

STATE OF CONNECTICUT  
CONNECTICUT SITING COUNCIL

The United Illuminating Company's Application for a ) Docket 433  
Certificate of Environmental Compatibility and Public )  
Need for the Proposed Shelton Substation at 14 Old )  
Stratford Road, Shelton, CT ) January 10, 2013

PRE-FILE TESTIMONY OF CHARLES EVES

Q. Mr. Eves, please discuss your current position with The United Illuminating Company ("UI" or the "Company").

A. I am a Senior Director of Engineering and Strategic Planning at UI. My business address is 180 Marsh Hill Road, Shelton, CT 06477. I joined UI in 1989 and have held various positions in the Company and am currently the project sponsor for the Shelton Substation project.

Q. Mr. Eves, please identify the purpose of your testimony.

A. The purpose of my testimony is to describe for the Council (i) modifications the Company has made to the location of the control enclosure (the "Substation Control Enclosure") including the results of a supplemental noise assessment, visibility analysis, and electric and magnetic field ("EMF") analysis; (ii) the current state of environmental remediation at the site; (iii) the Company's consideration of a natural riparian buffer along the shoreline of the Far Mill River; (iv) additional correspondence and meetings

with the City of Shelton and various agencies that have occurred since the submission of the Application to the Council; and (v) various revisions to the Site Selection Study, which was included as Appendix H of the Application.

Q. What changes has the Company made concerning the location of the Substation Control Enclosure and has the company made other design changes?

A. UI has revised the arrangement of the proposed Substation facilities and equipment within the approximately 2-acre Substation site and also has updated certain Substation equipment designs based on the results of more detailed engineering that was completed after the submission of the Application to the Siting Council.

During the performance of hydraulic studies of the Far Mill River and its floodplain (which were conducted as input to the more detailed engineering design for the Substation) a small section in the northeast portion of the proposed Substation footprint was determined to be located within the river's floodway, as mapped by the Federal Emergency Management Agency (FEMA). FEMA defines a "regulatory floodway" as the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height. Development in floodways is regulated to ensure that there are no increases in upstream flood elevations.

The Substation layout was revised to avoid the placement of structures in the floodway. These layout changes included relocating the Substation Control Enclosure,

modifying the site grading and drainage plans, and shifting the access drive from Pootatuck Place slightly to the south.

Additionally, after more in-depth engineering was conducted on the 15 kV bus-tie circuit that will electrically connect the two Power Distribution Center (“PDC”) buses, it was determined that an excessive number of cables would be required to meet the required thermal rating if this tie circuit were to be installed underground as originally proposed. Since the PDC cubicles are not able to accommodate the number of cables required, an open-air bus tie system was designed consisting of 5” rigid aluminum bus that terminates in the PDC cubicles by means of non-segregated phase bus duct.

A revised drawing package (Attachment A) is included with this testimony that shows the design changes described above.

As a result of the proposed Substation design changes, UI commissioned supplemental studies to determine whether the revised site design would affect the results of the Substation Noise Assessment, Visibility Analysis, and EMF Analysis, all of which are published in the Application to the Siting Council.

Q. What were the results of that analysis?

A. First, regarding the noise analysis: In order to avoid the placement of structures within the FEMA-designated Far Mill River floodway, the Substation Control Enclosure was relocated approximately 175 feet to the northwest. Accordingly, the predicted Substation sound pressure levels were re-evaluated to determine the acoustical impacts resulting from the control enclosure relocation and its associated wall-mounted HVAC units, which are the primary source of noise from the enclosure.

