



# STATE OF CONNECTICUT

## CONNECTICUT SITING COUNCIL

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September 2, 2016

James R. Morrissey  
Attorney  
UIL Holdings Corporation  
157 Church Street  
New Haven, CT 06506

RE: **DOCKET NO. 465** – The United Illuminating Company Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a 115/13.8-kilovolt (kV) replacement substation facility located on an approximately 1.5 acre portion of two adjoining UI-owned parcels directly adjacent to UI's existing Baird Substation, 1770 Stratford Avenue, Stratford, Connecticut, and related transmission structure and interconnection improvements.

Dear Attorney Morrissey:

At a public meeting of the Connecticut Siting Council (Council) held on September 1, 2016, the Council considered and approved the Development and Management (D&M) Plan submitted for this project on July 15, 2016, with the following conditions:

1. Use of off-road construction equipment that meets the latest EPA or California Air Resources Board standards, or in the alternative, equipment with the best available controls on diesel emissions, including, but not limited to, retrofitting with diesel oxidation catalysts, particulate filters and use of ultra-low sulfur fuel; and
2. Compliance with the provisions of Section 22a-174-18(b)(3)(C) of the Regulations of Connecticut State Agencies that limit the idling of mobile sources to 3 minutes.

This approval applies only to the D&M Plan submitted on July 15, 2016, and other supplemental data dated August 22, 2016. Requests for any changes to the D&M Plan shall be approved by Council staff in accordance RCSA §16-50j-62(b). Furthermore, the Certificate Holder is responsible for reporting requirements pursuant to Regulations of Connecticut State Agencies Section 16-50j-62.

Please be advised that changes and deviations from this plan are enforceable under the provisions of the Connecticut General Statutes § 16-50u. Enclosed is a copy of the staff report on this D&M Plan, dated September 1, 2016.

Thank you for your attention and cooperation.

Very truly yours,

Robert Stein  
Chairman

RS/MP/cm

Enclosure: Staff Report, dated September 1, 2016

c: Parties and Intervenors

The Honorable John A. Harkins, Mayor, Town of Stratford

Jay Habansky, Planning & Zoning Administrator, Town of Stratford



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Affirmative Action / Equal Opportunity Employer



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Docket No. 465

**The United Illuminating Company  
Development and Management Plan  
Baird Substation Replacement  
1770 Stratford Avenue, Stratford  
Staff Report  
September 1, 2016**

### Introduction

On July 15, 2016, The United Illuminating Company (UI) submitted a Development and Management Plan (D&M Plan) for the approved replacement Baird Substation. The D&M Plan was submitted consistent with the Council's Decision and Order (D&O) and Certificate of Environmental Compatibility and Public Need (Certificate) dated April 28, 2016.

The proposed replacement substation will be located to the east of the existing Baird Substation on two contiguous parcels with a combined area of 3.5 acres and with frontage along Stratford Avenue. The western portion of the two-parcel site is presently occupied by the existing Baird Substation. The two-parcel site is bounded to the west by Savings Auto Center, to the south by Stratford Avenue (Route 130), to the east by the Two Roads Brewing Company (TRBC), and to the north by the Metro-North Railroad (MNRR) right-of-way with existing transmission lines. The existing Baird Substation will remain as a training facility.

The proposed replacement substation will consist of an irregular shaped compound approximately 1.15 acres in area and will contain the substation equipment, associated connections, switchgear enclosures, and a control house. Approximately 0.73 acres of wooded area exists currently at the site. Approximately all of the 0.73 acres of trees would be cleared to construct the project.

