

DOCKET NO. 516 – The United Illuminating Company (UI) application for a Certificate of Environmental Compatibility and Public Need for the Fairfield to Congress Railroad Transmission Line 115-kV Rebuild Project that consists of the relocation and rebuild of its existing 115- kilovolt (kV) electric transmission lines from the railroad catenary structures to new steel monopole structures and related modifications along approximately 7.3 miles of the Connecticut Department of Transportation’s Metro-North Railroad corridor between Structure B648S located east of Sasco Creek in Fairfield and UI’s Congress Street Substation in Bridgeport, and the rebuild of two existing 115-kV transmission lines along 0.23 mile of existing UI right-of-way to facilitate interconnection of the rebuilt 115-kV electric transmission lines at UI’s existing Ash Creek, Resco, Pequonnock and Congress Street Substations traversing the municipalities of Bridgeport and Fairfield, Connecticut.

} Connecticut

} Siting

} Council

February 15, 2024

Opinion

Introduction

On March 17, 2023, pursuant to the Public Utility Environmental Standards Act, The United Illuminating Company (UI) applied to the Connecticut Siting Council (Council) for a Certificate of Environmental Compatibility and Public Need for a 115-kilovolt (kV) electric transmission rebuild project that traverses the municipalities of Fairfield and Bridgeport and consists of construction, maintenance and operation of a rebuilt 115-kV overhead electric transmission line along approximately 7.3 miles of the existing Connecticut Department of Transportation’s (DOT) Metro-North Railroad (MNR) corridor and rebuilt 115-kV overhead electric transmission line along 0.23 mile of existing UI right-of-way (ROW) 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 Ash Creek, Resco, Pequonnock, and Congress Street substations. Collectively, the proposed project is referred to as the Fairfield to Congress Railroad Transmission Line 115-kV Rebuild Project (Project).

The Council may grant an application upon such terms, conditions, limitations or modifications of the construction or operation of the facility as it deems appropriate. If the Council determines that the location of all or a part of the proposed facility should be modified, it may condition the certificate upon such modification, provided the municipalities affected by the modification and the residents of such municipalities shall have had notice of the application pursuant to C.G.S. §16-50l. Notice of the application was provided pursuant to C.G.S. §16-50l. Notice of the public hearing on the application was provided pursuant to C.G.S. §16-50m. The application and the hearings held on it evaluated several alternatives, including, but not limited to, alternatives on the north side of the railroad ROW.

Public Need

The purpose of the Project is to address the age-related physical limitations of two existing UI-owned and operated electric transmission lines located on bonnets attached to railroad catenary structures that are owned by the DOT and operated by MNR, and rebuild the electric transmission lines on monopole structures to be owned and operated by UI to meet current National Electrical Safety Code (NESC) and UI standards to maintain the reliability of the bulk transmission grid.

UI conducted engineering analyses in 2018 known as the Fairfield to New Haven Railroad Corridor Transmission Line Asset Condition Assessment (Asset Condition Assessment), that included the 115-kV

transmission lines between Catenary Structure B648S and Congress Street Substation. The Asset Condition Assessment included field observations of the catenaries and evaluation of the asset condition of the catenaries, given the existing railroad mechanical loading, as well as the age of both the bonnets and the catenaries. The engineering analyses found age-related asset condition issues for the existing bonnet support system for the UI transmission lines including, but not limited to, loss of structural steel thickness, missing structural members, corrosion expansion, and exposed anchor bolts.

Subsequently, UI identified and evaluated alternative solutions for upgrading the lines, and determined that, to maintain the reliability of the bulk power grid, the 115-kV lines must be relocated off of the bonnets attached to the catenaries and rebuilt using new monopoles, conductor, and optical ground wire (OPGW). Furthermore, UI concluded that the 115-kV lines must be rebuilt to meet current NESC and UI standards, which include, but are not limited to, the ability to withstand a Category 3 hurricane wind loading that ranges from 111 to 129 miles per hour. To date, UI has removed its 115-kV electric transmission lines from the railroad catenaries along approximately 6 miles of the railroad ROW in Bridgeport, Stratford and Milford.

The ISO-New England, Inc. (ISO-NE) Regional System Plan (RSP) Asset Condition List is a summary of pool transmission facilities¹ (PTF) in the region that must be rebuilt or modified due to their condition, age, or physical deterioration to comply with the updated NESC standards and have a PTF cost of at least \$5M. The Project is identified on the March 2023 ISO-NE RSP Asset Condition List² due to the physical deterioration of the catenaries and the bonnets to which the transmission lines are attached. ISO-NE does not perform asset condition assessments on behalf of the transmission owners. Asset condition projects are identified by the transmission owners who have an ongoing obligation to identify degraded assets and to implement necessary replacements or upgrades. As part of this ongoing obligation, UI independently performed its Asset Condition Assessment.

