environmental concerns. The use of the dual lighting system should reduce/mitigate those concerns. Recommendations on lighting structures can vary depending on terrain features, weather patterns, geographic location, and in the case of wind turbines, number of structures and overall layout of design.

81. INSTALLATION

The light units should be installed as specified in the appropriate portions of Chapters 4, 5, and 6. The number of light levels needed may be obtained from Appendix 1.

82. OPERATION

Lighting systems should be operated as specified in Chapter 3. Both systems should not be operated at the same time; however, there should be no more than a 2-second delay when changing from one system to the other. Outage of one of two lamps in the uppermost red beacon (L-864 incandescent unit) or outage of any uppermost red light shall cause the white obstruction light system to operate in its specified "night" step intensity.

83. CONTROL DEVICE

The light system is controlled by a device that changes the system when the ambient light changes. The system should automatically change steps when the northern sky illumination in the Northern Hemisphere on a vertical surface is as follows:

a. *Twilight-to-Night.* This should not occur before the illumination drops below 5 foot-candles (53.8 lux) but should occur before it drops below 2 foot-candles (21.5 lux).

b. *Night-to-Day.* The intensity changes listed in subparagraph 83 a above should be reversed when changing from the night to day mode.

84. ANTENNA OR SIMILAR APPURTENANCE LIGHT

When a structure utilizing this dual lighting system is topped with an antenna or similar appurtenance exceeding 40 feet (12m) in height, a medium intensity flashing white (L-865) and a red flashing beacon (L-864) should be placed within 40 feet (12m) from the tip of the appurtenance. The white light should operate during daytime and twilight and the red light during nighttime. These lights should flash simultaneously with the rest of the lighting system.

85. WIND TURBINE STRUCTURES

Wind turbine structures should be lighted by mounting two flashing dual beacons (L-864/L-865) on top of the generator housing. Both beacons should flash simultaneously. Lighting fixtures are to be mounted at a horizontal separation to ensure an unobstructed view of at least one fixture by a pilot approaching from any direction. Intermediate light levels and other marking may be omitted on these structures.

86. OMISSION OF MARKING

When medium intensity white lights are operated on structures 500 feet (153m) AGL or less during daytime and twilight, other methods of marking may be omitted.

9LC SERIES LIGHTING CONTROLS

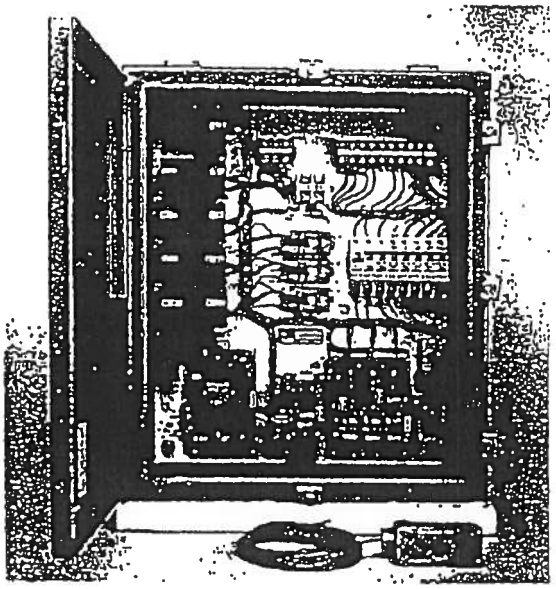
The Tower Lighting Industries Most Reliable
and Preeminent Controls

Technical Data

The 9LC series combines the finest in digital circuitry with rugged electromechanical hardware to yield the industries most preeminent tower lighting controls. All units feature circuit breaker protection to tower lights as well as surge suppressors. Nominally open and closed alarm contacts are both available along with a full independent auxiliary set of contacts. All alarm channels are isolated with independent commons allowing the user the flexibility to hook up alarms in series or parallel gang. Red/Green LEDs give instant indication of control status on all units. All alarming cards are modular printed circuit boards.

All systems flash multiple lights on structure simultaneously as per FAA specifications. Alarming of light outages is isolated from any cards by use of toroids.

Photocell override switch is standard on all systems facilitating troubleshooting or maintenance of Tower lights. All models include separate power fail alarm. All units also include Photo Mode signal indicating "Lights On" or "Night Mode" condition. Automatic photocontrol on all units will switch between DAY and NIGHT mode at FAA specified ambient light intensities. The automatic photocontrol is factory calibrated to the FAA specification and should not require readjusting. Outdoor photocell includes standard 21 ft. two conductor cable allowing indoor mounting of control if necessary. All control panels are mounted in NEMA 4 indoor/outdoor housings and will operate tower lights from a temperature range of -55 C to +55 C.



Redlight Systems

Redlight controls feature customer programmable sidelight alarms from two to four lamps per level. Units also feature individual Flasher Bypass circuitry to detect loss of flash on any beacon. In the event of flash loss the control will generate an alarm and apply steady 120VAC to the affected beacon. In multiple beacon systems all other beacons will remain flashing at FAA specified 30 flashes per minute. Systems with beacons include load balance resistor capability to alleviate voltage fluctuations due to current draw of the beacons. Controls for taller towers are available with auto-transformers to step up outbound voltages to lights.

White Light Systems

White Light controls feature synchronization of multiple strobes. Diagnostic test switches are provided to assist in system troubleshooting. FAA D2/3 system mounts in the same housing as FAA D1 system facilitating any future tower expansion. Housings are available for use with cable or conduit systems.

Dual Light System

Dual controls feature Hughey and Phillips innovative Beacon Fail Backup. Upon top beacon lamp failure, the control will shut off the redlight system, generate an alarm, and energize the white light system in its night mode thus keeping full FAA conspicuity on the tower yet alerting the customer of the redlight lamp failure. This feature includes an ON-OFF operate switch to disable backup.

Dual controls will also switch between redlights and white lights at FAA specified ambient light intensities.

Dual systems also feature programmable sidelight alarms, individual flasher bypass, and load balance resistor capability.