The D&O requires the following information in the D&M Plan and is noted as follows:

- a) **A final site plan showing the placement of all substation equipment, structures, and buildings within the substation perimeter, temporary and permanent tap structures, landscape plantings, access, fencing, and substation lighting;**

UI has included the placement of all substation equipment, structures, and buildings within the substation perimeter as well as tap structures in the D&M Plan. Such equipment includes, but is not limited to, the following:

- i. Two 30/40/50 MVA 115-kV/13.8-kV power transformers with load tap changers;
- ii. 13.8-kV bus system to connect to the power transformers and serve the power distribution center (PDC) enclosures;
- iii. Two 115-kV sulfur hexafluoride gas insulated circuit breakers;
- iv. Eight 115-kV vertical break disconnect switches;
- v. Instrument transformers;
- vi. Miscellaneous steel structures for equipment and bus work support to be installed on concrete spread footing foundations;
- vii. Six shielding masts for lightning protection;
- viii. One control house approximately 60 feet long, 28 feet wide and 17 feet above ground level (agl); and
- ix. Two PDC enclosures each approximately 41.5 feet long, 14.6 feet wide and 16 feet agl.

Construction access to the northern portion of the MNRR right-of-way would be via the end of Jackson Avenue. Construction access to the replacement substation and the southern portion of the MNRR right-of-way would be via Stratford Avenue. Permanent access to the substation would be via a new 190-foot asphalt access drive from Stratford Avenue. The interior of the substation would be predominately traprock, with the exception of where the access drive encircles the control house (which would be asphalt).

UI included its fence design in the D&M Plan. UI would utilize a temporary nine-foot tall chain link fence to secure the site during construction. The temporary fence will be removed, and a permanent fence will be installed prior to commissioning the replacement substation. The final permanent fence will be 14-foot tall chain link with green opaque winged slats as an anti-climbing measure and for visual screening. The fence will have a two-inch mesh in order to accommodate the privacy slats. The fence will be topped with 1 foot of barbed wire. This is a similar fence design as the existing Baird Substation, except for the addition of the opaque winged slats.

As a site security measure, UI considered placing concrete barriers on the south side of the replacement substation between the fence line and Stratford Avenue. This is intended to protect against accidental vehicle entry from the Town of Stratford's (Town) roundabout to be constructed. However, UI also seeks to landscape this area for aesthetics. Thus, in consultation with the Town of Stratford and the abutter TRBC, and given the limited space, UI proposes in the D&M Plan to install decorative planters that will also act as concrete barriers. Each planter would be approximately ten feet long by four feet wide. A total of 15 planters, arranged in five groups of three each, would be installed outside the south end of the replacement substation. Each planter would contain three American arborvitae, approximately four to five feet tall. Seven Lincoln linden would be planted in the ground to fill the gaps between the groups of planters. Finally, five green giant arborvitae will be planted near the entrance driveway to the replacement substation and behind the Lincoln linden plantings. The final landscaping may be subject to change due to the Town's roundabout design and construction. However, Council staff notes that, if approved, UI could file a D&M Plan Modification request in the future if the landscaping plan materially changes.

UI provided its replacement substation lighting plan. The lighting plan includes LED fixtures to be mounted on the fence posts and structural steel supports. The lighting fixtures attached to the fence posts would all be pointed towards the interior of the substation. The maximum lighting height will be about 17 feet agl, which is less than the 30 feet agl proposed in the Docket No. 465 proceeding. There would be low-level illumination of access doors during normal conditions. Additional general area lighting and task lighting would be used only for work at night under abnormal or emergency conditions.

**b) Erosion and sediment controls consistent with the 2002 *Connecticut Guidelines for Soil Erosion and Sediment Controls* (2002 Guidelines);**

UI submitted its Erosion and Sedimentation Control Plan consistent with the 2002 Guidelines and UI's Stormwater Pollution Control Plan. Such measures include, but are not limited to, anti-tracking vehicle pads at site entrances, compost filter socks, erosion control blankets, hay-bales, and silt fencing.

**c) Wetland fill plans and US Army Corps of Engineers (ACOE) Category I Certification Form;**

The on-site wetland (with an area of approximately 654 square feet) will be filled. Specifically, it will be removed of organic and undesirable material utilizing excavation machinery. Once the organic and undesirable material has been removed, the wetland will be completely filled and compacted with native soil from the site and, if required, suitable material will be brought to the site to fill the area to the required elevation.

On June 14, 2016, UI submitted its ACOE Category I Certification Form to ACOE. By letter dated June 21, 2016, ACOE acknowledged receipt of such form.

