STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

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	)	Docket 317
	)	January 4, 2007

POST-HEARING BRIEF OF THE UNITED ILLUMINATING COMPANY

Linda L. Randell
Bruce L. McDermott
Wiggin and Dana, LLP
One Century Tower
New Haven, CT 06508-1832

Attorneys for
The United Illuminating Company

TABLE OF CONTENTS

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

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	)	Docket 317
	)	January 4, 2007

BRIEF OF THE UNITED ILLUMINATING COMPANY

I. Executive Summary

The United Illuminating Company ("UI") requests that the Connecticut Siting Council ("Council") issue a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a new 115,000/13,800 volt ("115/13.8-kV") electric substation and associated facilities in the Town of Trumbull ("Trumbull") ("the Project"). The Project will be located on UI-owned property at 3-7 Wildflower Lane, immediately west of the Connecticut State Route 8/Nichols Avenue (State Route 108) interchange. The property is situated off 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 The Connecticut Light and Power Company's ("CL&P") 1710 and 1730 lines occurs at the site. The Project will have no substantial adverse

environmental impact and is consistent with state policies concerning the natural environment and ecological balance, public health and safety, and scenic, historic, and recreational values. The Project therefore satisfies the criteria for the issuance of a Certificate of Environmental Compatibility and Public Need.

The Trumbull Substation is needed to maintain reliability of electric service to customers. Currently two substations serve Trumbull: Trap Falls Substation in Shelton and Old Town Substation in Bridgeport. After the summer peak of 2007, it is expected that these substations will no longer be able to meet the capacity needs of the growing load in the greater Trumbull region. The substation will provide the distribution capacity in the greater Trumbull area necessary for UI to reliably serve the growing load.

With the new Trumbull Substation, approximately 18 MVA of load from Old Town Substation and approximately 17 MVA of load from Trap Falls Substation (35 MVA total) can be transferred permanently to the new substation. This eliminates the overload concerns at both existing substations and provides a capacity margin of 23 MVA for future growth in the greater Trumbull region.

Over the past several years, UI has used distribution load transfers to defer construction of the Trumbull Substation. Most of the opportunities for distribution load transfers have now been utilized. UI has identified the potential for additional limited load transfers from Trap Falls and Old Town to maintain load levels below the firm rating of these substations during the summer peak of 2007. These measures will be taken to cascade load from Trap Falls and Old Town to maintain the load on these substations below their firm ratings. Cascading load in this manner reduces system performance and reliability by increasing feeder lengths and degrading voltage levels.

Although these temporary load transfer measures are expected to allow UI to continue to provide service to customers in the short-term while the substation is being constructed, these measures are unsustainable in the long-term.

The site on Wildflower Lane presents the best opportunity to maintain the long-term reliability of the electric system while balancing environmental, aesthetic and cost considerations. The proposed site provides the following unique benefits: (1) the site is owned by UI and has been previously disturbed, minimizing the environmental impact; (2) it is located at the junction of two major transmission lines in southwest Connecticut; and (3) it is the most economically practicable of all the alternative sites considered.

II. Overview of the Project

A. Site Description

The substation will be located on UI-owned property at 3-7 Wildflower Lane, immediately west of the Connecticut State Route 8/Nichols Avenue (State Route 108) interchange. The property is situated off 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 the site. UI Exhibit 1 at 1; UI Exhibit 6 at 2. A map of the proposed substation site is included as Exhibit L of the Application (UI Exhibit 1).

There are currently two transmission structures on the site, one of which includes two sets of motor operated disconnects switches that allow the lines to be sectionalized after a fault. Over half of the proposed site is within UI's existing transmission line right

of way ("ROW"). UI's existing transmission line ROW and switch structure border the eastern section of the site. UI's ROW is 200 feet wide. The existing 115-kV transmission lines (1710 and 1730) are constructed on a double circuit monopole structure in a vertical configuration and a double circuit switch lattice structure in a horizontal configuration. CL&P's existing transmission line ROW borders the northern portion of the site. CL&P's ROW is 110 feet wide and supports CL&P's 115-kV transmission lines (1710 and 1730) on lattice structures in a vertical configuration. UI Exhibit 1 at 14.