STANDARD FAA 120VAC CONTROL FEATURES

CONTROL MODEL NUMBER	FAA Type Lighting System	Total No. of Alarm Signals	Tower Light Alarms			Mode Signal	Power Fail Alarm	Flasher By-Pass Feature	Options		
			Beacons	1 Obs. Lights	Strobes				LBR Capability	Beacon Back-Up	Auto Transformer
9LCA001000AA	A0	3	N/A	1 Obs Light Level 1 of 2,3,4 Lamps	N/A	Yes	Yes	N/A	N/A	N/A	N/A
9LCA111L00AA	A1	5	1 Beacon 1 of 1 or 2 of 2 Lamps	1 Obs Light Level 1 of 2,3,4 Lamps	N/A	Yes	Yes	Yes	Yes	N/A	N/A
9LCA233L00AA	A2/3	10	3 Beacons 1 of 1 or 2 of 2 Lamps	2 Obs Light Level 1 of 2,3,4 Lamps	N/A	Yes	Yes	Yes	Yes	N/A	N/A
9LCA233L10AA	A2/3	10	3 Beacons 1 of 1 or 2 of 2 Lamps	2 Obs Light Level 1 of 2,3,4 Lamps	N/A	Yes	Yes	Yes	Yes	N/A	Yes
9LCA3S4L10AA	A3/5	15	5 Beacons 1 of 1 or 2 of 2 Lamps	3 Obs Light Level 1 of 2,3,4 Lamps	N/A	Yes	Yes	Yes	Yes	N/A	Yes
9LCD111000AA	D1	3	N/A	N/A	1 Strobe Flash Fail	Yes	Yes	N/A	N/A	N/A	N/A
9LCD231000AA	D2/3	5	N/A	N/A	3 Strobes Flash Fail	Yes	Yes	N/A	N/A	N/A	N/A
9LCE111L00AA	E1	7	1 Beacon 1 of 1 or 2 of 2 Lamps	1 Obs Light Level 1 of 2,3,4 Lamps	1 Strobe Flash Fail	Yes	Yes	Yes	Yes	Yes	N/A
9LCE233L00AA	E2/3	14	2 Beacons 1 of 2 or 2 of 2 Lamps	2 Obs Light Level 1 of 2,3,4 Lamps	3 Strobes Flash Fail	Yes	Yes	Yes	Yes	Yes	N/A

STANDARD ICAO 230VAC CONTROL FEATURES

CONTROL MODEL NUMBER	ICAO Lighting System	No. of Alarm Signals	Tower Light Alarms			Mode Signal	Power Fail Alarm	Flasher By-Pass Feature	Options		
			Beacons	Obs. Lights	N/A				LBR Capability	N/A	N/A
9LCIA06000AA	ICAO 0	3	N/A	1 Obs Light Level 1 of 2,3,4 Lamps	N/A	Yes	Yes	N/A	N/A	N/A	N/A
9LCIB16L00AA	ICAO 1	6	1 Beacon 1 of 1 or 2 of 2 Lamps	1 Obs Light Level 1 of 2,3,4 Lamps	N/A	Yes	Yes	Yes	Yes	N/A	N/A
9LCIC16L00AA	ICAO 2	6	1 Beacon 1 of 1 or 2 of 2 Lamps	2 Obs Light Level 1 of 2,3,4 Lamps	N/A	Yes	Yes	Yes	Yes	N/A	N/A
9LCID16L00AA	ICAO 3	7	1 Beacon 1 of 1 or 2 of 2 Lamps	3 Obs Light Level 1 of 2,3,4 Lamps	N/A	Yes	Yes	Yes	Yes	N/A	N/A

Model KG 114 300mm Beacon

Approved Under FAA Specification L864

Descriptive Data

Model KG 114 300mm Beacon is designed for service under all climatic conditions. Frame and hardware are constructed of non-ferrous materials. All the glassware is heat-resistant meeting FAA and Military Specifications.

The Optical System consists of four heat-resistant lenses (4, 5, and 6), designed to provide a definite beam through 360° horizontally. The two lamp Receptacles (16), are mounted to properly position the two 620 or 700 watt Mogul Pre-focus Beacon Lamps (24), thus providing correct beam distribution in accordance with FAA and Military specifications.

The Vented Dome (1), Dome Mounting (3), Hinge Rings (26 and 27), Color Filter Supports (21), and Base (37), are made of heavy cast-aluminum alloy. Finish is aluminum.

A Three Terminal Connecting Block (17) is mounted in the base allowing each lamp to be independently fed and monitored. Internal wiring is heat-resistant insulated flexible wire (28), terminates at the connecting block (17). Unless otherwise ordered, beacons are furnished with five feet of #12-3 Conductor Neoprene Cable (38), entering the base through a 1" Watertight Connector (18). Conduit may be used by removing the Watertight Connector (18) and disconnecting the External Cable (38).

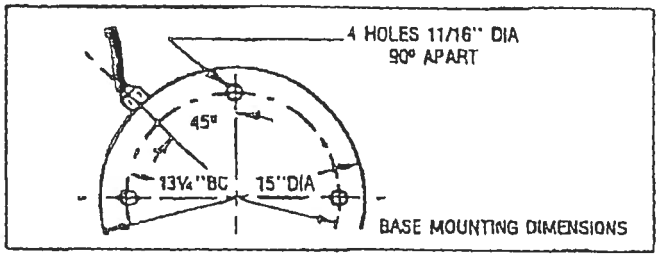
Neoprene Gaskets (8, 9, 10, 11 and 12) are designed for long life under extreme temperatures. Upper Gasket Retainer (14), and Lower Gasket Retainer (15) assure Weatherproof protection between lenses.

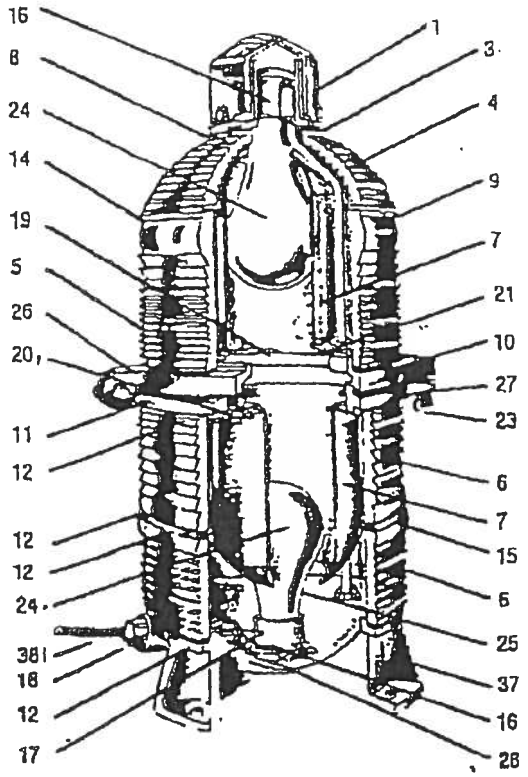
Color Filters (7), with Color Filter Supports (21), Woven Fin Tubing (19), and Color Filter Clips (20), comprise the Color Filter Assembly.