With the Substation Control Enclosure relocation, the predicted sound pressure levels are expected to range from 40 to 42 dBA at adjacent Class A (nearby residential/hotel land uses northwest of site) noise zones, 45 to 48 dBA at adjacent Class B (nearby commercial land uses both north and west of site) noise zones, and 39 to 45 dBA at the adjacent Class C (nearby industrial land uses northeast and southwest of site) noise zones. The Substation Control Enclosure relocation is expected to increase the Substation sound levels at the adjacent noise zones by approximately 0 to 3 dB. However, despite this increase the Substation sound pressure levels will remain within the maximum permissible standards. It is important to note that the predicted noise emissions only include noise resulting from the proposed Substation and are exclusive of any background noise or noise associated with site development or construction.

In addition to regulatory limits, the Substation's potential impacts to the nearest noise-sensitive locations were also re-evaluated as a result of the Substation Control Enclosure relocation. By combining the updated Substation sound levels with the measured hourly L90 sound levels, the maximum potential increase to the ambient sound level at the nearest noise sensitive receptors are expected to remain the same, ranging from 0 to 1 dB. *Therefore, the Substation Control Enclosure relocation is not expected to change the Substation's potential impacts at the nearest noise-sensitive locations and thus the Substation results in a less-than perceptible increase.*

Next, regarding the Visibility Analysis: Following the design changes described above, a revision to the predictive computer model that was used to generate the photographic renderings of the proposed Substation was conducted. The revised

photographic renderings are included in Attachment B. The design changes have not led to a change in the visual impact of the Substation, due to the low height of the equipment being modified, and the de minimis change in the Substation footprint.

Finally, regarding the EMF Analysis that was conducted: The Substation Control Enclosure does not have any high-amperage conductors running to it so the relocation of the Enclosure 175 feet to the northwest is not expected to affect the calculated levels of EMF. Moving the bus tie between the two PDC enclosures from underground to an open air rigid aluminum bus will affect the levels of magnetic fields on the eastern edge of the Substation, however, the magnetic-field levels along the eastern edge of the Substation are already lower than at any other location around the Substation property. While moving the bus tie above ground may somewhat increase the magnetic-field level near the location of the bus tie, the bus tie itself is more than 100 feet from the nearest edge of the UI property so that even if magnetic-field levels at the edge of the Substation do increase slightly in a localized area around the bus tie, they will almost certainly fall to background levels at the property line.

Q. Would you please discuss the need for four new monopoles.

A. As stated in UI's application to the Council, the installation of four new transmission monopoles on the proposed Substation site will be required in order to interconnect the proposed Substation to the existing Connecticut Light and Power (CL&P) 1560 transmission line, which traverses the project site. Upon completion of the project, CL&P will reimburse UI for and take ownership of two of the monopoles, which will be installed within the existing CL&P 115kV transmission right-of-way (ROW) across

UI's property. UI and CL&P are in the process of developing the agreement that describes the point of change of ownership for the two assets.

Q. What is the current state of the environmental remediation that is being conducted at the property?

A. The Lord Corporation (Lord), which historically owned and operated the industrial facilities on the site, is continuing to remediate groundwater contamination located generally beneath the northeastern portion of the 6-acre property. Currently, an in-well sparging groundwater remediation system is in operation at the site and groundwater and surface water are monitored on a quarterly basis. Pursuant to an Underground Injection Control (UIC) permit issued by the Connecticut Department of Energy and Environmental Protection (CT DEEP) in 2005, Lord also injects dilute food-grade molasses into the groundwater, via a series of nine on-site wells, to promote bacteria that will degrade existing chlorinated solvent contamination. This process is ongoing, pursuant to the CT DEEP permit. These groundwater remediation efforts continue to be performed by ARCADIS on behalf of Lord.

ARCADIS routinely submits records to CT DEEP of all monitoring activities completed at the site. During these quarterly reporting periods, ARCADIS typically samples select injection and performance monitoring wells and schedules subsequent molasses injection events based on the analytical results of the sampling. Based on the results of the monitoring conducted to date, the molasses injection appears to be working effectively toward enhancing and accelerating the rate of de-chlorination of the groundwater contaminants. However, the rate at which contaminant levels will

decrease cannot be predicted with certainty. As a result, the time frame for completing the groundwater remediation at the site cannot be specifically defined, and will depend on the results of the ongoing quarterly sampling and analysis program.