Publicly available ISO-NE transmission studies recognize that incremental upgrades associated with “right-sizing” transmission line projects to combine rebuilds necessitated by increased loads with replacements designed to meet asset condition needs provide more cost-effective opportunities. Southwest Connecticut is identified as a high-likelihood system concern due to its location in the corner of the New England power system. Therefore, upgrading the capacity of lines as the opportunity arises could be a financially prudent way for New England to reliably serve increased peak loads.

The state energy policy is essential to the preservation and enhancement of the health, safety and general welfare of the people of the state and its implementation therefore constitutes a significant and valid public purpose for all state actions. Connecticut’s Comprehensive Energy Strategy proposes further investments in grid reliability for the purposes of resource adequacy, transmission security and distribution resiliency. The Council notes that utilizing separate monopole structures for UI’s transmission lines to meet applicable codes and harden against Category 3 hurricane wind loading would improve transmission security.

Based on the record of this proceeding, the Council finds that there is a public need for the rebuilt electric transmission facilities. The facilities conform to a long-range plan for expansion of the electric systems serving the state and interconnected utility systems and will serve the interests of electric system economy and reliability.

¹ ISO-NE is responsible for the operation of Pool Transmission Facilities (PTFs) which include bulk electric system facilities. Bulk electric system includes transmission elements operated at 100 kV or higher and real power and reactive power resources connected at 100 kV or higher.

² The Project remains identified on the March 2023 ISO-NE RSP Asset Condition List.

In 1991, the Council issued Eversource and UI a joint Certificate for the existing overhead 1130 Line to install single-circuit monopoles along approximately 15.1 miles on the north side of the railroad ROW between UI's Pequonnock Substation and Eversource's Ely Avenue Junction in Norwalk to provide additional transmission service to southwest Connecticut. In 2015, the Council issued UI a declaratory ruling for the Bridgeport-Stratford 115-kV Transmission Line Upgrade Project to install steel monopoles along approximately 2.3 miles of the railroad ROW between Congress Substation in Bridgeport and Baird Substation in Stratford due to physical limitations associated with the catenary support structures and bonnets. In 2022, the Council issued UI a Certificate for the Milvon to West River Railroad Transmission Line 115-kV Rebuild Project to install steel monopoles along approximately 9.5 miles of the railroad ROW due to physical limitations associated with the catenary support structures and bonnets.

The proposed rebuilt electric transmission facilities are part of UI's Asset Condition Assessment and are listed in UI's March 1, 2023 *Ten-Year Forecast of Loads and Resources Report* as a planned 115-kV electric transmission line facility upgrade due to asset condition needs. Additionally, the Project has the potential to support the transmission of energy from offshore wind projects, by supporting power flows and service to Connecticut customers on the proposed UI replacement transmission lines.

Project Cost and Cost Allocation

The estimated capital cost of the proposed Project (Alternative 1) is as follows:

Total Construction	\$123,500,000
Allowance for Funds used During Construction and Overhead Land Rights	\$78,200,000
Land Rights	\$32,200,000
Materials	\$10,700,000
<u>Engineering Design and Permitting</u>	\$10,400,000
Total	\$255,000,000

Neither the Project, nor any portion thereof, is proposed to be undertaken by state departments, institutions or agencies or to be funded in whole or in part by the state through any grant or contract. The entire cost of the proposed Project would be regionalized with Connecticut ratepayers responsible for approximately 25 percent of the Project cost. This is because the proposed Project is considered the least cost alternative in terms of ISO-NE cost allocation. Any incremental costs (cost delta) beyond the least cost alternative as identified by ISO-NE (i.e. the proposed Project) would be expected to be paid by Connecticut ratepayers.

Pending a final determination from ISO-NE, total costs of the proposed Project are expected to be allocated³ as follows:

Connecticut ratepayers ⁴	25%	(\$ 64 million)
<u>Other New England ratepayers⁵</u>	75%	(\$191 million)
Total Cost		100% (\$255 million)

UI's estimated cost to install the Project underground within public streets from Structure P648S to Congress Street Substation is approximately \$1 billion. This estimate is based on approximately 9.14 linear miles. The Council believes that this estimate may be overstated and notes that UI's Docket 508 all-

³ These allocations are estimates based on 2021 actual loads.

⁴ Connecticut ratepayers are comprised of UI, Eversource, Connecticut Municipal Electric Energy Cooperative, and Town of Wallingford electrical service customers located within Connecticut.

⁵ Electrical service customers located within New England but outside of Connecticut.

underground alternative within public streets cost projection was approximately \$3.4 billion based on a length of 11.5 linear miles. UI's \$1 billion estimate appears to be more in line with its prior Docket 508 projection for an all-underground alternative along the north side of the railroad ROW that was approximately \$1.6 billion and its projection for an all-underground alternative along the south side of the railroad ROW that was approximately \$1.4 billion.