To minimize breakage in shipment, Color Filters are packed separately.

Weight: Shipping 87 lbs., Net 73 lbs. (Incl. Color Filters). Overall Height: Type F-33½".

MAXIMUM BEACON CANDLEPOWER is in excess of 2,000 C.P. when equipped with two 620 or 700 watt lamps and red color filters.





Hughey & Phillips, Inc., Manufacturers of: 300mm Beacon, Obstruction Lights, Photo-controls, Beacon Flashers, Microwave Tower Hazard Light Control and Lamp Failure Alarm Systems, Complete Kits for: Tower Hazard Lighting, Deicers, & Talking Circuits, Tower Lighting Isolation Transformers.

PARTS LIST

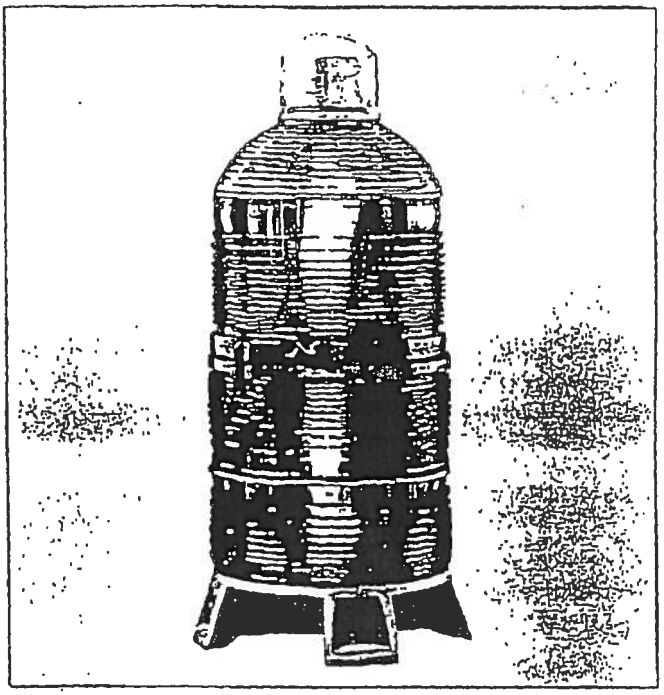
ITEM	QTY	DESCRIPTION	KG 114	
1	1	DOME, OUTER SHELL	C6A0002AE2	
2	1	DOME, INNER SHELL		
3	1	DOME, MOUNTING	C6A0002AD2	
4	1	LENS, DOME CLEAR	FLOCB013000	RED FLOCRO13000
5	1	LENS, UPPER CLEAR	FLOCB01300U	RED FLOCRO1300U
6	2	LENS, LOWER CLEAR	FLOCB01300L	RED FLOCRO1300L
7	2	COLOR FILTER, RED*	FC02A300B	
	2	COLOR FILTER, GREEN*	FC06A300B	
	2	COLOR FILTER, YELLOW*	FC04A300B	
8	1	GASKET VENT MOUNTING, NEOPRENE	A6A0001N	
9	1	GASKET UPPER SECTION, NEOPRENE	A6A0001AN	
10	1	GASKET UPPER SECTION, NEOPRENE	A6A0002AN	
11	1	GASKET HINGE RING, NEOPRENE	A6A0001AR	
12	4	GASKET LOWER SECTION, NEOPRENE	A6A0001AS	
13	1	GASKET, SET (8, 9, 10, 11, 12)	A6A0002AR	
14	1	RETAINER, GASKET UPPER	B6A0001AL	
15	1	RETAINER, GASKET LOWER	B6A0001AM	
16	2	LAMP RECEPTACLE, MOGUL, PRE FOCUS	XLFCSS300	
17	1	TERMINAL BLOCK	TB03E06BA06A	
18	1	WATER TIGHT CONNECTOR 1"	WT4A06207STT	
19	2	WOVEN ASBESTOS FIN TUBING (3'SET)	A6A0001AZ	
20	6	COLOR FILTER CLIP	A6A0001AT	
21	2	COLOR FILTER HOLDER	A6A0001AG2	
22	1	COLOR FILTER HOLDER ASSY (19, 20,21)*	A6A0001SB	
23	1	EYE BOLT ASSY	6A0002BAY	
24	2	BEACON LAMP 120 VOLT		
25	2	BAFFLE	A6A0002AK	
26	1	HINGE RING, UPPER	C6A0002AC2	
27	1	HINGE RING, LOWER	C6A0002A52	
28	1	INNER INSULATED WIRE SET	A6A0001WA	
29	1	HINGE ASSY (23, 26, 27)	B6A0002AQ	
30		JOSLYN HANGER BTE.	ORDER SEPARATELY	
31	1	WATERTIGHT FLEX CONDUIT		
32	1	WATERTIGHT 1/2"X30"		
33	1	WATERTIGHT 1/2"X48"		
34	-	CABLE GUIDE MOUNTS*		
35	1	CABLE GUIDE		
36	1	MOUNTING PLATE		

Model KG 114 300mm Beacon

For Airport and Obstruction Lighting
Approved Under FAA Specification L-864.
Meets ICAO Requirements & Transport Canada

Application

MODEL KG 114 300mm BEACON is approved as a marker light for obstructions to air navigation such as television, radio, microwave and transmission line towers, bridges, water tanks, stacks and other tall structures as specified by the FAA. Model KG 114 300mm Beacon is in full compliance with FAA Beacon requirements for marking of obstructions to air navigation.



