DRAFT

Petition No. 1464
The Connecticut Light and Power Company d/b/a Eversource Energy
Rockville Upgrade Project- Vernon CT

Staff Report
November 12, 2021

Introduction

On August 30, 2021, the Connecticut Siting Council (Council) received a petition (Petition) from The Connecticut Light and Power Company d/b/a Eversource Energy (Eversource) for a declaratory ruling pursuant to Connecticut General Statutes §4-176 and §16-50k, for the proposed Rockville Upgrade Project within existing Eversource electric transmission line right-of-way (ROW) and on Eversource-owned property in the Town of Vernon. The project consists of the replacement and reconductoring of electric transmission line structures along approximately 1.2 miles of the existing 115 kilovolt (kV) #1606 and #1724 Lines within the same ROW in Vernon and other improvements.

On September 1, 2021, the Council sent correspondence to the Town of Vernon (Town) stating that the Council has received the Petition and invited the Town to contact the Council with any questions or comments by September 29, 2021. No comments have been received.

The Council submitted interrogatories to Eversource on September 15, 2021. Eversource submitted responses to the interrogatories on September 27, 2021.

Pursuant to CGS §4-176(e) of the Uniform Administrative Procedure Act (UAPA), an administrative agency is required to take an action on a petition for a declaratory ruling within 60 days of receipt. On October 21, 2021, pursuant to CGS §4-176(e), the Council voted to set the date by which to render a decision on the Petition as no later than February 26, 2022, which is the 180-day statutory deadline for a final decision under CGS §4-176(i).

The purpose of the proposed project is to improve system reliability on the #1606/1724 Lines by replacing 10 single circuit steel monopole structures and two double circuit steel lattice structures due to asset condition issues, replacing aged copper wire conductors and replacing shield wire.

Municipal and Abutter Notice

In April 2021, Eversource notified the Town and initiated outreach to property owners along the project route. All abutting property owners were notified of the project and provided information on how to obtain additional information, as well as how to submit comments to the Council.

In May 2021, Eversource consulted with representatives of the Town to brief them on the proposed Project and provided the Town with written notice of the Petition filing. No comments have been received to date.

For the construction phase of the project, Eversource would inform adjacent property owners prior to construction as well as during construction and restoration.

Existing Project Area

The existing project area includes approximately 1.2 miles of existing Eversource ROW located between Rockville Junction, located at 60 Mary Lane, and Rockville Substation, located at 13 Maple Street. The ROW is approximately 125 feet wide and traverses mixed use residential, recreational and commercial business areas.

Proposed Project

The project consists of conductor, shield wire and structure replacements along portions of the #1606/1724 Lines. The structure replacements are necessary due to asset condition issues and NESC compliance.

The project consists of the following:

a) Install one single circuit weathering steel monopole in the Rockville Substation;
b) Replace five double-circuit steel lattice tower structures with double-circuit weathering steel monopole structures (Structures 6703, 6704, 6705, 6706 and 6707);
c) Replace five double circuit steel lattice tower structures with two single-circuit weathering steel monopoles (Structures 6708, 6709, 6710, 6711 and 6712);
d) Replace two single-circuit steel monopole structures with two weathering steel monopole structures (Structures 6101 and 6702);
e) Replace the existing 556 24/7 kcmil Conductor Steel Reinforced (ACSR) with 1272 45/7 kcmil ACSR conductors;
f) Replace/install optical ground wire (OPGW);
g) Install lightning arresters on the structures;
h) Install new hardware and insulators on all structures and counterpoise; and
i) Improve and/or install access road and work pads to support the project.

The heights of the existing structures range from 87 - 88 feet (lattice towers) and from 85 - 120 feet (steel monopole structures). The replacement structures would range in height from 95 - 120 feet to comply with current NESC standards.

The total estimated cost of the project is approximately $11M. The project does not include installation or modification of Pool Transmission Facilities (PTFs)[1]. Thus, the entire cost would be allocated to Eversource customers.

Project Construction and Work Procedures

Eversource would utilize existing access roads within the ROW to the extent possible. However, some new access roads would be required. Construction matting would be utilized to install temporary access roads through wetland areas to reach certain structure locations. Steel plates would be used where specified to protect existing driveways.