SCNET Group estimates that a single-circuit underground configuration would cost \$157 million and estimates that a double-circuit underground configuration would cost \$182 million. The Town estimates that a double-circuit underground configuration would cost \$200 million or \$27.1 million per mile. The Council believes that these estimates may be understated as they appear to be even less than the least cost alternative or proposed overhead configuration of \$255 million.

Project Alternatives

A "no-action" alternative would not resolve the known asset condition issues associated with the existing 115-kV lines on top of the catenaries. It would not allow conformance with current NESC and UI standards, and the existing 115-kV lines would continue to be at risk for structural failures associated with mechanical loadings or stress associated with major weather events such as hurricanes. This could lead to extended duration outages that would adversely affect electrical customers and the bulk power system. Additionally, DOT does not support the "no-action" alternative as it is inconsistent with plans to improve railroad service and requires coordination between UI and DOT for any maintenance on the railroad or the electric transmission lines.

UI evaluated four overhead transmission alternatives:

- a) Install new single-circuit and double-circuit monopoles along the railroad corridor. Single-circuit monopoles would generally be installed to support 115-kV lines that are currently located on catenary bonnets on the south side of the tracks within Fairfield and western Bridgeport. Double-circuit monopoles would be used to support 115-kV lines that are currently located on catenary bonnets on the north and south sides of the tracks in Bridgeport. This is the proposed Project (Alternative 1);
- b) Install new single-circuit monopoles to support 115-kV lines that are currently located on catenary bonnets on the south side of the tracks within Fairfield and western Bridgeport and both north and south sides of the tracks in portions of Bridgeport. The new monopoles would be installed within or near both sides of the railroad ROW depending on the location (Alternative 2);
- c) Perform structural modifications to the existing catenaries/bonnets on the south side of the tracks within Fairfield and western Bridgeport and both north and south sides of the tracks in portions of Bridgeport to allow existing 115-kV lines to generally remain. In Bridgeport where 115-kV lines are located on catenary bonnets on the north and south sides of the tracks, one 115-kV circuit would be rebuilt onto single-circuit monopoles (Alternative 3); and
- d) Rebuild the existing catenaries/bonnets to completely correct all structural deficiencies to continue to support both 115-kV lines on bonnets (Alternative 4)

Alternatives 3 and 4 were rejected by UI and DOT due to the extensive structural modifications to upgrade the existing catenary structures and UI bonnets that would be required.

UI evaluated two overhead alternatives associated with the existing 1130 Line on the north side of the railroad ROW. One alternative involved modification to the existing 1130 Line to support a double-circuit configuration and the other alternative involved rebuilding the existing 1130 Line to support a double-circuit configuration. UI eliminated these alternatives from consideration due to cost, line outages

associated with the construction process, and potential connection issues to the Eversource transmission system that would require coordination with Eversource.

UI evaluated an underground transmission alternative within the railroad ROW, but this was rejected because DOT does not allow longitudinal underground utility occupations within the railroad ROW. UI also evaluated an underground transmission alternative within public streets, but this was rejected based on its \$1 billion cost projection.

During the proceeding, the following additional alternatives suggested by the Council were explored:

- a) Double-circuit Overhead Transmission North of the Railroad Tracks from Catenary Structure B648S to Ash Creek Substation Connection (Hannon-Morissette Alternative); and
- b) Single-circuit Underground Alternative from B648S to Ash Creek Substation Connection (SCU Alternative).

The SCU alternative was rejected because of a projected total cost of approximately \$488 million.

The Hannon-Morissette Alternative has a projected total cost of approximately \$322 million. While not the least cost alternative, this alternative has a cost delta of approximately \$66 million, or an approximately 26 percent increase over the least cost alternative, which is the second lowest cost delta⁶ as compared to other alternatives identified in the cost tables.

Based on the record of this proceeding, the Council finds the cost of any underground configuration would result in an unreasonable economic burden on the ratepayers of the state. Among the alternatives explored in the application and during the proceeding, the Council finds that the rebuilt electric transmission facilities shall be located overhead along the entire route because they are cost effective and the most appropriate alternative based on a life-cycle cost analysis of the rebuilt electric transmission facilities and underground alternatives, and they are consistent with the purposes of PUESA.

Therefore, the Council will issue a Certificate for the Hannon-Morissette Alternative. As a condition of the Certificate, UI shall submit the remaining portion of the 1130 line to be rebuilt from between approximately P714WS (Ash Creek Connection) eastwards to approximately TP734S (near I-95) as a separate petition for a declaratory ruling.

Project Description

The Project area, and associated one-mile radius study areas, encompass the locations of UI's existing transmission facilities and proposed rebuilt transmission facilities from Catenary Structure B648S to Congress Street Substation. It contains existing UI transmission facilities located on bonnets on top of the catenary structures or on independent monopole, lattice or other types of structures located both north and south of the railroad ROW, including, but not limited to, UI's 1130 Line.