Most of the proposed site is flat, with some rock outcroppings. Grasses and low brush comprise the groundcover under UI's existing 115-kV transmission lines. The eastern section of the site slopes gently to the south. Several years ago, UI cleared a portion of the western section of the site and installed wood poles, which were used for line worker training. These poles will be removed as part of this substation project. The western edge of the site, near Wildflower Lane, is wooded. *Id.* at 14-15.

B. Need for the Project

UI presently has no substation in Trumbull. The residents and businesses of Trumbull are served by either UI's Trap Falls Substation in Shelton or UI's Old Town Substation in Bridgeport. UI Exhibit 1 at 23; UI Exhibit 6 at 2; 10/24/06 Tr. (evening) at 9.

Between 1995 and 2005, the residential electric usage in Trumbull increased by 38% and commercial electric usage increased by 45%. In the summer of 2006, the UI system experienced multiple new peaks and both the UI system and the New England

system set peak demand records that far exceeded planning projections. Both the Trap Falls and Old Town substations exceeded their ratings by 6 MVA each. 12/5/06 Tr. at 119. Trap Falls operated above its rating on 4 days for a total of 24 hours in 2006. Old Town operated above its rating on 4 days for a total of 20 hours in 2006. *Id.* at 3.

Without the addition of a new substation, the greater Trumbull area is at risk of rolling blackouts if a failure results in a transformer being out of service during periods of peak demand. *Id.*; 10/24/06 Tr. (afternoon) at 10. UI projects that load growth in the greater Trumbull area during the next five years will be significantly higher than in the past five years. UI provided information that illustrates the proposed new loads greater than 1 MVA that are expected to be in service by 2010. *See* UI Exhibit 14 at Figure 4 (Pre-filed Testimony of Richard Reed). As the electric demand in the area grows, the amount of time that customers are at risk of service failure because of overloads also grows. A deficit in regional substation capacity exists today and the deficit will increase rapidly in the future. *See* UI Exhibit 14 at page 5. UI has identified distribution load transfer projects to cover the capacity deficit during the summer peak of 2007. Completion of the substation by June 2008 is required to cover the projected peak in the summer of 2008. UI Exhibit 1 at 25.

III. Benefits of Site

A. Distribution and Transmission Considerations

The distribution capacity benefit from the Project comes from the addition of 58 MVA of substation capacity in the greater Trumbull region which will eliminate the overloads that currently exist at Old Town and Trap Falls Substations and provide

capacity in the region for future growth. UI Exhibit 1 at 28; UI Exhibit 15 at 3; 12/5/06 Tr at 33. This will be accomplished by cutting over two circuits from Old Town Substation (located to the west of the Project), and two circuits from Trap Falls Substation (located to the northeast of the Project) to the new substation. 12/5/06 Tr. at 33. These feeders were chosen to be fed from the Project because they were closest to the proposed site and provided the needed transfers to eliminate the overloads. UI Exhibit 15 at 3; 12/5/06 Tr. at 33.

The transmission benefit from the Project comes from breaking up the existing three-terminal 1730 line into three two terminal independently protected lines - one going to the south to the Pequonnock Substation in Bridgeport, one going to the east to Devon in Milford, and one going to the west to Weston. 12/5/06 Tr. at 39; UI Exhibit 15 at 7; UI Exhibit 1 at 17. This sectionalizing provides a reliability benefit by reducing the overhead transmission line exposure to outages. For example, based on the way the line is configured today, when an event happens (e.g., a tree falls on the line or lightning strikes the line) the event is seen along the entire 1730 corridor, from Weston to Devon to Pequonnock. In other words, an event on the line today takes the entire line out which forces the load onto other lines thereby placing an additional burden on the other transmission facilities serving the area. By sectionalizing the line, if there is a problem in any one of the three sections, the remaining paths remain in service. 12/5/06 Tr. at 40. Sectionalizing the line also provides for increased opportunities to conduct maintenance since alternative paths for power flow will be created. UI Exhibit 1 at 18.

