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Docket No. 508
The United Illuminating Company
Milvon to West River Railroad Transmission Line 115-kilovolt (kV) Rebuild Project
Elmwest S/S, 329 Elm Street, West Haven to West River S/S, 255 Overpass Boulevard, New Haven
Partial Development and Management Plan I – Segment 1

Staff Report
June 2, 2023

Introduction

On August 19, 2022, the Connecticut Siting Council (Council) issued a Certificate of Environmental Compatibility and Public Need (Certificate) to The United Illuminating Company (UI) for the Milvon to West River Railroad Transmission Line 115-kilovolt (kV) Rebuild Project (Project) that traverses the municipalities of Milford, Orange, West Haven and New Haven and consists of the construction, maintenance and operation of a rebuilt 115-kV overhead electric transmission line entirely within approximately 9.5 miles of the existing Connecticut Department of Transportation's (CDOT) Metro-North Railroad (MNR) corridor by relocating existing electric transmission lines from railroad catenary structures to new steel monopole structures and related modifications to facilitate the interconnection of the rebuilt 115-kV transmission lines with UI's existing Milvon, Woodmont, Allings Crossing, Elmwest and West River Substations (Project). In its Decision and Order (D&O), the Council required UI to submit a Development and Management (D&M) Plan in compliance with Sections 16-50j-60 through 16-50j-62 of the Regulations of Connecticut State Agencies (RCSA).

On April 13, 2023, in compliance with RCSA §16-50j-62, UI submitted a Partial¹ D&M Plan (Partial D&M Plan I) for the Project to the Council and the service list. Partial D&M Plan I addresses Segment 1 of the Project that extends for approximately 1.28-miles from Elmwest Substation in West Haven to West River Substation in New Haven.² Pursuant to RCSA §16-50j-61(d), a copy of the D&M Plan was provided to the service list for comment. No comments regarding Partial D&M Plan I were received.

Also on April 13, 2023, UI submitted a Motion for Protective Order (MPO) for the Department of Energy and Environmental Protection (DEEP) Natural Diversity Database (NDDB) Species Protection Plan related to the public disclosure of seasonal construction restrictions in identified species habitats and the location of herpetological exclusionary fencing. During a regular meeting held on April 27, 2023, the Council voted to table the MPO for further review consistent with Connecticut General Statutes §26-313 that allows the DEEP Commissioner to withhold from disclosure the location of any habitat or the location of any protected species. On May 5, 2023, UI withdrew its MPO.

Condition 2 of the Council's D&O requires the following information to be included in the D&M Plan:

- a) **Detailed site plans depicting final transmission line structure heights and identification of locations for the access roads, structure foundations, equipment laydown areas; material staging areas; field office trailers, sanitary facilities and parking;**

Partial D&M Plan I includes detailed site plans including structure heights and identification of locations for the access roads and structure foundations.

¹ Regulations of Connecticut State Agencies §16-50j-60(b) states, "A *partial* or full D&M plan shall be prepared in accordance with this regulation..." (Emphasis added).

² There are four project segments.

UI will rebuild the existing 88003A-2 and 89003B-2 115-kV lines from Catenary Structure B1029 outside Elmwest Substation to Catenary Structure B1049 west of West River Substation. The lines will be installed on double-circuit monopole structures located north of the MNR tracks and mostly within the CDOT corridor. Some single-circuit monopoles are also required to facilitate the connections.

Specifically, one 70-foot single-circuit monopole and 19 double-circuit monopoles (ranging in heights from 75 feet to 130 feet) will be installed within the West Haven portion of Segment 1. Three 120-foot single-circuit monopoles, one 120-foot double-circuit monopole, one 65-foot monopole supporting optical ground wire (OPGW) only, and one 75-foot monopole supporting OPGW only will be installed within the New Haven portion of Segment 1. All structures will be galvanized steel. All but two structures will have concrete drilled pier foundations. Structures P1050NN and P1050NS, located in the vicinity of West River Substation, will be direct embed design.