The proposed Project entails the installation of rebuilt 115-kV electric transmission lines and related improvements as listed below:

- a) Rebuild the existing 115-kV lines located on top of the railroad catenary bonnets between catenary structure B648S in Fairfield to Congress Street Substation in either single-circuit or double-circuit configurations, supported on galvanized steel monopole structures, and including OPGW;

⁶ Alternative 2 has a cost delta of about \$24 million.

- b) Connect the rebuilt 115-kV lines to UI's existing Ash Creek and Congress Street Substations, perform minor associated modifications within the substation boundaries and install single-circuit and double-circuit monopoles as necessary to maintain the existing 115-kV connections to the substations, and decommission and remove 115-kV facilities on existing lattice towers;
- c) Interconnect the rebuilt lines to the Resco Tap, located adjacent to the CDOT corridor, and replace the tap line shield wire with OPGW; and
- d) Decommission and remove the existing 115-kV facilities on the catenaries.

Easements

Project construction, maintenance and operation, whether in an overhead configuration to the north or south of the railroad ROW, or in an underground configuration along the railroad ROW or within public streets, requires acquisition of temporary and permanent easements. Easement dimensions would be refined during final design and incorporated into the D&M Plan. UI would negotiate with property owners for easement acquisitions, but if negotiations are unsuccessful, UI would initiate eminent domain proceedings. Several intervenors indicated that they would not negotiate with UI. If a property owner disputes the need for UI to acquire residential property, the owner of the property may bring the issue of the purpose for which the property is being acquired to the Council within 30 days of UI's notice to the property owner.

Structure Locations

For the proposed Project, Structures P723S and P724S would be located on BJ's Wholesale Club, Inc.'s (BWC) property. To minimize impacts to BWC's loading dock, parking deck and business operations, the Council believes that it would be prudent to relocate Structures P723S and P724S off of the BWC property and onto the railroad ROW. The Council has no preference for a dead-end versus a suspension type structure configuration for Structure P724S because the cost deltas of \$72,000 and \$60,000, respectively, are small relative to the total cost of the Project. There is no additional cost associated with relocating Structure P723S. UI is also willing to relocate Structures P723S and P724S. Thus, to minimize impacts to BWC's loading dock, parking deck and business operations, the Council will require that UI's D&M Plan include plans to relocate Structures P723S and P724S (as a deadend structure or a suspension type structure) fully off of the BWC property and onto the railroad ROW, and include plans to avoid access across the BWC parking deck, or alternatively, if the parking deck must be accessed by UI equipment, include a structural review/analysis stamped by a Professional Engineer duly licensed in the State of Connecticut.

Proposed Structure P671S would be located in the southern portion of the railroad ROW proximate to an existing groundwater containment system. If Structure P671S is moved approximately 250 feet to the west, it would not be expected to have an adverse impact on the existing groundwater containment system. The Hannon-Morissette Alternative, located north of the railroad ROW, would avoid the need for Proposed Structure P671S and its relocation.

Proposed Structure P689S was planned to be shifted about 18 feet to the west to take into account a new pad-mounted transformer and accommodate space for emergency services access to the western side of the Fairfield Station Lofts building. The Hannon-Morissette Alternative, located north of the railroad ROW, would avoid the need for Proposed Structure P689S and its relocation.

Substations

To connect the rebuilt 115-kV lines to Ash Creek Substation, the three existing double-circuit lattice towers between the railroad tracks and the substation fence would be removed and replaced by two single-circuit monopoles along with new conductor and OPGW. One new approximately 45-foot tall direct embedded

monopole would be installed within the fenced Ash Creek Substation to support the OPGW. New underground fiber optic cable would be installed to the connect the fiber at the OPGW splice box to the control enclosure.

To connect the rebuilt 115-kV lines to Congress Street Substation, new conductor and OPGW would be installed up to an existing double-circuit steel monopole within the fenced substation. New conductor and OPGW would replace the existing conductor and shield wire. New underground fiber optic cable would be installed to the connect the fiber at the OPGW splice box to the control enclosure.

The modifications to be performed at Resco Substation are related to the replacement of existing shield wire with OPGW. New underground fiber optic cable would be installed to the connect the fiber at the OPGW splice box to the control enclosure.

The Project requires hardware modifications to the approved Structures P766N and P767S to ensure proper phasing. Such modifications would be performed inside the fenced replacement Pequonnock Substation.

Project Construction Procedure

Pursuant to CGS §22a-430b, DEEP retains final jurisdiction over stormwater management and administers permit programs to regulate stormwater discharges. DEEP regulations and guidelines set forth standards for erosion and sedimentation control, stormwater pollution control and best engineering practices. The DEEP General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (General Permit) requires implementation of a Stormwater Pollution Control Plan (SWPCP) to prevent the movement of sediments off construction sites into nearby water bodies and to address the impacts of stormwater discharges from a proposed project after construction is complete. In its discretion, DEEP could require an Individual Permit for discharges and hold a public hearing prior to approving or denying any General or Individual Permit (Stormwater Permit) application.