Model KG 114 Code Beacon

Features

- Constructed of heavy aluminum casting, Model KG 114 300mm BEACON is completely weatherproof, and features:
- Concave Base: with drain port at lowest point prevents accumulation of moisture from condensation.
- Hinged Center Frame: hinged at the center between the upper and lower lens assemblies to provide ready access for inspection and lamp replacement. The hinge rings, neoprene gasket, butterfly locking clamp, maintain a weatherproof center seal.
- Available with clear glass
- Color Filter Supports: with flexible support fins provide heat insulation and cushioning, thus eliminating color filter breakage from expansion and contraction.
- Equipped with stainless hardware.

Descriptive Data

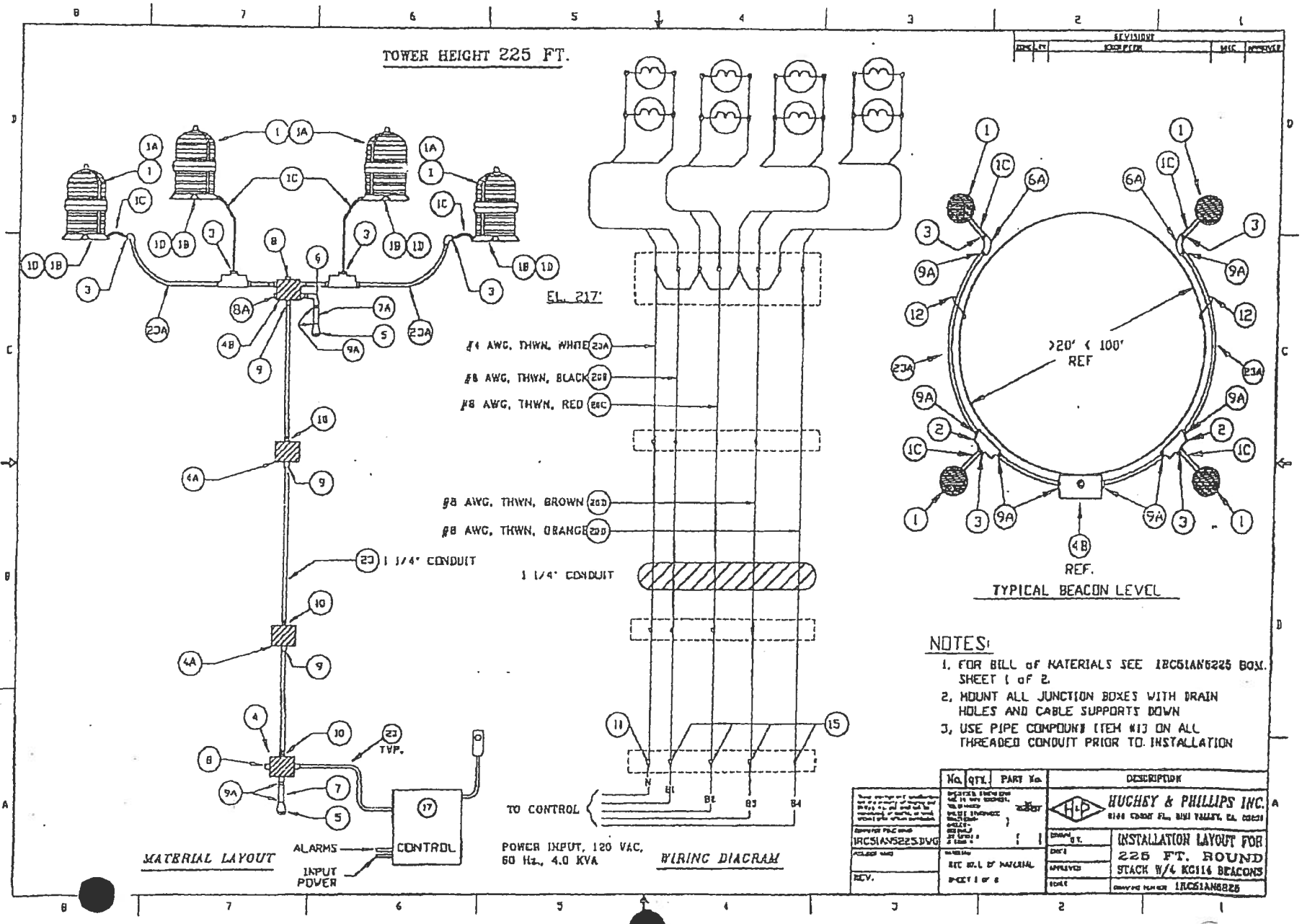
Model KG 114 300mm Beacon is designed for service under all climatic conditions. Frame and hardware are constructed of non-ferrous materials. All the glassware is heat-resistant meeting FAA and Military Specifications.

The Optical System consists of four red, heat-resistant lenses, designed to provide a definite beam through 360° horizontally. The two lamp Receptacles are mounted to properly position the two 620 or 700 watt Mogul Pre-focus Beacon Lamps, thus providing correct beam distribution in accordance with FAA and Military specifications.

A Three Terminal Connecting Block (17) is mounted in the base allowing each lamp to be independently fed and monitored. Internal wiring is heat-resistant insulated flexible wire, terminates at the connecting block. Unless otherwise ordered, beacons are furnished with five feet of #12-3 Conductor Neoprene Cable, entering the base through a 1" Watertight Connector. Conduit may be used by removing the Watertight Connector (18) and disconnecting the External Cable (38).

Neoprene Gaskets are designed for long life under extreme temperatures. Upper Gasket Retainer, and Lower Gasket Retainer (15) assure Weatherproof protection between lenses.