B. Property Ownership and Location Considerations

The substation will be located on property owned by UI. A portion of the property previously has been cleared and was formerly used as a training facility for UI's line workers. UI Exhibit 1 at 2; 10/24/06 Tr. (afternoon) at 11. This site is irregular in shape and is comprised of three parcels with a total area of 4.85 acres. 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. The northerly portion of the site includes a portion of CL&P 1710 and 1730 line ROW. The easterly portion of the site is coincident with the UI 1710 and 1730 line ROW. UI Exhibit 1 at 2.

C. Surrounding Land Uses

Another advantage of the Site is that constructing and operating the Project at the Site will not substantially impact residential, commercial, industrial, educational, governmental, institutional, or recreational land uses. UI Exhibit 1 at 2. The residential property located on Wildflower Lane, approximately 220 feet west of the Site's fence line, will be separated from the Site by the existing road and the natural screen of mature plantings included in the Project. Further, the Project's two entrances are situated to block a straight view to the substation equipment. UI Exhibit 1 at 58. Similarly, approximately one hundred and twenty feet of woody vegetation, which UI could maximize using mature plantings, separates the Site from the residential properties located on Stella Street, approximately 250 feet south of the Site. While the residence approximately 250 feet north of the Site on the north side of CL&P's ROW would have the most visual impacts of any nearby residential properties, the ROW

would provide a 110-foot separation between the proposed fence line and the residences. *Id.* at 58-59.

There are no commercial or office establishments adjacent to the substation site. The nearest commercial establishment is approximately 0.25 miles from the Site. *Id.* at 59, 70. Similarly, there are no industrial or manufacturing facilities near the Site. The nearest industrial complex, Trumbull Industrial Park, is approximately 0.7 miles northeast of the Site, and State Route 8 and the Merritt Parkway lie between this complex and the Site. *Id.* at 60, 70. No parks, designated recreational open spaces, or open space areas abut or are located near the Site. *Id.* at 72, Exhibit B (Environmental Report) at 5-6. Abraham Nichols Memorial Park is approximately 0.8 miles north of the Site and north of the Merritt Parkway. *Id.* at 60.

While the All in One Nursery daycare facility is located approximately 700 feet from the Site, there are no schools or daycare facilities abutting the Site. The nearest school is almost one mile away from the Site (St. Catherine of Siena School on Shelton Road, 0.97 miles from the Site). *Id.* at 60. There are no hospitals or group homes within two miles of the facility. *Id.* at 61. The nearest government facility to the Site is a Connecticut Department of Transportation maintenance yard and garage approximately 0.3 miles northeast of the Site, next to the Merritt Parkway/State Route 8 interchange (#52). The Site is approximately 700 feet from the Armenian Church of the Holy Ascension (approximately 450 feet from an adjoining residence and approximately 500 feet from the parking lot) and approximately 0.2 miles from the Christ Redeemer Lutheran Church. *Id.* at 61.

IV. The Project Satisfies Criteria for Issuing a Certificate

Connecticut General Statutes Section 16-50k(a) provides as follows:

> Except as provided in subsection (b) of section 16-50z, no person shall exercise any right of eminent domain in contemplation of, commence the preparation of the site for, or commence the construction or supplying of a facility, or commence any modification of a facility, that may, as determined by the council, have a substantial adverse environmental effect in the state without having first obtained a certificate of environmental compatibility and public need, hereinafter referred to as a "certificate", issued with respect to such facility or modification by the council . . . .

In conformance with this statute, the Project will have no substantial adverse environmental impact and is consistent with state policies concerning the natural environment and ecological balance, public health and safety, and scenic, historic, and recreational values. The Project therefore satisfies the criteria for the issuance of a Certificate of Environmental Compatibility and Public Need.

The Project will result in no substantial adverse impact to the natural environment and ecological balance of the Site or surrounding properties, particularly with respect to noise and wetland impacts. The Site's heavy environmental disturbance reinforces this conclusion.