The two rebuilt 115-kV lines will consist of 1590 kcmil aluminum conductor steel supported (ACSS) “Lapwing” conductors arranged in a vertical configuration and will include 0.583-inch 72 count fiber OPGW to act as shield wire. Shield wire is used for lightning protection. Certain spans adjacent to Elmwest and West River Substations will have 7#7 Alumoweld shield wire in addition to, or in place of, OPGW. Helicopters may be used to install pulling ropes at the commencement of the conductor/OPGW pulling process. Helicopter use, if any, would be determined by the contractors. UI will notify municipal officials in advance of any planned use of helicopters during Project construction.

UI will utilize a combination of public roads and proposed or existing access roads within or adjacent to the CDOT railroad corridor for Segment 1 construction. During construction, temporary access roads will be established both north and south of the MNR tracks in order to install the rebuilt 115-kV transmission lines and remove existing UI infrastructure from the railroad catenary support columns. No new permanent access roads will be required for Segment 1.³

With the exception of access roads that extend across paved areas and certain locations where existing graveled roads will be improved, UI will install timber mats (or equivalent) on all temporary access roads. Temporary access roads will have a typical width of 16 feet. Access roads may be wider in some areas to accommodate equipment turning and passing or to account for safety and existing terrain. Existing paved access is not expected to require significant upgrades. UI will improve existing gravel roads as necessary to support UI’s construction equipment. UI will also utilize anti-tracking pads at entrances and exits to work sites from public roads.

Construction work pads will be required to install the new monopoles, remove existing 115-kV facilities from the northern and southern catenary support structures, and remove existing structures such as monopoles, lattice structures, and W-flange structures that will no longer be needed. Gravel or timber mat work pads will be used to provide a safe, level base for construction equipment as well as locations to temporarily stage materials. Work pads will typically measure 100 feet by 40 feet. In most areas, minimal grading is expected to be necessary to install the work pads. Pull pads will typically measure 300 feet by 40 feet.

³ One new permanent access road, while located within the Segment 2 area in West Haven, will be installed. It will extend off Clark Street and provide construction ingress/egress to the temporary access required to remove existing UI infrastructure from the northern catenary support columns directly east of new Segment 2 monopole P1028N.

On the north side of the MNR tracks, the same work pads used to install the monopoles will (to the extent practical) be used to stage the work to remove existing UI infrastructure from the northern catenary support columns. On the south side of the MNR tracks, work pads that typically measure 60 feet by 40 feet will be required to remove UI infrastructure from the southern catenary support columns.

UI will utilize a contractor yard/staging area at a location to be determined for material laydown and staging, parking for personal vehicles, contractor equipment, construction office trailers, CONEX storage boxes, portable restrooms, and a generator if necessary for on-site power. UI will submit information on the staging/laydown area prior to use of such staging/laydown area.

b) **Detailed site plans for equipment installation/modifications at Milvon, Woodmont, Allings Crossing, Elmwest and West River Substations;**

Partial D&M Plan I includes the modifications to Elmwest Substation and West River Substation that will be performed to interconnect the rebuilt 115-kV lines to the substations and remove existing 115-kV lines.

The Elmwest Substation modifications include, but are not limited to, the installation of two underground all-dielectric self-supporting (ADSS) fibers from new splice boxes located on new monopoles (located south of the MNR tracks and immediately outside the substation fence); new insulators and hardware at the substation termination structures; and new 115-kV conductors and shield wire. UI will remove the existing shield wire, 115-kV conductors, and associated insulators and hardware from the substation termination structures. All Project modifications at West River Substation will be located within the existing fenced substation area.

However, in order to perform the required modifications at Elmwest Substation, UI will remove portions of the northwestern and northeastern substation fence. UI will also install approximately 120 feet of temporary fence south of the permanent fence line (with a 24-foot access gate), and 65 feet of temporary fence along the northeastern portion of the substation. These temporary fences will maintain a secure perimeter around substation equipment while facilitating Project construction activities. Both sections will be removed no later than the completion of Segment 2 construction, and permanent fencing (with a new permanent 24-foot gate) will be installed to restore the existing substation footprint.