Part No.	Description	FAA Designation	Weight
KG 114 F0001	300mm Beacon with Red Lens	L864 AC 150/5345-43	73 lbs
KG 114 F0000	300mm Beacon with Clear Lens	L864 AC 150/5345-43	73 lbs
FC02A300B	Red Filter for Clear Beacon	N/A	
FC04A300B	Yellow Filter for Clear Beacon	N/A	
FC08A300B	Green Filter for Clear Beacon	N/A	


TOWER HEIGHT 225 FT.
EL. 217'
#4 AWG, THWN, WHITE
#8 AWG, THWN, BLACK
#8 AWG, THWN, RED
#8 AWG, THWN, BROWN
#8 AWG, THWN, ORANGE
1 1/4" CONDUIT
1 1/4" CONDUIT
TO CONTROL
POWER INPUT, 120 VAC, 60 Hz., 4.0 KVA
WIRING DIAGRAM
MATERIAL LAYOUT
ALARMS
INPUT POWER
CONTROL
TYP.
>20' < 100' REF
REF.
TYPICAL BEACON LEVEL
NOTES:
1. FOR BILL of MATERIALS SEE 1RC51AN6225 BOM. SHEET 1 of 2.
2. MOUNT ALL JUNCTION BOXES WITH DRAIN HOLES AND CABLE SUPPORTS DOWN
3. USE PIPE COMPOUND (ITEM #13) ON ALL THREADED CONDUIT PRIOR TO INSTALLATION
REVISIONS
DESCRIPTION
HUCHEY & PHILLIPS INC.
INSTALLATION LAYOUT FOR 225 FT. ROUND STACK W/4 KG116 BEACONS
1RC51AN5225.DVG
1RC51AN6225

Witness: Andrew J. Bazinet

2c – Connecticut Siting Council Late-Filed Exhibit:

Sign Posting Affidavit.

Response:

The requested affidavit is attached.

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

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	DOCKET NO. 192B JANUARY 20, 2015

AFFIDAVIT OF ANDREW J. BAZINET

I, Andrew J. Bazinet of CPV Towantic, LLC, being duly sworn, deposes and states that:

1. I am over eighteen years of age and understand the obligation of making a statement under oath.
2. On December 30, 2014, at my direction, a notice sign was posted at the site north of the Prokop Road and Towantic Hill Road intersection in the Town of Oxford, Connecticut, noticing the Connecticut Siting Council application filing and the details of the hearing for Docket 192B scheduled on January 15, 2015.
3. The attached photographs were taken of the posted notice signs evidencing the installation of the signs at the location.

Signed: _____
Andrew J. Bazinet

Subscribed and sworn to before me this
20th day of January, 2015.

_____
Notary Public
My Commission Expires: 12/17/15

KRISTIE McLAUGHLIN
Notary Public
COMMONWEALTH OF MASSACHUSETTS
My Commission Expires
December 17, 2015


CPV TOWANTIC, LLC
12/30/2014 08:31


CPV TOWANTIC, LLC
12/30/2014 08:31


12/30/2014 08:32


CPV TOWANTIC, LLC
Electric Generating Facility
Public Hearing: January 15, 2015
Contact Information:
CT Siting Council
www.ct.gov/csc phone: (860) 827-2935
12/30/2014 08:32

Witness: Jon Donovan

2d – Connecticut Siting Council Late-Filed Exhibit:

Winter efficiency of the combined cycle facility with duct firing operational.

Response:

The requested winter efficiency, as well as the average and summer efficiencies for comparison purposes, are shown in the table below.

	Winter		Average		Summer	
	unfired	duct fired	unfired	duct fired	unfired	duct fired
Efficiency - LHV	58.5%	57.8%	59.3%	58.7%	57.6%	56.7%
Efficiency - HHV	52.7%	52.1%	53.4%	52.8%	51.9%	51.1%

Witness: Lynn Gresock

2e – Connecticut Siting Council Late-Filed Exhibit:

Acreage of seasonal and year round predicted visibility.

Response:

A question was asked regarding the acreage reflected in CPV's response to Q-CSC-13 regarding the Year-Round Visibility classification and the Potential/Seasonal Visibility classification. The entire 2-mile radius area includes 8,109 acres. Of this, a total of 372 acres (or about 4.6%) was identified with the potential for Year-Round Visibility. A total of 3,335 acres (or about 41% of the total 2-mile radius area) was identified with the potential for seasonal visibility. As noted in the response to Q-CSC-13, this is a conservative designation, as even during leaf-off conditions, the presence of trees (likely higher than the 50 feet assumed in this assessment) and other intervening structures with the potential to block lines of sight is prevalent. As further noted in the response to Q-CSC-13, the seasonal visibility assumes a "bare-earth model that only takes credit for intervening terrain," not trees or other obstructions.

To confirm anticipated visibility and the conservatism of the provided analysis, Tetra Tech evaluated visibility during a two-hour period while balloons were flown at stacktop height on January 15, 2015, a clear winter day. Roads traversed from which the potential for views were selected based on proximity and the results of the viewshed analysis generated for the original application and included: Towantic Hill Road, Prokop Road, Jack's Hill Road, Putting Green Lane, Lakeview Drive, Washington Drive, Long Meadow Road, Brookside Drive, Triangle Boulevard, and Juliano Drive (see Figure 1). The overwhelming majority of the area surrounding the project had no visibility due to intervening topography, vegetation (even during leaf-off conditions) or structures which impeded the view. Only limited locations were identified where the balloons were visible; in those locations photographs were taken and GPS coordinates were marked. Photographs 1 through 6 show the views from those locations, with red arrows added to denote the location of the balloons. These photographs appear to confirm that the viewshed analysis in the response to Q-CSC-13 is extremely conservative and underestimates the screening associated by tree density and height as well as other intervening features.

CPV Towantic Energy Center

Figure 1

Legend

- Residences within Visibility Areas
- 2-mile Analysis Area
- Forest (derived from aerial interpretation)

Viewshed

- Potential / Seasonal Visibility
- Year-round Visibility

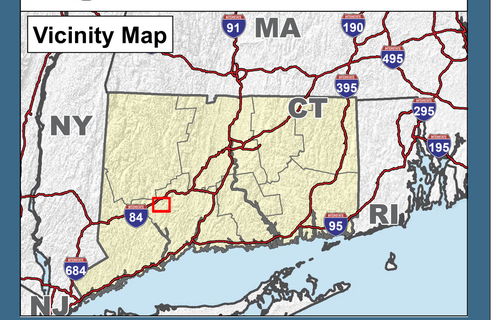
***2014 NAIP Imagery Displayed**

Balloon Visibility (January 15, 2015)

- Roads Traversed
- Photograph Locations

0 2,000 4,000 Feet

Scale is 1:14,000 when printed at 22x34"



TETRA TECH

complex world | CLEAR SOLUTIONS™

Source: BTS, UCONN, DEEP, NHD
Path: P:\4830_Towantic\GIS\Layouts\Basemap_Alt.mxd
Last modified: 12/22/2014

Photograph 1: Oxford Green

Photograph 2: Jack's Hill Road

Photograph 3: Prokop Road

Photograph 4: Prokop Transmission ROW

Photograph 5: North Side of the Airport

Photograph 6: South Side of the Airport

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

2f – Connecticut Siting Council Late-Filed Exhibit:

Equipment upgrades required for black start capability (ex. size of back-up generator in megawatts, etc.).