A. Site Is Heavily Disturbed

Since the Site is already heavily disturbed, UI Exhibit 6 at 7; UI Exhibit 9, Response to WCP-8, the Project will present no adverse environmental impact to the natural environmental and ecological balance at the Site. UI has used the Site as a switching station since 1961, when UI installed its north/south 1710/1730 transmission lines and connected them to CL&P's existing east/west 1710/1730 lines. UI Exhibit 6 at

5; 10/24/06 Tr. (afternoon) at 11; 10/24/06 Tr. (evening) at 11. UI partially cleared the Site and used it in the mid-1990s as a training facility for line workers. UI Exhibit 1 at 2, 54; 10/24/06 Tr. (afternoon) at 11; 10/24/06 Tr. (evening) at 11. The Site is dominated by herbaceous and shrub vegetation indicative of severe Site disturbance. UI Exhibit 1 at 56; *see also* UI Exhibit 1 at 54. The Site is next to and includes a portion of UI's transmission line ROW, and CL&P's transmission line ROW borders the Site to the south. UI Exhibit 1 at 54.

B. Noise

The Project will result in minimal noise impacts to the Site and surrounding properties. Operation of the substation will cause no noise increase in the surrounding area except for a very slight increase during the quietest nighttime hours. UI Exhibit 1 at 64-65, 74-75. The noise level is also expected to be imperceptible at nearly all hours at the property lines, except that it will be barely perceptible in a few nighttime hours at the property lines directly north, south, and west of the Site. UI Exhibit 6 at 11. The median hourly nighttime background sound is expected to increase by a maximum of 3 dBA; this level of change in background noise is considered "just barely perceptible to the average listener." UI Exhibit 1 at 64-65, 74-75. The maximum increase in the lowest hourly nighttime background sound is 7 dBA, and the median hourly daytime background sound is expected to increase by a maximum of 1 dBA. *Id.* at 65. Importantly, for these noise levels to occur, both transformers would need to be operating. This is a worst-case event and will only happen a couple of hours in 10 years. 10/26/06 Tr. at 199-200.

Other noise mitigation options, if necessary, include a noise barrier wall by the transformers and an architectural wall. 10/26/06 Tr. at 165, 198, 228. UI will conduct post-construction sound level testing when the Project is operating normally and will take necessary action if the levels are higher than projected or above the Trumbull noise regulations. UI Exhibit 9, Response to WCP-9; 10/26/06 Tr. at 199, 202.

During Site preparation and construction, residences near the Site will experience some degree of noise similar to urban street or building construction activities. UI will minimize the noise impacts by limiting construction to normal working hours during the week, ensuring that all construction vehicles have properly functioning engine mufflers, and maintaining a buffer of trees and other vegetation to the west and south of the Site. UI Exhibit 1 at 74.

Finally, under rare conditions, the 115-kV circuit breakers will operate in response to system faults or transmission switching operations, resulting in an impulse noise level of approximately 101 dBA. While these operations could occur at any time, the circuit breakers are expected to operate less than five times per year. This low incidence includes operation for system maintenance. UI Exhibit 4, Response to CSC-7.

C. Wetlands

There are no wetlands or watercourses on the Site or adjacent to it. UI Exhibit 1 at 37, 55, 56, 66-67; 10/24/06 Tr. (afternoon) at 10; 10/24/06 Tr. (evening) at 10. The Project therefore will not impact any wetlands or watercourses.

D. Public Health and Safety

The Project and, in particular, the electric and magnetic fields ("EMFs") it generates, will not have any impact on public health and safety. UI Exhibit 1 at 16.