The SWPCP incorporates project designs consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control (2002 E&S Guidelines) and the *2004 Connecticut Stormwater Quality Manual* (2004 Stormwater Manual). DEEP has the authority to enforce proposed project compliance with its Individual or General Permit and the SWPCP, including, but not limited to, the installation of site-specific water quality protection measures in accordance with the 2002 E&S Guidelines and 2004 Stormwater Manual.

The Project would require a DEEP-issued Stormwater Permit prior to commencement of construction activities. The Council will require UI to submit a copy of the DEEP-issued Stormwater Permit prior to commencement of construction activities.

Normal work hours for the proposed Project would be 7 AM to 7 PM Monday through Saturday. Construction may occur on nights and Sundays as necessary to perform work during non-peak railroad use periods in order to minimize impacts to the rail system. Continuity of service of the distribution customers served by the substations would be maintained. Project construction is anticipated to commence in the first quarter of 2025 with an estimated in-service date of approximately May 2028.

Environmental Effects and Mitigation Measures

The Project is located along the MNR corridor. The edges of the railroad corridor are interspersed with mature mixed deciduous hardwood trees among narrow strips of primarily non-native, shrub/scrub invasive vegetation, escaped ornamentals associated with residential landscaping, and species common to freshwater and tidal wetlands. Elevations along the railroad corridor range from at or near sea level to approximately

40 feet above mean sea level (amsl), with the highest point located in Fairfield. The lowest points are located in both Fairfield and Bridgeport.

Air Quality

Construction of the rebuilt electric transmission facilities would result in short-term and localized effects on air quality associated with construction equipment and vehicles as well as from fugitive dust emissions generated during earth moving and drilling activities. Operation of the facilities would not result in adverse impacts to air quality.

Water Quality

A total of 10 wetland areas were delineated at the site. The Hannon-Morissette Alternative would avoid Wetlands W-B and W-F. This alternative would require the removal and replacement of an existing single-circuit structure located within Wetland W-C. No vernal pool habitat is located in the vicinity of the Project area. UI would coordinate with DEEP and/or the US Army Corps of Engineers and obtain the necessary authorizations for proposed activities in wetlands. Also, the Council will require that UI include a final Wetland Invasives Species Control Plan to be included in the D&M Plan.

The Project area extends across a total of 14 watercourses: 12 perennial watercourses, one intermittent stream, and one ephemeral drainage. UI would utilize the measures to minimize potential impacts on watercourses including, but not limited to, anti-tracking pads; procedures to avoid/minimize structure foundation concrete from entering watercourses; and maintaining or selectively cutting existing riparian vegetation within 25 feet of watercourse banks.

Construction of the rebuilt transmission facilities does not include any activities within the DEEP Long Island Sound Blue Plan Policy Area.

From Catenary Structure 648S to the Ash Creek Substation Connection, the proposed Project would have 9 monopoles located within the 100-year (or 1 percent) flood zone and 4 monopoles located within the 500-year (or 0.2 percent) flood zone. The Hannon-Morissette Alternative would include a total of 5 monopoles within the 100-year flood zone and 10 monopoles within the 500-year flood zone. The Council notes that this would reduce the number of poles and flood zone impact area within the 1% (or slightly higher probability) flood zone and increase the number of poles and flood zone impact area within the 0.2% (or slightly lower probability) flood zone. Thus, the Hannon-Morissette Alternative, located north of the railroad ROW, would reduce overall flood impact risks relative to the equivalent route portion of the proposed Project.

There are no DEEP-designated Aquifer Protection Areas (APAs) near the Project area. The nearest APA is located in the Town of Westport, approximately 3 miles northwest of the proposed transmission line route.

Groundwater encountered during construction would be managed in accordance with the SWPCP and Materials Management Plan (MMP). The Council will require that the MMP be included in the D&M Plan.

Fish, Aquaculture and Wildlife

Two federally-listed species may be present within the Project area: northern long-eared bat (NLEB), a federally-listed and state-listed Endangered Species; and the red knot, a federally-listed Threatened Species. UI has run the data version of the U.S. Fish and Wildlife Service (USFWS) NLEB determination key, and results indicate no effect on NLEB. Notwithstanding, UI will further consult with USFWS's Information

Planning and Consultation as part of the permitting process. Additionally, the Project area is not located within 150 feet of a known occupied maternity roost tree or within 0.25-mile of a known NLEB habitat resource. The nearest NLEB habitat resource to the Project area is located over 15 miles to the west in the Town of Greenwich.

Construction of the rebuilt transmission facilities is not expected to affect the red knot because the red knot is a shorebird associated with coastal habitats. Such habitats are not located along or near the railroad corridor or UI's ROW to Ash Creek Substation.