Response:

CPV Towantic considered the provision of blackstart service to the ISO New England (ISO-NE) administered transmission system but has not incorporated it for the following reasons:

1. ISO-NE Criteria – The provision of blackstart service is not a unilateral decision made by the generation owner. To be compensated for the provision of blackstart service, the resource must first be approved by ISO-NE pursuant to the process outlined in Operating Procedure 11 (OP-11). OP-11 takes into consideration the proposed blackstart resource and its alignment with the design and technical capability outlined Section II of OP-11, whether or not the proposed resource is in the appropriate location, and if it provides benefit to the New England System Restoration Plan (Section I, page 3, OP-11).

2. Scope – The modification to the proposed Facility required to provide blackstart capability is significant and would likely include a series of large diesel generators. Initial estimates suggest four 4MW diesel generators or one 12-16MW gas turbine would be needed. Cost and emissions are discussed further below.

3. Cost and Compensation – The standard compensation mechanism outlined in Schedule 16 of Section II of the ISO-NE Open Access Transmission Tariff provides for operating and capital cost reimbursement over a period of 25 years. CPV Towantic has analyzed this compensation mechanism and the associated capital expense it would be expected to incur. The analysis assumes CPV will only incur $12.5 million in initial capital cost and bear no incremental ongoing operation and maintenance costs. Even with such an optimistic assumption (zero O&M costs), the ISO-NE mechanism falls short of the compensation benchmark CPV would need to justify its investment.

   Beyond the standard compensation mechanism, Section 5.2 of Schedule 16

provides for a Blackstart Station-Specific Rate Payment. Such rates are established upon Federal Energy Regulatory Commission (FERC) acceptance of a filing by the resource owner.

4. Emissions – Incorporating blackstart capability at the proposed Facility site would increase its overall emissions. We would expect the overall emissions increase and ambient impact to be small in the broader context of the proposed Facility's emissions profile. However, the incremental increase may require the proposed Facility to adopt more stringent operating limitations, such as a reduction in the number of hours of duct firing or oil-fired operation. These limitations would impair its ability to serve load and its economics for both customers and CPV Towantic.

Despite these factors, CPV Towantic would be willing to commit to submitting an application to ISO-NE to examine the proposed Facility as a blackstart resource with a Blackstart Station-Specific Rate Payment. In doing so, CPV Towantic's ability to retrofit the Facility with blackstart capability would be contingent on (i) technical feasibility, (ii) obtaining ISO-NE and FERC approval of a CPV Towantic-specific compensation mechanism and (iii) successful incorporation of the new emissions source into CPV Towantic's Connecticut DEEP air permit.

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

2g – Connecticut Siting Council Late-Filed Exhibit:

Feasibility of utilizing a gas insulated switchyard and a comparative cost analysis and space requirements for a gas insulated switchyard and for the proposed air insulated switchyard.

Response:

CPV Towantic has not chosen to use a gas-insulated switchyard (GIS) for use for the following reasons:

1. The proposed 115-kV air-insulated switchyard (AIS) is located on the northern portion of the site. Its visual impact would already be largely mitigated by the natural vegetation along the northern and eastern property limits and beyond.

2. CPV Towantic has completed its interconnection study work (I.3.9 approval 8/8/14) with ISO-NE. Due to (i) Northeast Utilities' and ISO-NE's familiarity with the proposed Facility's AIS configuration; and (ii) an attempt to avoid introducing additional complexity that might have unnecessarily delayed the receipt of the I.3.9 approval, CPV Towantic elected to maintain the previously approved interconnection configuration.

3. In most cases, the primary benefit of selecting GIS over AIS is the significant reduction in footprint / area required. While this benefit may be present at generating facilities with higher interconnection voltages (such as 230-, 345- or 765-kV) the comparably smaller footprint of a 115-kV AIS does not leave room for much improvement in the switch to GIS. Given that the current footprint of the switchyard utilizes less than 2 acres of the total 26-acre site, switchyard footprint was not a binding design constraint. For the proposed Facility, further reduction of the switchyard's footprint would not materially change the footprint of the overall Facility, whereas a similar project interconnecting via 345-kV switchyard might achieve substantial reduction in the overall site requirement by utilizing GIS. Given that the fundamental design of six transmission line terminations will dictate the width of the switchyard and limit space reduction, preliminary estimates by third party engineers suggest the footprint may only be reduced by approximately 33% (approximately .66 acres). Further, given the relatively short height of a 115-kV AIS (as compared to a

higher voltage AIS), the visual impact attributable to the switchyard may actually increase as a result of a shift to GIS, which would likely require a building around the GIS.

4. In CPV's experience, GIS is cost prohibitive where no benefit from a reduced footprint is realized and the cost difference versus AIS becomes greater at lower voltage levels such as 115kV. Although a detailed engineering estimate has not been obtained, preliminary figures obtained from third party engineering firms suggest with the addition of the building and an extensive bus system, the cost of GIS would be approximately two to three times more expensive than AIS. In CPV Towantic's opinion, changing to GIS at this stage would significantly delay Facility completion, complicate the design and development process and add unnecessary cost to the overall proposed Facility, making it less competitive in FCA9 and would provide seemingly little if any benefit.

Witness: **Curtis Jones**
Jon Donovan

2h – Connecticut Siting Council Late-Filed Exhibit:

Quantities of cut and fill in cubic yards and the feasibility of using the fill material as a berm for sound attenuation and reduction of visibility.