1. Electric and Magnetic Fields

The EMFs resulting from the Project will have no impact on public health and safety. UI Exhibit 1 at 79. The record demonstrates that the EMF levels that the Project will generate are exceedingly low and well below the 50/60 Hz guidelines of the International Commission on Non-Ionizing Radiation Protection and the American Conference on Governmental Industrial Hygenists. UI Exhibit 1 at 80; UI Exhibit 1, Exhibit F at 37; UI Exhibit 6 at 11; *see also* 10/26/06 Tr. at 131 (testimony of Richard Reed) (the EMF values are "very low . . . much lower than anybody has really talked about in other projects . . ."). Currently, the primary sources of EMFs at the Site are the existing transmission lines, and the contribution to EMF levels due to the new substation is expected to be insignificant. UI Exhibit 1 at 80; UI Exhibit 1, Exhibit F at 36; UI Exhibit 4, Response to CSC-17; 10/26/06 Tr. at 82-83, 115, 140. As UI demonstrated at a Council hearing with a gauss meter, the projected EMF levels at the Site after the Project's completion are in the range of background EMF levels for areas far-removed from any electric utility infrastructure. 10/26/06 Tr. at 25-28. These low EMF levels will be further reduced (by 50% or more at the CL&P ROW edges) when CL&P implements an optimal phasing project for the 115-kV lines passing by the Site. CL&P will likely do so when the UI connects the new substation to the existing CL&P transmission lines. 12/5/06 Tr. at 189-190, 211-212; UI Exhibit 16.

Dr. William Bailey, an EMF expert who has testified before the Council in other dockets, (10/26/06 Tr. at 330) testified that the substation-generated EMF levels will not impact the nearby residences. 10/26/06 Tr. at 16-17. Dr. Bailey further explained that calculated magnetic field levels at the property boundaries on Stella Street are within the range of background variation, 10/26/06 Tr. at 18 (referencing Exhibit 9, Response to WCP-10), that these low EMF levels from the substation have not been found to have "any demonstrable effect on health," 10/26/06 Tr. at 19; *see also* 10/26/06 Tr. at 61-63, and that substations typically are not large sources of EMFs, 10/26/06 Tr. at 19. Indeed, Dr. Bailey testified regarding the classification of EMFs on a public health spectrum that "we would have to put electric and magnetic fields at the end of the spectrum of either no or very low risk." 10/26/06 Tr. at 63.

Dr. Bailey drew similar conclusions regarding the magnetic field measurements for the curb at the end of the cul-de-sac on Wildflower Lane (Point D-1 in UI Exhibit 1, Exhibit F at 32 and UI Exhibit 16 at 32). In this area, the measured baseline magnetic field was 1 mG, and the calculated baseline magnetic field was 1.1 mG. For a normal load, the calculated magnetic field for the post-Bethel/Norwalk project, the current condition, is 1.4 mG and for post-Middletown/Norwalk project, beginning in approximately 2010, is 1.0 mG. UI Exhibit 1, Exhibit F at 32. The actual magnetic fields, both before and after the Project's completion, would be even lower at the nearest residence, which is approximately 120 feet farther from the Site, than the end of the cul-de-sac where the magnetic field was measured. Exhibit 4, Response to CSC-17; 10/26/06 Tr. at 22-24 (agreeing that these magnetic field values are "worst case" since they relate to the home closest to the Site).

Dr. Bailey commented that these measured and calculated magnetic field values from both before and after the substation construction are extremely low: "[C]ertainly one could encounter field levels like this in any residential area whether or not there's a substation present or not." 10/26/06 Tr. at 21. Dr. Bailey further explained that background levels are typically less than 10 mG. *Id.* at 22. He went on to indicate that higher levels would be found near particular sources. *Id.* Thus these "worst case" measured and calculated levels fall within the range of background magnetic fields that could be found anywhere.

As mentioned above, the extremely low EMF values at the Stella Street property boundaries and the Wildflower Lane cul-de-sac about which Dr. Bailey testified will decrease even further when CL&P implements an optimal phasing project for the 115-kV lines passing by the Site. 12/5/06 Tr. at 189-190, 211-212. For example, at the Wildflower Lane cul-de-sac (Point D-1), post-Middletown/Norwalk project, magnetic fields will decrease from 1.0 to 0.7 mG for normal load and from 1.7 to 1.1 mG for peak load. *Compare* UI Exhibit 1, Exhibit F at 32 *with* UI Exhibit 16 at 32.

In summary, the Project will result in no significant increase in the exposures of the residents of the community to EMF, the very low levels of EMF produced by the substation fall well within the range of values that are encountered by residents from a variety of sources today, and such exposures have not been deemed by national and international health agencies or the Connecticut Department of Health as a cause of health or safety impacts to the public.