Based on a review of the DEEP Natural Diversity Database (NDDDB) for state endangered, threatened or special concern species and ongoing consultations with DEEP, two state-listed species were identified as potentially occurring within or proximate to the Project area: peregrine falcon, a state-listed Threatened Species; and the blueback herring, a state-listed Species of Special Concern.

The Council will require plans to comply with DEEP NDDDB recommendations for both species in the D&M Plan. The Council will also require that the D&M Plan include plans to implement protective measures for the peregrine falcon and blueback herring and written confirmation from DEEP for any in-water work, including, but not limited to the barge, to ensure the protection of the blueback herring. Additionally, the Council will require that the D&M Plan include plans to install a new pole or platform for osprey nesting in the area of the island in Ash Creek.

Scenic, Historic and Recreational Values

The Project and the Hannon-Morissette Alternative are consistent with the Federal Energy Regulatory Commission (FERC) Guidelines for the Protection of Natural, Historic, Scenic and Recreational Values in the Design and Location of Rights-of-Way and Transmission Facilities as it utilizes existing rights-of way within a railroad corridor to minimize conflicts with existing and future land uses.

There are no state or locally-designated scenic roads located within the one-mile Study Area. The Project area is not located proximate to any DOT designated Scenic Land Strips.

The closest publicly accessible recreational resource is Jennings Park in Fairfield, located approximately 0.01-mile southeast of the proposed Project area.

The MNR corridor is eligible for listing on the National Register of Historic Places (NRHP). However, the State Historic Preservation Office (SHPO) does not object to UI's plans to remove or modify the bonnets supporting the existing electric transmission facilities provided that the catenary structures are unaffected.

A Phase 1A Cultural Resources Assessment Survey was performed in 2022 and identified 13 properties/districts listed on the NRHP within 500 feet of the railroad ROW. These properties/districts are as follows:

- a) Southport Historic District – Fairfield;
- b) Southport Railroad Westbound and Eastbound Stations, 96 Station Street and 100 Center Street, Fairfield;
- c) Fairfield Railroad Stations – off Unquowa Road, Fairfield;
- d) David Perry House – 531 Lafayette Street, Bridgeport;
- e) Barnum Museum - 820 Main Street, Bridgeport;
- f) United States Post Office – 120 Middle Street, Bridgeport;
- g) Connecticut Railway & Lighting Company Car Barn, 55 Congress Street, Bridgeport;
- h) Pequonnock River Railroad Bridge – Grand Street, Bridgeport;
- i) Bridgeport Downtown South Historic District – Bridgeport;

- j) Bridgeport Downtown North Historic District – Bridgeport;
- k) Railroad Avenue Industrial District – Railroad Avenue, Bridgeport;
- l) Division Street Historic District – Bridgeport; and
- m) Barnum-Palliser Historic District – Bridgeport.

The Phase 1A Report also identified six previously identified archaeological sites within 500 feet of the railroad ROW. By letter dated October 31, 2022, SHPO recommended that timber matting should be utilized in the vicinity of archaeological Sites 15-2 and 15-3, or alternatively, an archeologist should be on site for any excavation performed between proposed Structures 775S and 779S. UI would perform archaeological monitoring at the monopole locations in lieu of shovel testing.

SHPO also recommended a Phase 1B Survey due to 12 proposed structures having the potential to contain intact archeological deposits: P657S, P659S, P739N, P740N, P742N, P743N, P744N, P744EN, P745N, P745S, P746S, and P748S. UI would utilize a vacuum soil removal technique in lieu of a traditional Phase 1B shovel test. The Council notes that the Hannon-Morissette Alternative would avoid proposed Structures P657S and P659S.

The 0.5-mile study area for visual impacts (APE-VE) under the Federal Communications Commission (FCC) *National Programmatic Agreement Regarding the Section 106 National Historic Preservation Act Review Process* (NPA) for new cellular tower installations under 200 feet was selected by SHPO. There are no review guidelines for the replacement of transmission lines. While the FCC NPA does not strictly apply to the replacement of transmission lines, the Project structure heights would be taller than the existing structures, and the FCC NPA provides a basis from which to review potential effects on above-ground historic resources. Accordingly, SHPO requested that UI expand its study area from 500 feet to 0.5 mile.

On or about June 29, 2023, UI submitted supplemental information to the Phase 1A Report including photo-simulations of the proposed monopoles from historic structures. The photo-simulations correspond to certain previously identified NRHP, State Register of Historic Places, and Local Historic Districts identified within 0.5-mile of the railroad ROW.

SHPO reviewed the June 29, 2023 supplemental information to the Phase 1A Report and determined that there would be an adverse indirect effect on viewsheds, and additional consultation between UI and SHPO regarding mitigation plans should occur prior to construction of the rebuilt transmission facilities.

