DOCKET NO. 317 - The United Illuminating Company application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a proposed 115-kV/13.8-kV electric substation and associated facilities located at 3-7 Wildflower Lane, Trumbull, Connecticut.	}	Connecticut
	}	Siting
	}	Council
	}	February 13, 2007

Opinion

On June 30, 2006, The United Illuminating Company (UI) applied to the Connecticut Siting Council (Council) for a Certificate of Environmental Compatibility and Public Need (Certificate) for the construction, operation and maintenance of a new substation at 3-7 Wildflower Lane, Trumbull, Connecticut. The purposes of the proposed facility are to provide increased distribution system capacity and to improve other aspects of electric system reliability in response to increasing load growth in the Town of Trumbull and surrounding communities. The Town of Trumbull (Town) and the Wildflower Coalition Petitioners (WCP) participated as Parties in this proceeding. The Connecticut Light and Power Company (CL&P) and Mark Waggner participated as Intervenors in this proceeding.

The proposed substation would be located on a 4.85 acre parcel of land zoned Residence AA and located at 3-7 Wildflower Lane, Trumbull, immediately west of the Connecticut State Route 8/Nichols Avenue (Route 108) interchange. The property is situated on a cul-de-sac at the easterly terminus of Wildflower Lane within a triangular area bounded by Huntington Turnpike, Nichols Avenue and Route 8 in Trumbull. The junction of UI's 1710 and 1730 transmission lines with CL&P's 1710 and 1730 lines occurs at this site.

The proposed substation is needed to provide the necessary electric system capacity to meet the growing needs of the greater Trumbull region. The proposed substation would meet these electric needs by connecting the 115-kV transmission system to the local 13.8-kV distribution system through a new bulk power substation. Construction of the substation would eliminate the growing risk of overloads and associated load shedding, and thereby maintain the overall system reliability in the greater Trumbull area. UI presently has no substation located in Trumbull. The Old Town Substation in Bridgeport supplies power to approximately half of Trumbull and the northernmost portion of Bridgeport. The Trap Falls Substation in Shelton serves the easternmost section of Trumbull, the southern half of Shelton and the northernmost section of Stratford. These two substations serve 95 percent of Trumbull's electric load and are currently operating near or over capacity.

The existing UI 1730 transmission line would be routed into and out of the proposed substation, and the 115-kV breakers would be added at the north-south and east-west junction of the 1730 line. The new lines would be re-numbered after the substation is completed. The substation would have a three-position ring bus fed by three 115-kV transmission lines. Line 1714 to Weston and line 1730 from Devon (Milford) would enter the substation from the north, and the line 1713 to Pequonnock (Bridgeport) would enter the substation from the south.

The proposed substation would have a footprint approximately 335 feet by 200 feet. The proposed substation's lightning shielding masts would extend approximately 55 feet above grade, and the takeoff structures would extend approximately 48 feet above grade. The three takeoff structures would be designed as tubular steel H-frame structures. The switchyard high voltage (115-kV) bus would be approximately 26 feet above grade. A new single pole tubular steel dead-end structure, located within the substation fenceline, would be approximately 75 feet above grade. This structure would be the tallest object inside the substation. A second new single pole tubular steel dead-end structure would be

approximately 85 feet above grade and would be located within CL&P's existing transmission line right of way. This would be the tallest object in the entire project. The proposed substation would also include two 24/32/40 MVA power transformers, with the capability for an additional mobile transformer to be hooked up in an emergency.

Initially, two 80-foot access drives from Wildflower Lane were proposed; however, other alternative access roads were considered in this proceeding. The Town recommends access from Nichols Avenue. The Council concurs and believes that access from Nichols Avenue would be less disruptive to residents on Wildflower Lane. Accordingly, the Council will order that the access drive be constructed from Nichols Avenue. However, in order to facilitate the installation of a mobile transformer in an emergency, the Council will order that the northern access on Wildflower Lane is constructed. The Wildflower Lane access would only be used during emergencies to minimize disruption to residents.

Two residences located north of the existing CL&P right of way would have unobstructed year-round views of the proposed substation. One of these residences would have an unobstructed view of a new transmission structure. One residence on Wildflower Lane would have a seasonal obstructed view of the proposed substation. The residence to the northeast of the substation would have a seasonal obstructed view of the proposed substation. To the south of the proposed substation, residences and visitors to the Armenian Church of the Holy Ascension would have seasonal obstructed views of the tops of some structures of the substation. The substation is not expected to be visible to motorists on Huntington Turnpike or the Merritt Parkway. Motorists on Nichols Avenue and the travel lanes and entry/exit ramps of Route 8 would have seasonal views of the substation. These would be similar to existing views of CL&P and UI transmission lines and the UI switch structure.