E. Scenic, Historic, and Recreational Values

The Project will have no impact on scenic, historic and recreational values. The State of Connecticut has indicated that there are no known and recorded historic and archaeological sites on or near the Project. UI Exhibit 1, Exhibit B (Environmental Report) at 5-10. Construction and operation of the substation will not impact Trumbull's parks, recreational areas and open spaces. None of Trumbull's parks are located near the proposed site. Similarly, users of recreational facilities at Trumbull schools will not be affected by construction and operation of the proposed substation. The closest school recreational facilities are located one mile north of the proposed site at St. Catherine of Siena School and Church. *Id.* at 72-73; Exhibit B (Environmental Report) page 5-6.

F. Visual Impacts

A residence to the northeast of the Site and the residence on Wildflower Lane will have seasonally obstructed views of the Project. Approximately 400 feet of separation including at least 100 feet of dense, woody vegetation will block the Project from the viewshed of the residence to the northeast of the Site for much of the year. Two residences north of the CL&P ROW will have year-round unobstructed views of the substation; and an unobstructed view of a new transmission structure. Residences south of the Site and visitors to the Armenian Church of the Holy Ascension will have seasonally obstructed views of sections of the substation, through at least 120 feet of dense and mature deciduous trees. UI Exhibit 1 at 73; *see also* UI Exhibit 1 at 37-38, 58-59; UI Exhibit 1, Exhibit A (Photo Renderings).

To further mitigate these visual impacts, UI will: position the substation infrastructure to be as far away as possible from the residences on Wildflower Lane and Stella Street; place mature plantings along the substation's perimeter fence; situate the access driveways to prevent a direct view of the substation from the residence on Wildflower Lane; and use low profile 115-kV bus structures. UI Exhibit 11 at 13; *see also* UI Exhibit 1 at 73 (mentioning the option of additional natural vegetative screening). *See* Section V below, for alternative, mitigative design configurations that UI evaluated.

Motorists on Huntington Turnpike and the Merritt Parkway should not be able to see the Project. Motorists on Nichols Avenue and the travel lanes and entry/exit ramps of State Route 8 would have seasonally obstructed views of the substation, similar to the existing view of the transmission lines and switch structure adjacent to the Site. UI Exhibit 1 at 73-74.

G. Fish and Wildlife

The Project poses no impact to fish and wildlife. With respect to wildlife, species number and diversity is limited at the Site since the major highway and residential area near the Site likely impede wildlife movement through the area and the Site's vegetation contains limited forage resources and is already degraded. The Site thus is of little value to most wildlife except for species common to urban environments (*e.g.,* raccoon, opossum, skunk, squirrel). In addition, a few birds (common crow, starling and pigeon) have been observed at the Site. UI Exhibit 1 at 57, 68. Small mammals and birds that the Site construction temporarily displaces are expected to repopulate the Site. UI Exhibit 1 at 68, Exhibit B (Environmental Report) at 5-4.

The Site does not provide sufficient habitat to support any federal or state listed protected species, and no federal or state special status plants or animal species are known to exist at or in the vicinity of the Site. There are also no federal or state special status areas in the vicinity of the Site. UI Exhibit 1 at 57, 68, Exhibit B (Environmental Report) at 4-5; UI Exhibit 4, Response to CSC-18 and Attachments.

There are no watercourses, lakes, or ponds on the Site or nearby, UI Exhibit 1 at 55, 69, and thus no fish that could be impacted.

H. Forests and Parks

The Project will not impact forests and parks. There are no parks, designated recreational open spaces, or open space areas that abut the Site or are located nearby. Abraham Nichols Memorial Park is approximately 0.8 miles north of the Site and the Merritt Parkway. UI Exhibit 1 at 60, Exhibit B (Environmental Report) at 4-9, Figure 4-1. The Project will not be visible from this park due to the vegetation, topography, and land uses between the park and the Site. Construction noise should not be audible in this park, but any such noise would be short-term and intermittent. UI Exhibit 1 at 72.