The Council notes that the Hannon-Morissette Alternative would double-circuit the 1130 Line and the 1430 Line north of the railroad ROW, which is at a greater distance from the Southport Historic District and the Fairfield Historic District. The Council will require that UI submit the results of any further consultations with SHPO regarding any additional mitigation measures for historic resources in the D&M Plan.

Visibility

The existing UI infrastructure is visible year-round from approximately 2,424 acres (or 20.9% of the one-mile Study Area) and seasonally visible from about 431 acres (or 3.7% of the Study Area). Visibility of the existing transmission infrastructure generally extends to distances within 0.25 mile to 0.5 mile of the railroad ROW. At the eastern and western ends of the Project area and to the south, views extend over undeveloped, open water and marsh to beyond 1.0 mile.

Based on the final viewshed analysis, the proposed Project would be visible year-round from approximately 2,843 acres (or 24.5% of the Study Area) and seasonally visible from about 687 acres (or 5.9% of the Study Area). At distances greater than 0.5 mile from the Project area, the tops of the new transmission line structures would not be prominent features, particularly with the amount of intervening existing

infrastructure common within the Project area. While some locations would experience changes in visibility from existing conditions due to the relocation and modified heights of new structures, these visual effects would be balanced by the removal of bonnets and other supporting infrastructure, particularly along the southern side of the railroad corridor.

For the Hannon-Morissette Alternative, involving use of double-circuit structures from Catenary Structure 648S and Ash Creek Substation Connection, the existing UI infrastructure for this portion of the transmission route is visible year-round from approximately 761 acres (11.0% of the Study Area) and seasonally visible from about 600 acres (8.7% of the Study Area).

The Hannon-Morissette Alternative would include structures approximately 20 to 25 feet taller than the existing structures. The Hannon-Morissette Alternative would not appreciably reduce the indirect visual impacts south of the railroad ROW, relative to the proposed Project. However, the Council notes that this alternative would increase the distance by shifting the transmission facility centerline to the north by approximately 84 feet, subject to existing railroad ROW width and other factors. While Alternative 2 has a total cost of \$279 million and thus a lower cost delta than the Hannon-Morissette Alternative, the Council believes that the Hannon-Morissette Alternative has the advantage of providing more distance from the transmission facilities to residential and historic areas to the south.

Forest and Parks

The Project area is not located proximate to any state parks. There are no “blue-blazed” hiking trails maintained by the Connecticut Forest and Park Association within one-mile of the Project route.

Agriculture

The proposed Project site includes a total of less than 0.10 acres of prime farmland soil. These soils are not located in areas of agricultural zoning nor are they being actively farmed.

Vegetation

UI would manage vegetation in compliance with North American Electric Reliability Corporation (NERC) Transmission and Vegetation Management Operating Procedures to prevent vegetation-related outages under various weather and operating conditions. For the DOT ROW, a minimum of 25-foot clearance from conductors is required.

Total tree clearing for construction activities for the originally proposed Project was approximately 6.5 acres. The Hannon-Morissette Alternative would result in a net increase in tree clearing of approximately 0.5 acre, for a total of about 7.0 acres. This does not include any clearing necessary for temporary access roads or work pads that may be located outside of the double-circuit UI easement boundary.

In accordance with C.G.S. §16-50hh, the Council recommends UI incorporate habitat for the benefit of pollinators such as moths, butterflies and bees in its restoration plan for disturbed areas, where feasible. The Council will require the submission of a vegetative clearing plan as part of the D&M Plan.

Public Health and Safety

The rebuilt electric transmission facilities would be constructed in compliance with the NESC, standards of the Institute of Electrical and Electronic Engineers, the American National Standards Institute, good utility practice, and UI's technical specifications. The 2023 NESC became effective in Connecticut on February 1, 2023. Given that the design of the proposed Project commenced in early 2021, it was designed

to the 2017 NESC. Notwithstanding, the Council notes that Eversource's Norwalk Bridge Transmission Relocation Project will comply with the 2023 NESC. Accordingly, the Council will require that UI include plans to construct the rebuilt electric transmission facilities in accordance with the 2023 NESC in the D&M Plan.

The Federal Aviation Administration (FAA) issued Determinations of No Hazard to Air Navigation (No Hazard Determinations) which indicated that the proposed structures do not exceed obstruction standards and lighting or marking would be required. UI indicated that, if Project design modifications result in any increased monopole heights that exceed obstruction standards, UI would consult with FAA as necessary to seek to update and/or extend the No Hazard Determinations. UI would also file with FAA for review of temporary structures such as cranes. Accordingly, given the increase in structure heights of about 20 to 25 feet along the Hannon-Morissette Alternative portion of the route, the Council will require that UI include updated FAA review of structures as necessary in the D&M Plan.

UI expects only minor and short-term construction-related noise from the Project. Construction noise is exempt from the DEEP Noise Control Regulations. The Council will require that UI demonstrate compliance with DEEP Noise Control Standards for operation of the rebuilt electric transmission facilities in the D&M Plan.