Accepting the agreement of the parties, the Council will order that UI construct the following: a concrete wall approximately 17 feet high around the substation; concrete sliding gates; a berm at least four feet high around the substation on the outside of the wall; and plantings on the berm of at least 14 feet high. The Council will also order that UI supply the Town and the WCP with a planting list and color and texture options for the concrete wall, depending on availability. The Council will also order than any berm and/or plantings in CL&P's right of way be subject to CL&P's approval and that the wall is not located on CL&P's right of way. The final details of the wall, berm, and plantings shall be submitted in the Development and Management Plan.

The Connecticut Commission on Culture and Tourism (formerly the Connecticut Historical Commission) has indicated that the proposed undertaking would have no effect on historic, architectural or archaeological resources listed on or eligible for the National Register of Historic Places. In the event prehistoric archaeological and/or historic resources were discovered during the construction of the substation, UI would stop work in the immediate area and notify the State Historic Preservation Officer.

There are no known existing populations of federal or state endangered or threatened species, or any state special concern species occurring at the proposed site. No regulated wetlands occur at the site.

With low-noise transformers, the proposed substation would meet the Town's noise ordinance specifying a limit of 55 dBA for daytime and 45 dBA for nighttime areas zoned Residence AA. The ordinance is more restrictive than the state's noise regulations. If noise levels become an issue, the Council will order the applicant to perform a noise survey to determine compliance with the applicable standards. (This does not prevent the Certificate Holder from performing a noise survey if it deems it warranted.)

Magnetic fields (MF) and their possible effects concern both the Council and citizens living in the vicinity of substations and electric transmission lines. In the case of a substation, the predominant sources of MF

are the existing transmission lines. The existing MF was measured and calculated at the curb at the end of the cul-de-sac on Wildflower Lane (Point D-1). The level was 1.1 mG. With the proposed substation, the calculated MF would be 1.4 mG. (This is based on the fact that the Bethel to Norwalk Project is complete, and the Middletown to Norwalk Project is currently not complete.) Upon completion of the Middletown to Norwalk Project, the MF at this point would decrease below existing levels to 1.0 mG.

The Council notes that Point D-1 is approximately 120 feet from the residence at 6 Wildflower Lane, and magnetic fields diminish with distance. Therefore, the proposed substation is not expected to increase the magnetic fields at any of the abutting residences.

Furthermore, while the UI transmission lines already have optimal (reverse) phasing for MF mitigation, CL&P has the opportunity to reverse the phasing of its existing transmission lines for further MF mitigation. This could reduce MFs at the edge of the CL&P right of way by roughly 50 percent. CL&P would perform this optimal phasing project when the proposed substation is connected.

The proposed substation has been designed in accordance with the Council's (1993) Electric and Magnetic Field Best Management Practices. There is no evidence for the Council to conclude that the proposed substation and transmission line connections would be hazardous to persons or property near the proposed facility. However, the Council will order that the proposed facility be brought into compliance with any future state or federal standard for MF, should such a standard be adopted. Futhermore, CL&P shall perform electric and magnetic field measurements before and after construction and provide the results to the Council.

While the application was filed only for the proposed site at Wildflower Lane, alternative sites were considered in depth in this proceeding. The Town, the WCP, and Mr. Waggner all support the alternative site on Quarry Road, known as Site 11. However, after reviewing the record in this proceeding, we find the primary site preferable.

The proposed site offers significant distribution and transmission reliability benefits at considerably less cost to ratepayers than Site 11. The proposed site also has the advantage of being located in the vicinity of projected future load growth. To site the substation at Site 11 would result in 2.4 miles of additional distribution feeder exposure for each feeder routed in the northeasterly direction. Furthermore, the primary site is located on property that UI already owns. The Site 11 property would cost an additional 7.5 million dollars to purchase.

Based on the record in this proceeding, the Council finds that the effects associated with the construction, operation, and maintenance of the substation facility at 3-7 Wildflower Lane, Trumbull, including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate either alone or cumulatively with other effects when compared to need, are not in conflict with the policies of the state concerning such effects, and not sufficient reason to deny this application. Therefore, the Council will issue a Certificate for the construction, operation, and maintenance of a substation at 3-7 Wildflower Lane, Trumbull.