The West River Substation modifications include, but are not limited to, the installation of one direct embed monopole on the north side of the MNR tracks to support OPGW only; one direct embed monopole on the south side of the MNR tracks to support OPGW only; OPGW between the two new monopoles; underground ADSS fiber from a new splice box to be located on the new southern monopole to the existing control enclosure; underground ADSS fiber from a new splice box to be located on existing Structure B1050S (south of the MNR racks and immediately outside the substation fence) to the existing control enclosure; new insulators and hardware at the substation termination structures; and new 115-kV conductors. UI will remove the existing 115-kV conductors and associated insulators and hardware from the substation termination structures. All Project modifications at West River Substation will be located within the existing fenced substation. Temporary fencing is not planned for West River Substation.

Modifications to Milvon, Woodmont, and Allings Crossing Substations will be provided in a future Partial D&M Plan.

c) **Decommissioning plan for bonnets;**

Partial D&M Plan I includes a Project-wide Decommissioning Plan for the catenary bonnets which currently support the 115-kV lines on the northern and southern portions of the catenary structures. UI will remove existing 115-kV infrastructure such as bonnets, related hardware, 115-kV line conductors, and OPGW or shield wires.

Specifically, for Segment 1, 27 bonnets will be removed completely and 5 will be cut down to approximately 4 feet above the bonnet connection to support a shield wire to protect the MNR signal and feeder wires. Per its agreement with CDOT, UI will leave existing bonnets in place on 10 catenary support columns in West Haven. UI will transfer the ownership of these bonnets to CDOT.

In addition to bonnet removals and/or modifications, to allow for the construction of the rebuilt 115-kV lines, UI will remove 11 CDOT wood poles from the northern portion of CDOT property in West Haven. UI will also remove two abandoned steel W-flange structures located on either side of the West River and north side of the MNR tracks. UI will also remove an abandoned spur railroad track segment, which is located along the Project route in West Haven.

Most of the existing infrastructure to be removed will be recycled. Materials that cannot be recycled will be disposed of at an appropriate off-site location.

d) **An erosion and sediment control plan, consistent with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control*, as amended;**

Partial D&M Plan I includes a Project-wide Erosion and Sediment Control Plan for erosion and sedimentation control measures (E&S controls) that will be installed in accordance with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control*, the *2004 Stormwater Quality Manual*, the Stormwater Pollution Control Plan (SWPCP), and DEEP Stormwater Permit.

E&S controls will typically include, but not be limited to, straw bales, silt fence, straw wattles, coir logs, diversion swales, anti-tracking pads, temporary access matting, hay bale corrals for management of spoils or concrete washout areas, and erosion control blankets. E&S controls will be inspected and repaired/replaced as necessary until affected areas are stabilized.

UI plans to submit its application for a Stormwater Permit in Spring 2023. Per Condition 3 of the Council's D&O, UI shall obtain such permit prior to commencement of construction.

e) **Results of any further consultations with SHPO and/or the City of Milford regarding historic resources;**

Project-related historic and cultural resource assessments were commissioned by UI and reviewed by SHPO. Segment 1 construction will not adversely impact historic structures or known archaeological sites. Partial D&M Plan I includes Project-wide Procedures for Unanticipated Cultural Resource Discoveries that include, but are not limited to, stopping construction at such location; arranging for UI's cultural resources consultant to review such discovery; and coordinating with SHPO if such discovery is potentially significant.

f) **Identification of wetland and watercourse resources, related temporary construction impacts and methods to reduce such impacts;**

Partial D&M Plan I identifies water resource crossings, construction-related impacts and plans to mitigate such impacts. Both the existing and rebuilt 115-kV lines span the West River, which is the boundary between West Haven and New Haven. No work will be performed in the river. Thus, no watercourses will be impacted by Segment 1 construction. No wetlands will be impacted in New Haven portion of Segment 1.