There are no forests on the Site, although northern red oak, black oak, pignut hickory, and red maple trees are on the Site. The Site is surrounded by narrow woodlots; while some trees are fifteen to twenty inches in diameter, most are much smaller. UI Exhibit 1 at 56-57.

V. Mitigation Measures For The Proposed Substation

In addition to evaluating alternative sites, UI evaluated alternative design configurations to minimize effects on the surrounding environment and in particular the visual impacts of the substation on a small number of residents.

A. Open Air Bus Configuration with Architectural Wall

This alternative design configuration involves the construction of a solid architectural wall around all sides of the substation. A visual simulation of the architectural wall option is presented in Exhibit A of the Application. The incremental cost of this configuration over UI's proposed configuration is $1,200,000. UI Exhibit 1 at 77; UI Exhibit 6 at 13; 12/5/06 Tr. at 91.

B. GIS Configuration with Architectural Wall

This design involves the construction of a solid architectural wall around all sides of the substation along with the use of indoor Gas Insulated Substation ("GIS") technology. GIS technology typically is used in situations where space, airborne contamination, arc free switching or aesthetics is a prime design consideration. For the Project, the 115-kV substation equipment would be enclosed on all sides by a building to minimize visual impacts. A visual simulation of the architectural wall/GIS option is presented in Exhibit A of the Application (UI Exhibit 1). The incremental cost of this configuration over UI's proposed configuration would be $3,100,000. UI Exhibit 1 at 77-78; 12/5/06 Tr. at 91.

C. GIS Enclosed in a "Barn" or Similar Outbuilding

In this configuration, the PDC equipment and GIS are enclosed surrounded by a building that resembles a barn or similar outbuilding. The substation is surrounded by a 14' high chain link fence. A visual simulation of this option is presented in Exhibit A of the Application. The incremental cost of this configuration over UI's proposed configuration would be $2,300,000. UI Exhibit 1 at 78; 12/5/06 Tr. at 91.

D. Shifting the Substation to the North of the Proposed Location at Site 1

It is possible to move the location of the substation to the north of the proposed location. UI Exhibit 13, Response to WCP-5. Because of the need to maintain the necessary clearances for servicing CL&P's existing structures it is possible to move the location of the substation only 20 feet to the north. 12/5/06 Tr. at 47-48. Shifting the major equipment (transformers) 20 feet closer to the nearest northern residence (1500 Huntington Turnpike) will change the noise levels at nearby residences. Specifically, it will result in a 1.0 dBA increase at 1500 Huntington Turnpike, a 0.9 dBA decrease at 6 Wildflower Lane, a 0.7 dBA decrease at 45 Stella Street. 12/5/06 Tr. at 53; UI Exhibit 13, Response to WCP-5. Moving the substation 20 feet to the north will not impact projected EMF levels, after the Middletown/Norwalk project is in operation, at five of the seven locations along the substation property boundaries since the dominant source of EMF is the existing CL&P transmission line. At one point, D-3, the magnetic field level increases by 0.1 mG, and at point D-1 the magnetic field level decreases by 0.1 mG. 12/5/06 Tr. at 121; UI Exhibit 13, Response to WCP-5; UI Exhibit 15 at 12.

VI. Site 11

The primary benefits of the Project are (i) to provide 58MW of substation capacity to the greater Trumbull region to meet the growing electric demand and relieve the existing overloads at Trap Falls and Old Town Substations; and (ii) to provide a transmission reliability benefit on the 115 kV transmission system by breaking up the three terminal 1730 transmission line into three independently protected transmission lines.

Both of these benefits can be achieved if the Project is located at the Quarry Road site ("Site 11"). However, achieving a *transmission* reliability benefit at Site 11 equivalent to the reliability benefit obtained at the proposed site would require the relocation of the 1730 transmission line junction from the existing location at Site 1 to Site 11. This would required use of one of three alternative transmission routes to relocate the junction (i) overhead along the existing CL&P ROW; (ii) underground along the existing CL&P ROW; or (iii) underground along public roadways. These options have various land acquisition and construction issues (e.g. the overhead route would require additional transmission structures to be installed and would also require additional ROW which will require the acquisition of land from adjacent residential, commercial and municipal land owners) and will cost $3.2 million, $17.6 million and $24 million respectively.