Existing access roads may require improvement, e.g. grading, trimming adjacent vegetation, and widening and/or reinforcement. Access road widening would be performed as necessary to provide a maximum travel surface of about 16 feet wide (or greater at turning or passing locations) for construction equipment.

[1] Per page 22 of the 2019 ISO-NE Regional System Plan, PTFs are facilities rated 69-kV or above owned by the participating transmission owners over which ISO-NE has operating authority in accordance with the terms set forth in the Transmission Operating Agreements.

Construction areas would be isolated by establishing erosion and sedimentation (E&S) controls in accordance with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control* and Eversource Best Management Practices (BMPs). Typical E&S control measures include, but are not limited to, straw blankets, hay bales, silt fencing, gravel anti-tracking pads, soil and slope protection, water bars, check dams, berms, swales, plunge pools, and sediment basins. A project-specific Stormwater Pollution Control Plan (SWPCP) would be developed for registration under a DEEP Stormwater Permit.

At each transmission line structure location, a work pad would be constructed to stage material for final on-site assembly and/or removal of structures, to pull conductors and to provide a safe, level work base for construction equipment. Work pads for the project would typically be 125 feet by 125 feet, but the size would vary depending on site topography and other constraints. Conductor pull pads would typically be 100 feet by 100 feet. Most work pads would be graveled, though some would use temporary matting to protect sensitive areas such as wetlands, lawns and cultural resources. An air bridge would be used at one work pad location to protect an existing manhole.

The proposed structures would be supported on concrete foundations. Foundation installation work would require the use of equipment such as drill rigs, pneumatic hammers, augers, dump trucks, concrete trucks, grapple trucks, and light duty trucks. If groundwater is encountered, pumping (vacuum) trucks or other equipment would be utilized. The water would then be discharged in accordance with local, state and federal requirements.

New structure sections, components and hardware would be delivered by flatbed truck to the structure locations for assembly by crane and bucket trucks. After assembly, the area around the direct embed foundations would be backfilled with processed gravel.

New conductors and OPGW would be installed after the structures are installed. The required equipment would include cable reels, pulling and tensioning rigs, and bucket trucks.

The removal of the existing conductor and static wire would take place during the active installation of the new conductor and OPGW because the existing conductor and static wire would be used as pulling lines, if possible. Conductor dead-ending and splicing would be accomplished with pressed hardware. The existing structures would be removed after the new conductor, static wire and OPGW are installed.

After the rebuilt line is energized, restoration activities would commence that includes the removal of construction debris, signage, flagging, temporary fencing, and construction mats/pull pads/work pads. Affected areas would be re-graded as practical and stabilized via revegetation or other measures before removing temporary E&S controls. ROW restoration would be performed in accordance with Eversource BMPs and in consultation with abutting property owners. New gravel access roads and work pads located in uplands would be left in place to facilitate future transmission line maintenance.

Project-related traffic would be expected to be temporary and highly localized in the vicinity of ROW access points along public roads and at the staging area. Due to the phasing of construction work, project-related traffic is not expected to significantly affect transportation patterns or levels of service on public roads. A traffic management plan would be developed, if necessary.

Construction is expected begin in October 2021 with line work expected to be completed May 2022 and restoration completed August 2022. Normal work hours would be Monday through Saturday from 7:00 a.m. to 7:00 p.m. and on Sunday from 9:00 a.m. to 6 p.m. if necessary. Evening work (i.e. after 7:00 p.m.) may be necessary due to planned outages. Eversource would notify the Town and abutters prior to the commencement of Sunday and/or evening work.

A construction staging area has not yet been identified.

Environmental Considerations

Work would occur within a maintained ROW and thus tree clearing is not expected for the proposed structure replacements. However, tree trimming, minor vegetation removal within the managed transmission line ROW corridor may be required to improve work site access. All incompatible species, defined as having a mature height of greater than 15 feet and located under and out to 25 feet from the conductors, would be removed from the ROW to maintain required conductor clearances.

The project area was inspected for wetlands/watercourses and potential vernal pool habitat in January 2020, and April 2021. No wetlands/watercourses would be affected by the Project. No vernal pools were identified in the ROW.