Construction activities including, but not limited to, vegetative clearing, wood pole removals, temporary access roads, and work pads will be required in three inland wetlands (WH-W11, WH-W12 and WH-W13) and one tidal wetland (WH-TW1) in the West Haven portion of Segment 1. Additionally, three new monopoles (Structures P1043N, P1045N and P1047N) will be installed within inland wetland WH-W13. The impacts to wetlands in the West Haven portion of Segment 1 are identified in the table below:

Volume 2 Map sheet No.	Wetland No.	Estimated Project Impact, by Type (Acres)			
		Temporary Impacts		Permanent Impacts	Permanent Change to Wetland Vegetation Type **
		Access Roads	Work Pads		
4	Wetland WH-W11	0.02	-	-	-
4-5	Wetland WH-W12	0.36	0.32	-	0.03
4-5	Wetland WH-W13	0.28	1.03	0.003 (pole foundation)	0.31
6	Tidal Wetland WH-TW1	-	0.01	-	-
Subtotal Inland Wetland Impacts		0.66	1.45	0.003	0.34
Subtotal Tidal Wetland Impacts		-	0.01	-	-
Total Wetland Impacts		0.66	1.46	0.003	0.34

* No wetlands in New Haven will be affected by Project construction activities.

**Refers to long-term change in wetland vegetation type (e.g., forested to shrub-scrub), but not a net reduction in wetland function or size.

During construction, UI will implement measures to protect wetlands. Specifically, UI will install E&S controls, implement wetland invasive species control procedures, and perform environmental inspections per the SWPCP, Stormwater Permit, and the Project-wide On-Site Environmental Inspection and Monitoring Plan.

After the rebuilt lines are installed and existing 115-kV facilities are removed from the catenaries, all temporary timber mats will be removed from wetlands, and wetlands will be restored to pre-construction conditions to the extent practicable.

g) **Vegetative clearing plan;**

Construction of the Project will require vegetation removal along all access roads and at work pads for new structures and for the removal of existing 115-kV facilities from the railroad catenary structures. The vegetation that must be removed along Segment 1 consists of a mix of tall shrubs and mature trees along with low-growing herbaceous species.

Partial D&M Plan I includes a Project-wide Vegetation Clearing Plan that specifies clearing methods and vegetation management consistent with the construction and operation of overhead

transmission lines per industry and UI standards for conductor clearance. Minimal tree removal will be performed within the New Haven portion of Segment 1; such clearing will be approximately 0.02 acre. Total tree clearing within the West Haven portion of Segment 1 will be less than 10 acres.

Clearing will typically be performed using a combination of equipment including, but not limited to, brush hogs or other mowing equipment, skidders, forwarders, bucket trucks for canopy trimming, feller bunchers for mechanical tree cutting, woodchippers, log trucks, flatbed trucks, and chip vans.

Vegetation of all types will be cleared and roots grubbed to accommodate access roads and work pads as necessary. Grubbing will not be performed in wetland areas except where permanent access roads are required. In wetlands, trees and brush will generally be cut flush with the ground, and stumps will be left in place. Additionally, low-impact clearing methods will be employed in water resource areas such as manual clearing of vegetation.

Danger or hazard trees deemed to be a potential risk to the overhead 115-kV lines may need to be trimmed or removed. If such trees are located on private property outside of a UI easement, UI will coordinate, as required, with the property owner.

The clearing contractor will be responsible for the temporary stockpiling (to be located in uplands only) and disposal of vegetative materials where the wood is not requested to be left for the landowner.

h) **Restoration plan of disturbed areas, including incorporation of areas for pollinator habitat consistent with C.G.S. §16-50hh, if feasible;**

Partial D&M Plan I includes a Project-wide Restoration Plan for re-grading work areas as necessary; removal of temporary work pads and access from wetland areas; re-seeding or allowing natural re-vegetation of wetland areas; removal of temporary work pads and access from upland areas; and removal of E&S controls after final stabilization is achieved for both wetland and upland areas.

In upland areas, where appropriate, UI would utilize seed mixes that serve as habitat or food sources for pollinators. Such seed mixes will be low-growing to be compatible with overhead transmission lines. The seed mixes may include, milkweed, the host plant for the monarch butterfly, as well as grasses, such as little bluestem to provide nesting habitat for pollinators.

i) **A spill prevention control and countermeasures plan;**

D&M Plan I includes a Project-wide Spill Prevention and Control Plan (SPCP) for refueling of vehicles at a minimum of 50 feet from wetlands (unless temporary containment is provided), spill response, cleanup, and reporting procedures.