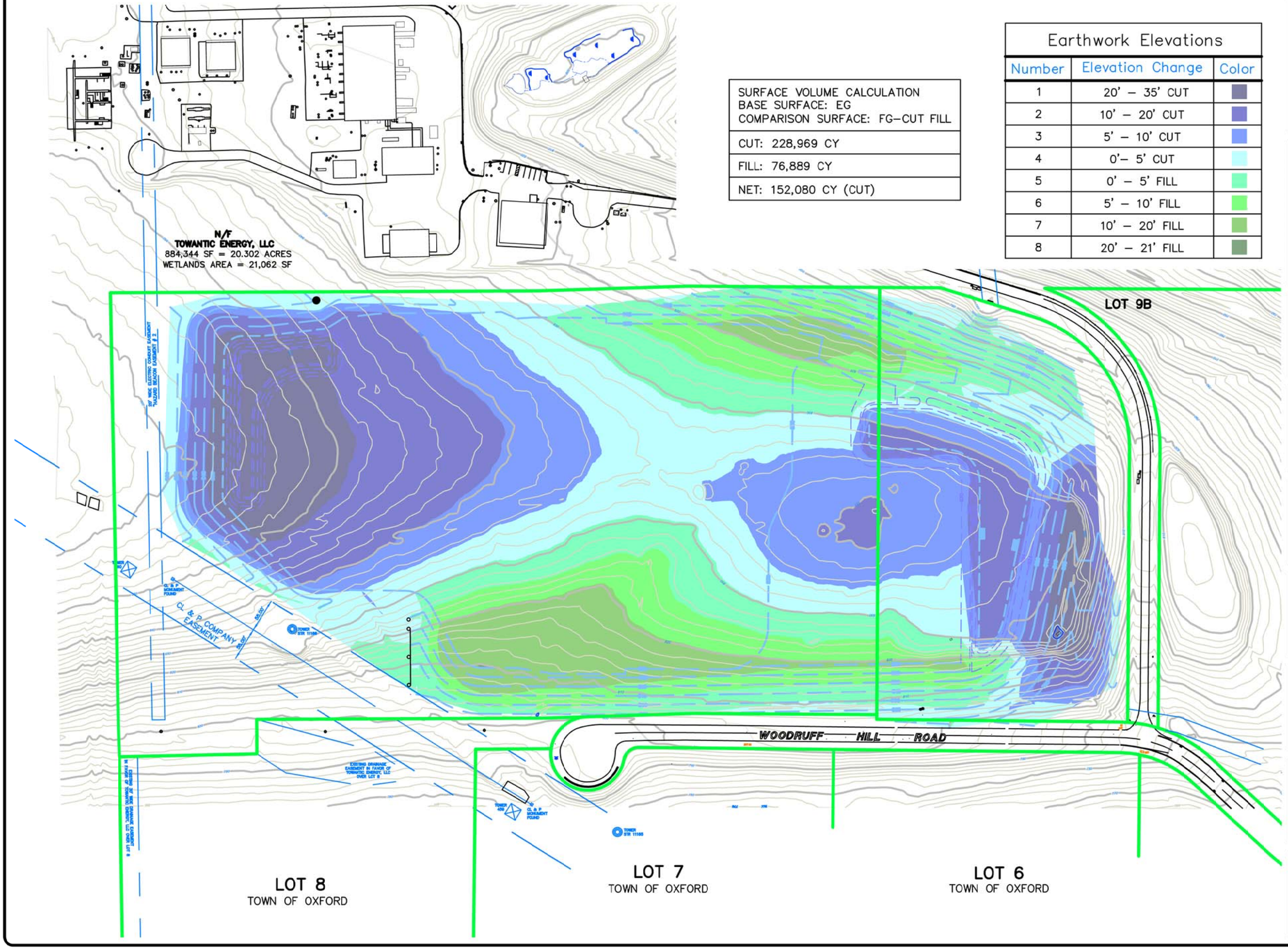
Response:

The estimated total cut is 228,969 cubic yards, and the estimated total fill is 76,889 cubic yards. As a result, the net fill to be moved off-site is approximately 152,080 cubic yards. Please see attached diagram.

A review of the components of the power plant, their heights, and associated noise levels has been completed in order to determine if the construction of an earthen berm is practical around the perimeter of the property in order to attenuate the noise levels anticipated to be generated by the plant operation. In concept, this earthen berm would have to be placed along the periphery of the project at sufficient height in order to obstruct the transmission of sound. The berm would have to have side slopes no greater than 3 horizontal to 1 vertical and a level top of at least 10 feet wide in order to have a stable condition which could be maintained.

The air cooled condenser units which are a source of noise generation are at a height of 85 feet above the ground. This is the dominant noise source at the southern property line and more distant offsite locations. The creation of an earthen berm 85 feet tall which would be necessary to provide an appreciable reduction in offsite sound levels would have to be at least 520 feet wide at the base. (85 feet wide X 3:1 slope for each face + 10 feet wide at the top). Similar analyses for the northern property line and offsite locations show that a correspondingly large berm base, with an overall height of 72 feet above the ground would be required to appreciably reduce the sound from the turbine air inlets, the dominant sound source in this geographical direction. A berm of lower height may provide some shielding of ground level sources, but would not reduce the overall noise impact at offsite residential areas given the height of these dominant sound sources. As shown on the attached Grading Plan, the majority of the site is currently being regraded and there simply is not sufficient areal extent on the project site to incorporate an earthen berm that would have an appreciable effect on noise attenuation.

For similar reasons, a berm would not provide any meaningful reduction in visibility from off-site locations.



SURFACE VOLUME CALCULATION BASE SURFACE: EG COMPARISON SURFACE: FG–CUT FILL
CUT: 228,969 CY
FILL: 76,889 CY
NET: 152,080 CY (CUT)

Earthwork Elevations

Number	Elevation Change	Color
1	20' – 35' CUT	
2	10' – 20' CUT	
3	5' – 10' CUT	
4	0'– 5' CUT	
5	0' – 5' FILL	
6	5' – 10' FILL	
7	10' – 20' FILL	
8	20' – 21' FILL	

NO.	REVISION	DATE

Previous Editions Obsolete

0 75 150

1 inch = 150 ft.

PROPOSED EARTHWORK QUANTITY EVALUATION

CPV TOWANTIC ENERGY CENTER

CONNECTICUT

CIVIL C1
CORNERSTONE PROFESSIONAL PARK, SUITE D-101
43 SHERMAN HILL ROAD
WOODBURY (203) 266 - 0778 CONNECTICUT

DRAWN: EJ	APPROVED: CJ
SCALE:	1" = 150'
DATE:	20 JAN 15
PROJ. NO.:	98132
CADD FILE NAME:	98132
DRAWING NO.:	1 OF 1

Witness: Danielle Powers

2i – Connecticut Siting Council Late-Filed Exhibit:

List retirement of units in Connecticut since 1999 and associated emission impacts.