**d) Updated Connecticut Department of Energy and Environmental Protection (DEEP) Natural Diversity Database (NDDDB) determination letter;**

The original DEEP NDDDB determination letter dated April 14, 2015 expired on April 14, 2016. Accordingly, UI has provided an updated DEEP NDDDB determination letter dated April 22, 2016. According to this letter, no negative impacts to State-listed species are anticipated. DEEP notes that this letter is valid until April 22, 2017. Provided that UI commences construction prior to April 22, 2017, another updated letter is not required. This is consistent with UI's schedule that includes site clearing to commence in September 2016.

**e) Provisions for storm water management and associated Stormwater Pollution Control Plan;**

UI has submitted its Stormwater Pollution Control Plan (SPCP), which also serves as the stormwater management plan. The SPCP is stamped by a Professional Engineer, duly licensed in the State of Connecticut. UI has also registered with DEEP under the General Permit for the Discharge of Stormwater and Dewatering Wastewater from Construction Activities. By letter dated April 20, 2016, DEEP confirmed the registration and approved the SPCP.

UI's stormwater design is intended to ensure that post-development runoff characteristics will not differ significantly from pre-development conditions. To retain the maximum volume of stormwater (on-site), UI will utilize a pervious cover of crushed rock at the substation. UI will also remove a portion of existing paved parking lot asphalt cover on the eastern portion of the site and develop the area as a vegetated swale. The swale will discharge stormwater to natural grade on the southeast portion of the site, with an overflow connection to the storm sewer system on Stratford Avenue. A series of strategically placed catchbasins in the central and southern portion of the site will capture runoff from the paved asphalt driveway to be installed and the surrounding substation area, and will direct runoff to a sediment removal unit and detention basin before ultimately discharging to the storm sewer system on Stratford Avenue.

**f) Transformer oil containment;**

The two 115-kV/13.8-kV transformers would be surrounded by oil containment basins. The purpose of these basins will be to collect and contain transformer oil that may weep, discharge or spill as a result of equipment failure. Each basin will be designed to contain all of the oil for its transformer, plus a 10 percent safety margin. Once the transformers are operational, UI personnel will perform monthly inspections of each containment basin to determine the presence of oil. If oil is present within the basin, all liquids would be extracted by an approved environmental contractor and disposed of in accordance with Connecticut regulations. UI provided the location and construction of each oil containment basin on the Transformer and Oil Containment Foundation Plan drawings in the D&M Plan.

**g) Details of transmission interconnection design including transmission structures; and**

Four steel monopole structures, plus an additional three steel monopoles that were approved under Petition No. 1176, will be required to interconnect the replacement substation with the two overhead transmission lines located immediately to the north. The four structures associated with Docket No. 465 are #825BNN, #825BNS, #825BS, and #826S. These structures will be galvanized steel for aesthetics and uniformity, consistent with what was approved in Petition No. 1176. Such structures will have heights of 70 feet, 95 feet, 85 feet, and 80 feet, respectively.

**h) A deactivation plan for the existing Baird Substation.**

UI has provided its deactivation plan for the existing Baird Substation. Specific pieces of equipment to be removed are listed below:

- i. One 115-kV/13.8-kV power transformer;
- ii. Four 115-kV disconnect switches;
- iii. 115-kV strain bus (wire);
- iv. One 115-kV sulfur hexafluoride gas insulated circuit breaker;
- v. Two 115-kV transmission take-off structures on the north and south side of the MNR corridor;
- vi. Three 13.8-kV aerial cables exiting the rear of the substation on the railroad catenary structure;
- vii. One 13.8-kV capacitor bank assembly;
- viii. Four instrument transformers;
- ix. Six 115-kV surge arrestors;
- x. Miscellaneous steel structures for support of the aforementioned equipment and strain bus; and
- xi. One 13.8-kV switchgear line-up.

To increase the range of training possibilities within the existing facility, one 13.8-kV/4-kV transformer will be transferred from one of UI's recently decommissioned facilities and placed in the transformer yard. All oil will be drained from the remaining 115-kV/13.8-kV transformer and transferred to the 13.8-kV/4-kV transformer. Modifications will be made to the facility, as well as continual maintenance to maintain it in good working order. The facility will be used for training approximately every two months. The removal of equipment at the existing Baird Substation will commence immediately following the final commissioning of the new substation, pending coordination with MNRR for work within the railroad corridor.