j) **Wetland Invasive Species Control Plan;**

Partial D&M Plan I includes a Project-wide Wetland Invasive Species Control Plan to avoid or minimize the potential spread of invasive species in wetlands. Measures include cleaning of equipment and any other materials (including wood mats) to remove excess soil, debris, and vegetation before being deployed to the Project ROW as well as cleaning of construction materials that are moved from Project areas known to contain invasive species.

k) **Provisions for on-site environmental inspection and monitoring of the ROW and substations during construction;**

Partial D&M Plan I includes a Project-wide On-Site Environmental Inspection and Monitoring Plan. UI's environmental inspector/monitor will perform the following duties: conducting weekly field inspections (depending on Project activities and state and federal permit obligations) to monitor conformance with D&M Plans as well as USACE, DEEP and SHPO approvals; providing contractor training; coordinating with Project management and contractors; and preparing field monitoring reports consistent with state and federal permit approval requirements.

UI's protected species specialist will perform the following duties: conducting surveys of Project work areas to assess presence/absence of protected species or critical habitat for such species; conducting daily (or as needed) sweeps prior to the start construction; providing contractor training/education; and preparing reports regarding protected species monitoring or observations.

l) **A schedule of construction hours;**

Construction activities are expected to begin for Segment 1 in September 2023 and be completed in approximately 9 months. The rebuilt transmission lines are expected to be in service by the end of second quarter 2024. Project construction will require some line outages of existing electric transmission and distribution lines. Line outages must be coordinated with the Connecticut Valley Electric Exchange (CONVEX).

Construction work will typically occur between 7:00 a.m. and 7:00 p.m., Monday through Saturday. However, certain activities may require work outside of the typical construction hours, in some cases on a 24-hour basis and/or on Sundays. Such non-typical work includes activities that must be performed during a CONVEX-approved outage and/or due to the need to perform construction during off-peak rail use hours.

m) **A blasting plan, if necessary;**

Blasting is not expected to be necessary for the Project. UI plans to utilize mechanical means to remove bedrock as necessary.

n) **Plans to comply with DEEP Natural Diversity Database recommendations to reduce impacts to state-listed endangered, threatened and special concern species; and**

UI received its most recent DEEP NDDDB determination on February 8, 2023. Eight ~~Six~~ listed species may occur within the Project area: Parker's pipewort, a state-listed Endangered species; salt marsh bulrush, a state-listed Species of Special Concern; eastern box turtle, a state-listed Species of Special Concern; northern leopard frog, a state-listed Species of Special Concern; Atlantic coast leopard frog, a state-listed Species of Special Concern; northern diamondback terrapin, a state-listed Species of Special Concern; seaside sparrow, a state-listed Threatened Species; and saltmarsh sharp-tailed sparrow, a state-listed Species of Special Concern.

Partial D&M Plan I includes a Project-wide Species Protection Plan based on DEEP recommendations.

o) **EMF Monitoring Plan.**

Partial D&M Plan I includes a Project-wide Post-Construction Electric and Magnetic Field Monitoring Plan (EMF Monitoring Plan). UI will perform measurements to verify the efficacy of prior modeling and perform profile measurements to document the actual post-construction magnetic field levels at various distances from the CDOT railroad corridor. UI has selected the following locations for verification and profile measurements:

EMF Monitoring Site No.	Municipality	Location Type	Location
1	Milford, CT	Model Verification	409 Woodmont Road
2	Milford, CT	Profile	East of 33 Railroad Avenue
3	Milford, CT	Profile	40 Railroad Avenue
4	Milford, CT	Profile	Heenan Drive and McQuillan Drive
5	West Haven, CT	Profile	East of 30 Railroad Avenue
6	West Haven, CT	Profile	North Union Avenue & Bishop Street

Within 12 months of the in-service date (i.e. energization of all rebuilt 115-kV lines between Milvon Substation and West River Substation), UI will submit a report to the Council.

Conclusion

Partial D&M Plan I is in compliance with the Council's D&O dated August 19, 2022.

If approved, staff recommends the following conditions:

1. Submission of staging/laydown area(s) and provisions for erosion and sedimentation controls, if necessary, at the staging/laydown area(s) prior to commencement of construction; and
2. Submission of the name and contact information for the spill response contractor prior to commencement of construction.