Q. Does the revised Substation site plan design affect the ongoing groundwater monitoring effort?

A: No. However, as described in the Application, construction of the Substation will require that a number of groundwater wells either be abandoned or relocated as part of the Substation development. UI is working with ARCADIS to identify these requirements.

Q. Will the construction or operation of the Substation affect the groundwater remediation efforts, such as by resulting in the excavation of contaminated soils or discharge of contaminated groundwater?

A. There will be no impact to remediation efforts from the operation of the Substation. During construction of the Substation, it is possible that contaminated soil and/or groundwater may be encountered, in which case the Company will handle, store, transport, and dispose of the contaminated substances in accordance with applicable environmental regulations.

Q: Has UI considered the City of Shelton's request, in correspondence to the Council dated October 10, 2012, regarding the conservation of a natural riparian buffer along the shoreline of the Far Mill River?

A: Yes, UI understands that the City, the Shelton Land Conservation Trust, Trout Unlimited, and the Far Mill River Association all are interested in protecting the Far Mill River and providing opportunities for public access. UI's 6-acre property currently does not afford any public access to the Far Mill River; such access was historically precluded by the prior industrial use of the site.

UI has taken the City's request into consideration. As shown on the revised Substation site plan (refer to Attachment A, Drawing XXXXX-001), UI proposes to preserve a 0.9-acre area along the northern border of its 6-acre parcel. This area will include the riparian corridor along the Far Mill River and will include space for a small parking lot for the public, located outside of the UI property fence line. Access will be via Pootatuck Place. The preserved riparian corridor will be accessible to the public from the parking area. No trees will be cut along the riparian corridor for the Substation project. The existing fence along the northern boundary of UI's 6-acre property will be moved to the south as illustrated on the site plan (Attachment A, Drawing XXXXX-001).

Q: Subsequent to the submission of the Application, has UI received any additional correspondence from involved agencies or held any Project-related meetings with such agencies?

A: Yes, UI received correspondence from the Mohegan Tribe regarding the Project site and also held meetings with both the City of Shelton and CT DEEP. The correspondence from the Mohegan Tribe and the consultations with CT DEEP and the City of Shelton are summarized as follows:

**Mohegan Tribe.** On September 7, 2012, UI wrote to the Tribal Historic Preservation Officer (“THPO”) seeking input regarding the proposed location of the new Substation at the Stratford Road site in Shelton. UI’s correspondence to the THPO is included in Appendix C of the Application. The THPO responded to UI’s request in e-mail correspondence dated October 4, 2012. This correspondence, which is attached as Attachment C, states that the Mohegan Tribe finds that the Substation project’s area of potential effect will not be within any areas of significance to the tribe.

**CT DEEP.** On November 26, 2012, UI representatives met with the CT DEEP to discuss the proposed Substation and to clarify the permits that would be required from CT DEEP for the project. At the meeting, UI:

- Presented the updated Substation site plan, which locates all above-ground Substation equipment outside the designated Far Mill River floodway;
- Identified the portions of the project that would entail work within the 100-year floodplain of the Far Mill River and explained that the 100-year floodplain, as mapped by FEMA, is incorrect because it is based on outdated land use and watershed information; and
- Reviewed the results of coordination with the U.S. Army Corps of Engineers (ACOE) regarding the permitting requirements for filling the 0.17-acre wetland on the site; specifically, the ACOE’s determination that UI will need to submit to the ACOE an application for a Category 2 Programmatic General Permit (PGP), including a mitigation plan to compensate for the loss of the wetland.

With respect to floodplain issues, the CT DEEP representatives indicated that any modifications to correct errors in the FEMA floodplain mapping would have to be initiated by the City of Shelton. Accordingly, CT DEEP encouraged UI to consult directly

with the City. Similarly, CT DEEP does not have any requirements that the project include compensatory storage for development within the 100-year floodplain.