A 100-year Federal Emergency Management Agency-designated flood zone associated with the Hockanum River extends through the Rockville Substation Property, near the proposed location for Structure 6713. No permanent structures would be installed within the flood zone.

There are no DEEP-designated Aquifer Protection Areas within or proximate to the Project ROW. The Project is not located within a public water supply watershed. No public supply reservoirs or public water supply wells are located within the Project area.

The Project area is not within a DEEP Natural Diversity Database (NDDB) review area. The Project is not located within a DEEP-designated critical habitat area.

The northern long-eared bat (NLEB), a federally-listed Threatened Species and state-listed Endangered species, has a range that includes the State of Connecticut. However, there no known roost trees within 150 feet of the project area, or within the Town of Vernon.

Two of the replacement structures are located within Legion Field, a Town park that contains several ballfields. Eversource is consulting with the Town to develop a construction plan that would avoid disruption of park use to the extent possible.

The ROW crosses the Rockville Spur section of the Hop River State Park Trail. Work associated with replacement Structure 6707 is adjacent to the trail. Eversource would consult with DEEP to minimize disruption to trail use. The trail would be temporary closed during construction activities using signs and barriers. Once the work is completed, any disturbed areas would be restored. Eversource and DEEP would conduct a post -construction inspection of the restored areas.

Based on a review of materials on file with the SHPO, none of the proposed work area locations were identified as possessing a potential for moderate to high archaeological sensitivity and no further action was recommended.

The project is within 500 feet of one National Register of Historic Places property (the Saxony Mill), one NRHP District (the Rockville Historic District), and 11 inventoried historic standing structures most of which are within the historic district. No impacts to these resources are anticipated.

There would be no permanent changes to existing ROW sounds levels after completion of the Project. Noise associated with construction activities is exempt from DEEP Noise Control Regulations. Notwithstanding, any construction-related noise would be short-term and localized in the vicinity of work sites.

The Project ROW does not cross a locally or state designated scenic roadway.

Although the structures would increase in height, no significant alteration to ROW visibility is anticipated. The use of monopoles in place of the existing lattice towers would present a more streamlined structure appearance in those locations. Additionally, the one new structure being added at the Rockville Substation property is adjunct to existing substation equipment and is buffered from West Main Street by a wooded watercourse corridor. The replacement structures would be located as close as possible to the existing structure locations (within 25 feet) except for one structure (#6707) that would be located 125 feet north of the existing structure.

Notice to the Federal Aviation Administration (FAA) is not required for the structure replacements.

Electric and Magnetic Fields

Electric fields (EF) are produced whenever voltage is applied to electrical conductors and equipment. Electric fields are typically measured in units of kilovolts/meter (kV/m). As the weight of scientific evidence indicates that exposure to electric fields, beyond levels traditionally established for safety, does not cause adverse health effects, and as safety concerns for electric fields are sufficiently addressed by adherence to the NESC, as amended, health concerns regarding Electric and Magnetic Fields (EMF) focus on MF rather than EF. The International Commission on Non-Ionizing Radiation Protection (ICNIRP) has established a guideline of 4.2 kV/m.

The Project route contains an existing transmission line that emits magnetic fields (MF). In the United States, no state or federal exposure standards for 60-Hertz MF based on demonstrated health effects have been established, nor are there any such standards established worldwide. However, the ICNIRP has established a level of 2,000 milliGauss (mG), based on extrapolation from scientific experimentation, and the International Committee on Electromagnetic Safety (ICES) has calculated a guideline of 9,040 mG for exposure to workers and the general public, and recognized in the Council's *Electric and Magnetic Field Best Management Practices for the Construction of Electric Transmission Lines in Connecticut.*

Eversource reviewed EMF levels associated with the Project to a distance of 300 feet from the centerline of the ROW. Post-construction changes to EMF levels are as follows:

Summary of Fields		Rockville Upgrade Project EMF		
		South Edge	Max	North Edge
MF (mG)	Existing	0.6	12.4	6.5
	Proposed	0.4	10.7	3.5
EF (kV/m)	Existing	0.1	1.43	0.32
	Proposed	0.13	1.96	0.08