The two underground alternatives minimize the impact to residential and commercial customers, but the costs, in excess of $17 million, are more than 1500% greater than the cost of the transmission reliability benefit at Site 1. UI Exhibit 14 at 6. UI believes that the increased costs of these alternatives are not justified by the benefit.

The cost to achieve the transmission reliability benefit at Site 1 is approximately $1,100,000. *Id.* At this cost, the reliability benefit of breaking up the three terminal line can be justified at the Wildflower Lane location.

Siting the substation at the proposed location also has a *distribution* capacity benefit in that it (i) relieves the existing overloads at Old Town and Trap Falls Substations and (ii) provides capacity in the region to support future growth. *Id.* at 7. While construction of a substation at Site 11 also provides these benefits, in order to relieve the existing overloads at Old Town and Trap Falls substations the distribution feeders will need to be extended approximately 2.4 miles from the Quarry Road site to a point on the route that is common with the route from Site 1. *Id.*; 12/5/06 Tr. at 34. Additionally, while Site 11 appears to be suitable for the construction of a 115 kV to 13.8 kV 58 MVA substation, its location is not optimally suited to serve future load growth in the region. This is because a significant amount of future load growth will occur to the north and east of the Wildflower Lane site. Siting the substation at Quarry Road is further away from the load growth area. UI Exhibit 14 at 8; 12/5/06 Tr. at 115.

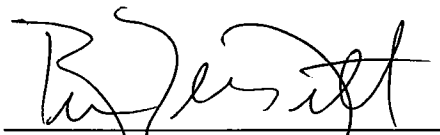
UI estimates that the incremental costs for constructing a solution to provide the *distribution* benefit at Site 11 are approximately $11.6 million. UI Exhibit 14 at 11; 12/5/06 Tr. at 45. That estimate includes $486,000 for two additional transmission structures that will be required at Site 11 to dead-end the line (the existing transmission structures at the proposed site are capable of routing the line into and out of the station so no additional transmission structures would be required at Site 1), and $7.5 million for acquisition of Site 11 from the current owner. UI Exhibit 14 at 11; 12/5/06 Tr. at 37-38.

VII. Conclusion

The effects associated with the construction, operation, and maintenance of a new 115,000/13,800 volt ("115/13.8-kV") electric substation and associated facilities located at 3-7 Wildflower Lane, Trumbull, including effects on the natural environment; ecological integrity and balance; forests and parks; scenic, historic, and recreational values; air and water purity; fish and wildlife; and public health and safety are not disproportionate either alone or cumulatively with other effects compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the Application. Therefore, UI respectfully requests that the Council issue a Certificate of Environmental Compatibility and Public Need for the Project as provided by Conn. Gen. Stat. § 16-50k.

Respectfully submitted,

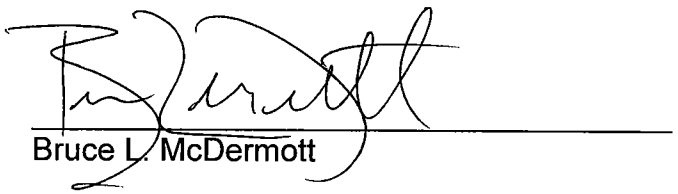
THE UNITED ILLUMINATING COMPANY

By: 

Linda L. Randell
Bruce L. McDermott
Wiggin and Dana, LLP
One Century Tower
New Haven, CT 06508-1832
(203) 498-4400

CERTIFICATION

This is to certify that on this 4th day of January, 2007, an original and twenty (20) copies of the foregoing were delivered by hand to The Connecticut Siting Council, 10 Franklin Square, New Britain, Connecticut 06051, one copy was served on all other known parties and intervenors by depositing the same in the United States mail, first class postage prepaid on this 4th day of January, 2007 and an electronic copy was provided to the Connecticut Siting Council and all other known parties and intervenors.



Bruce L. McDermott

\10705\1431\630825.2