For the installation of new foundations within the DOT ROW, UI would coordinate with DOT/MNR to determine appropriate drilling methods to avoid any potential for impacts to the rail bed. If blasting is required, UI would consult with DOT and MNR prior to securing approvals for any Blasting Plans.

Electric and Magnetic Fields

UI included a review of electric and magnetic fields (EMF) in the application. In accordance with the Council's *Electric and Magnetic Fields Best Management Practices for the Construction of Electric Transmission Lines in Connecticut*, UI reviewed current literature to determine if there were new developments or guidelines related to EMF exposure. No changes were identified. Additionally, UI developed a Field Management Design Plan (FMDP) to investigate cost effective ways to minimize MF levels resulting from the rebuilt transmission facilities. Consistent with the FMDP, the Hannon-Morissette Alternative, with its double-circuit structures, would utilize optimal phasing of the two circuits such that the MF generated by one line effectively cancels MF from the other line. For the Catenary Structure 648S and Ash Creek Substation Connection portion of the route, there would be a decrease in overall MF levels relative to either the existing or proposed configurations. This includes a decrease in maximum MF levels, a large decrease in MF levels on the south side of the tracks, and a smaller decrease in MF levels on the north side of the tracks.

The closest residential structure to the proposed rebuilt transmission facilities is the Windward apartment building at 20 Johnson Street, Bridgeport. This residential structure is located along the proposed route, but east of the Hannon-Morissette Alternative portion of the route. Thus, the Council believes that EMF Mitigation Option 1 would provide a significant MF reduction both on the ground and at roof level of the building for a reasonable cost delta of about \$31,000. Upon review of all MF data provided, the Council finds the MF levels associated with the rebuilt electric transmission facilities to be well below recommended MF exposure standards from research groups.

The Hannon-Morissette Alternative would render MF mitigation options at 79 Unquowa Place in Fairfield in the vicinity of Fairfield Station Lofts property unnecessary because both lines would be located north of the railroad ROW in that area. Thus, the Council believes that the Hannon-Morissette Alternative is the superior overhead configuration in terms of overall MF mitigation.

Conclusion

The Council finds that there is a public need for the rebuilt electric transmission facilities as it is necessary for the reliability of the electric power supply of the state, serves the interests of electric system economy and reliability, and conforms to a long-range plan for resiliency of the electric systems serving the state and interconnected utility systems.

The Council has examined the rebuilt electric transmission facilities in accordance with the policies of the state concerning the natural environment, ecological balance, public health and safety, scenic, historic and recreational values, agriculture, forests and parks, air and water purity, and fish, aquaculture and wildlife, together with all other environmental concerns, including EMF, and balanced the interests in accordance with CGS §16-50p(a)(3)(B) and CGS §16-50p(a)(3)(C). The environmental effects that are the subject of CGS §16-50p (a)(3)(B) can be sufficiently mitigated and do not overcome the public need for the facility. Furthermore, the Council finds that the location of the rebuilt transmission line will not pose an undue hazard to persons or property along the area traversed by the transmission line pursuant to CGS §16-50p (a)(3)(E) and determines the existing ROW shall serve as the buffer zone to protect public health and safety at statutory facilities pursuant to CGS §16-50p (a)(3)(D).

The Council will require UI to submit a D&M Plan in accordance with Regulations of Connecticut State Agencies (RCSA) §16-50j-60 to §16-50j-62 to include, but not be limited to: detailed site plans identifying structure and equipment locations as well as access roads; bonnet decommissioning plan; wetland invasive species control plan; plans to comply with DEEP NDDDB recommendations to reduce impacts to state-listed endangered, threatened and special concern species; an erosion and sediment control plan consistent with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control*; a spill prevention control and countermeasures plan; provisions for on-site environmental inspection and monitoring of the ROW and substations during construction; and pre-construction and post-construction measurements of EMF. Pursuant to RCSA §16-50j-60 to §16-50j-62, the Council will require UI to submit quarterly construction progress reports.

As a condition of the Certificate, the Council will also require UI to submit a separate petition for a declaratory ruling for the remaining portion of the 1130 Line to be rebuilt from between approximately P714WS (Ash Creek Connection) eastwards to approximately TP734S (near I-95).

In accordance with C.G.S. §22a-19, the Council finds that the rebuilt transmission facilities would not cause unreasonable pollution, impairment or destruction of the public trust in the air, water or other natural resources of the state. The Council has considered all reasonable alternatives and finds that the Hannon-Morissette Alternative represents the best alternative consistent with the reasonable requirements of the public health, safety and welfare.

With the conditions listed above, the Council will issue a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of rebuilt 115-kV transmission facilities between Catenary Structure 648S in Fairfield and Congress Street Substation in Bridgeport and related substation and transmission line improvements utilizing the Hannon-Morissette Alternative.