Response:

See the attached table showing generating unit retirements since 1999 and potential future unit retirements.

Generally, the dispatch order in the ISO New England grid will be in the order of each unit's marginal cost. Due to its efficiency, CPV Towantic would be among the first combined cycle units dispatched. Renewable energy resources, when available, would contribute energy before CPV Towantic, LLC and nuclear units would always be dispatched ahead of CPV Towantic, LLC; therefore, its operation would not displace the operation of these resources. Rather, each hour that CPV Towantic is called on to run would displace a less efficient, higher emitting unit, as illustrated on the attached SNL Generation Supply Curve. Since those megawatt-hours would in all instances be met by higher emitting units (lb/megawatt-hour), operation of CPV Towantic will result in a net reduction in regional emissions. Figure 26 on page 46 of the Concentric Report quantifies the emission reduction benefits of CPV Towantic.

Power Plant	Generation Technology	Unit Name	Unit Nameplate Capacity (MW)	State	Year Unit Retired from Service
Existing Retirements (1)					
Bridgeport Harbor	Steam Turbine	Bridgeport Harbor ST 1	81.5	CT	1999
Shelton Landfill Gas Recovery	Internal Combustion	Shelton Landfill Gas Recovery IC 001	0.8	CT	1999
Shelton Landfill Gas Recovery	Internal Combustion	Shelton Landfill Gas Recovery IC 002	0.8	CT	1999
A.L. Pierce	Steam Turbine	A.L. Pierce ST 2	7.5	CT	2000
A.L. Pierce	Steam Turbine	A.L. Pierce ST 3	7.5	CT	2000
Bantam	Hydraulic Turbine	Bantam HY 1	0.3	CT	2000
English	Steam Turbine	English ST 7	30.0	CT	2000
English	Steam Turbine	English ST 8	36.7	CT	2000
Robertsville	Hydraulic Turbine	Robertsville HY 1	0.3	CT	2000
Robertsville	Hydraulic Turbine	Robertsville HY 2	0.3	CT	2000
Downtown Cogeneration Associates	Gas Turbine	Downtown Cogeneration Associat CT	3.5	CT	2001
South Norwalk CT	Gas Turbine	South Norwalk CT 7	22.8	CT	2003
Waterside Power	Gas Turbine	Waterside Power CT 1	23.2	CT	2003
Waterside Power	Gas Turbine	Waterside Power CT 2	23.2	CT	2003
Devon Station	Steam Turbine	Devon ST 7	103.5	CT	2004
Devon Station	Steam Turbine	Devon ST 8	103.5	CT	2004
South Norwalk	Internal Combustion	South Norwalk IC 3	2.0	CT	2004
South Norwalk	Internal Combustion	South Norwalk IC 4	3.3	CT	2004
South Norwalk	Internal Combustion	South Norwalk IC 5	4.0	CT	2004
South Norwalk	Internal Combustion	South Norwalk IC 1	5.0	CT	2004
South Norwalk	Internal Combustion	South Norwalk IC 2	2.0	CT	2004
Pfizer Groton Plant	Steam Turbine	Pfizer Groton Plant ST TG 1	2.5	CT	2005
Waterside Power	Gas Turbine	Waterside Power CT 6	23.2	CT	2006
New Milford Gas Recovery	Gas Turbine	New Milford Gas Recovery CT GEN1	3.0	CT	2007
Cytec	Internal Combustion	Cytec IC CY 1	1.8	CT	2011
Cytec	Internal Combustion	Cytec IC CY 2	1.8	CT	2011
Cytec	Internal Combustion	Cytec IC CY 3	1.8	CT	2011
John Street	Internal Combustion	John Street IC JS 1	1.8	CT	2011
Thames	Steam Turbine	Thames CFB GEN1	213.9	CT	2011
CJTS Energy Center	Fuel Cell	CJTS Energy FC UNIT4	0.2	CT	2013
Connecticut Valley Hospital Plant	Steam Turbine	Connecticut Valley Hospital ST#1	0.7	CT	2013
Connecticut Valley Hospital Plant	Steam Turbine	Connecticut Valley Hospital ST#2	0.5	CT	2013
Connecticut Valley Hospital Plant	Steam Turbine	Connecticut Valley Hospital ST#3	0.5	CT	2013
Norwalk Harbor Generating Station	Steam Turbine	Norwalk Harbor ST 1	163.2	CT	2013
Norwalk Harbor Generating Station	Steam Turbine	Norwalk Harbor ST 2	163.2	CT	2013
Norwalk Harbor Generating Station CT	Gas Turbine	Norwalk Harbor CT 10	16.3	CT	2013
Sprague Paperboard	Steam Turbine	Sprague Paperboard ST NO1	20.0	CT	2014
		Total:	***1,076.04***		
Potential Retirements (2)					
Bridgeport Harbor (3)	Steam Turbine	Bridgeport Harbor 2	190	CT	N/A
Bridgeport Harbor	Steam Turbine	Bridgeport Harbor 3	401	CT	N/A
Middletown	Steam Turbine	Middletown 2	123	CT	N/A
Middletown	Steam Turbine	Middletown 3	248	CT	N/A
Middletown	Steam Turbine	Middletown 4	415	CT	N/A
Montville	Steam Turbine	Montville 5	85	CT	N/A
Montville	Steam Turbine	Montville 6	418	CT	N/A
New Haven Harbor	Steam Turbine	New Haven Harbor	483	CT	N/A
Norwalk Harbor (3)	Steam Turbine	Norwalk Harbor 1	173	CT	N/A
Norwalk Harbor (3)	Steam Turbine	Norwalk Harbor 2	179	CT	N/A
		Total:	***2,715.00***		

(1) Source: SNL Energy

(2) Source: ISO New England's Strategic Transmission Analysis, (June 14, 2013)

(3) Retirement of these units has been approved effective 6/2017

SNL Generation Supply Curve

Region Level:	ISO
Region:	New England
Year:	2014
Capacity Selection:	Summer Capacity