In terms of CT DEEP permit requirements, the agency representatives stated that the project would require a Water Quality Certificate (WQC), pursuant to Section 401 of the federal Clean Water Act. However, because the project would not affect surface water elevations in the Far Mill River and will only entail the filling of the small on-site wetland, the CT DEEP would review and process the WQC application as part of the ACOE Category 2 PGP application, specifically the Connecticut Addendum to the PGP application. Thus, the application for the WQC would consist of the ACOE PGP application, along with the Connecticut Addendum.

UI discussed with CT DEEP the potential for preserving a portion of UI's property, consisting of the riparian buffer strip along the Far Mill River, as compensation for the loss of the 0.17-acre wetland. CT DEEP representatives noted that this compensatory mitigation would be considered as part of the agencies' review of the ACOE Category 2 PGP application.

**City of Shelton.** On December 20, 2012, UI met with the City representatives both to follow-up on the City's October 20, 2012 correspondence to the Council and to review the overall plans for the development of the Substation, including the location of the proposed Substation in relation to the Far Mill River floodway, FEMA-mapped 100-year floodplain, the outdated FEMA floodplain mapping and whether the City would require compensatory floodplain storage for fill in the 100-year floodplain. At the meeting, UI

also presented the updated site plan, which locates all above-ground Substation equipment outside the Far Mill River floodway, and requested input from City representatives regarding the establishment of an approximately 0.912-acre conservation buffer on the northern portion of UI's property abutting and including the Far Mill River.

The following summarizes the results of the meeting:

- The City will not require compensatory floodplain storage as part of the project, given the comparatively minor amounts of the floodplain that will be filled. UI has updated its site plan accordingly (refer to Attachment A, Drawing XXXXX-001)
- The City determined that an on-site stormwater retention pond originally planned as part of the project will not be necessary. However, an infiltration basin will be constructed at the Substation to meet the water quality regulations outlined in the Connecticut Storm Water Manual. UI will provide to the City a copy of a final hydraulics report regarding the floodplain, which was prepared by Milone and MacBroom, Inc. As indicated in the hydraulics report, the actual 100-year flood elevation is approximately 2 feet lower than the 100-year floodplain as currently mapped by FEMA; the Substation will be designed such that all foundations for critical equipment will be 1 foot above the currently-mapped 100-year floodplain.
- UI will continue its efforts to provide a public parking area and preserving the riparian corridor along the Far Mill River for public access, and will keep the City apprised of such efforts.
- The City representatives will meet to discuss landscaping and aesthetic issues concerning the Substation and will provide further information to UI.

UI anticipates that any landscaping or aesthetic issues regarding the Substation will be addressed in the Development and Management (D&M) Plan that will be required for the project, pursuant to Council regulations. Similarly, details regarding the conservation of the Far Mill River riparian corridor for public access (and in

compensation for the loss of the small on-site wetland) will be provided as part of UI's Category 2 PGP application to the ACOE.

Q. Mr. Eves, are there any additional changes or correction you wish to make to documents previously submitted to the Council?

A. Yes. Following the submittal of the Application to the Council, the Company noted several errors in Appendix H (Site Selection Study). A corrected version of the Site Selection Study is included in Attachment D. It is important to note that the conclusions of the Study remain unchanged, the corrections were generally clerical in nature, except as set forth below:

- Site Preparation requirements and costs were updated in section 4.3 as noted in interrogatory response CSC-2.
- Estimated costs were revised in Table 4-1 based on the most recent engineering evaluation.
- Estimated costs and distribution system characteristics were revised in Table 4-2 based on the most recent engineering evaluation.
- Attachment A (Transmission and Distribution Guideline for Substation Site Selection) is now included.

Q. Does this complete your testimony?

A. Yes it does.