The entire 14-foot fence surrounding the existing Baird Substation will be maintained and replaced when required to ensure a secure perimeter. The replacement chain link fence will be eight-feet with two inch mesh without privacy slats and topped with one foot of barbed wire. UI could install a smaller mesh size as an anti-climbing measure if required by the Council. Privacy slats are not proposed because a de-energized substation has less stringent security requirements. However, the facility will continue to be maintained and monitored with regular patrol by UI personnel and surveillance through existing security equipment.

**Municipal and Other Public Consultations**

Prior to submission of its Substation D&M Plan, UI consulted with representatives of the Town. In addition, UI is also coordinating with the Connecticut Department of Transportation and MNRR regarding the construction along the railroad corridor.

On or about July 15, 2016, copies of the D&M Plan were provided to the Town as well as to all parties and intervenors on the service list including the Office of Consumer Counsel. No comments have been received to date.

**Construction Schedule**

UI expects that construction of the replacement substation will commence in September 2016 and will be completed by March 2018. The deactivation of the existing Baird Substation will be performed between March 2018 and May 2018. Typical construction hours and days of the week would be Monday through Friday, 7:00 a.m. to 5:00 p.m. However, non-standard work hours may be necessary due to outage-related time constraints. Any noise related to construction will be exempt per DEEP noise regulations. Operation of the (completed) project is expected to meet the DEEP noise standards at the property boundaries.

### **Community Outreach During the Construction Process**

UI will provide the Town of Stratford, in writing, with a minimum of one week advance notice of the beginning of construction activities at the project site. Similarly, UI will provide a minimum of one week written notice to abutting landowners prior to the commencement of construction. UI has provided project team contact information.

### **Notices**

UI will provide the Council with written notification at least two weeks prior to the beginning of construction activities and the beginning of the installation of storm water management and oil containment devices at the project site.

### **Snow Removal and De-Icing Procedures**

Snow and ice removal procedures will be conducted in accordance with DEEP's Best Management Practices for Disposal of Snow Accumulations from Roadways and Parking Lots. For example, DEEP does not recommend depositing snow into streams, wetlands and Long Island Sound due to the presence of dirt, salt, litter and other debris, which are routinely mixed in the accumulated snow. Accordingly, UI would only deposit snow accumulations in upland areas.

### **Reports**

The following reports will be provided to the Council:

1. A **Monthly Construction Progress Report**: As required by RCSA § 16-50j-62(b)(3), this report will identify changes and deviations to the approved D&M Plan.
2. A **Final Report**: As required by RCSA § 16-50j-62(c), UI will provide this report to the Council no later than 180 days after completion of all site construction and rehabilitation. The report will identify:
  - a) All agreements with abutters or property owners regarding special maintenance precautions
  - b) Significant D&M Plan changes that were necessary because of property rights or underlying and adjoining owners or for other reasons.
  - c) The location of any construction materials left in place.
  - d) The location of areas where special plantings and reseeded have been performed.
  - e) The actual construction cost of the facility.
3. An **Operating Report**: As required by the D&O condition 9, UI will provide this report to the Council within three months after the conclusion of the first year of the operation of all project facilities, and annually thereafter for three years. The report will describe the overall condition, safety, reliability, and operation of the transmission systems.

### **Recommendations**

The D&M Plan complies with requirements of RCSA § 16-50j-60 to 16-50j-62 and is consistent with the Council's D&O dated April 28, 2016. Council staff recommends approval of the D&M Plan with the following conditions:

1. Use of off-road construction equipment that meets the latest EPA or California Air Resources Board standards, or in the alternative, equipment with the best available controls on diesel emissions, including, but not limited to, retrofitting with diesel oxidation catalysts, particulate filters and use of ultra-low sulfur fuel; and

2. Compliance with the provisions of Section 22a-174-18(b)(3)(C) of the Regulations of Connecticut State Agencies that limit the idling of mobile sources to 3 minutes.