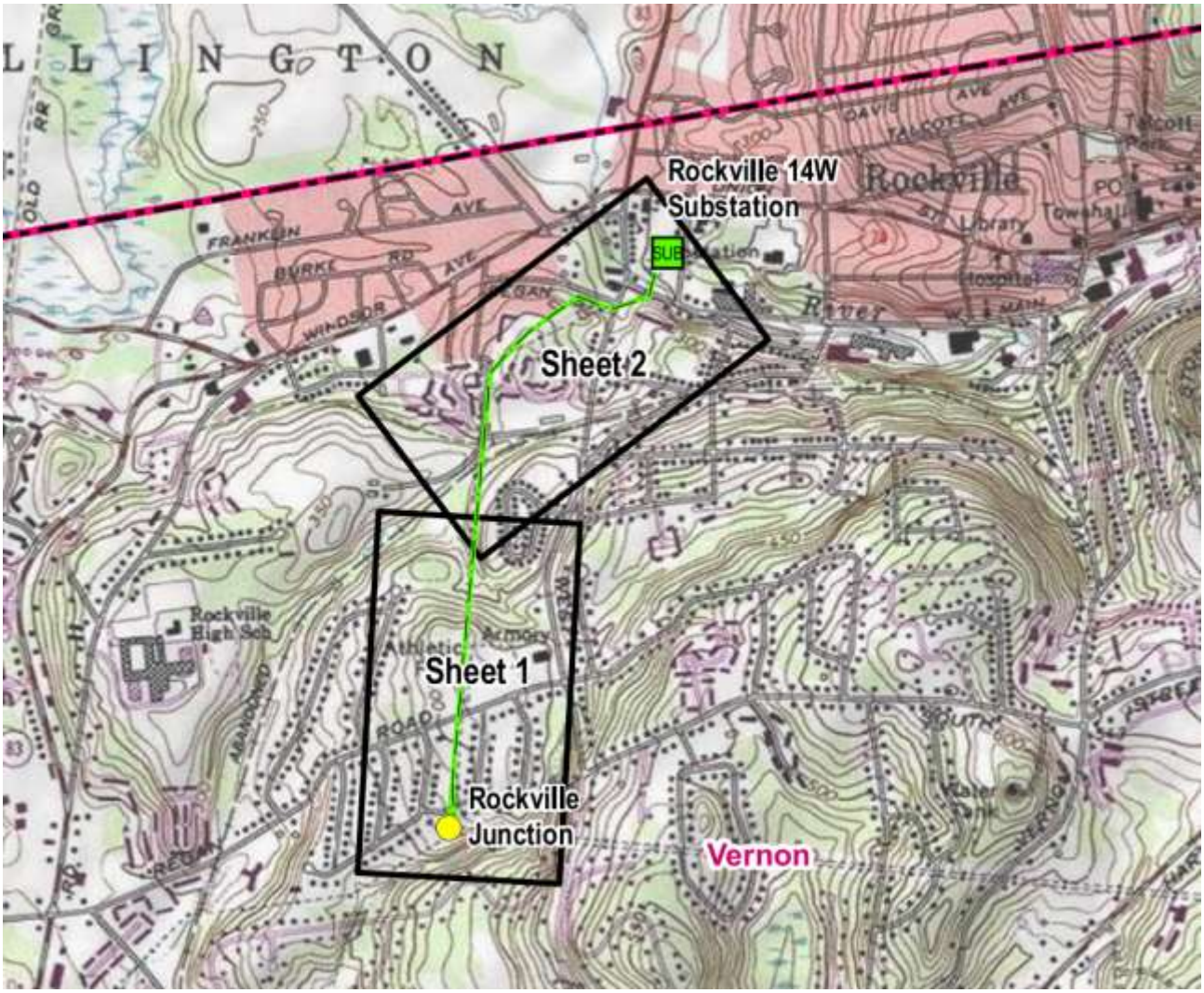
All EF and MF values would be below the ICNIRP exposure guidelines of 4.2 kV/m and 2,000 mG, respectively.

Staff Recommendations

If approved, staff recommends the following conditions:

1. Approval of any project changes be delegated to Council staff; and
2. Identification of the construction staging area.

Project Location



List of Structure Replacements

LINE #	STR #	TOWN	STR TYPE	HEIGHT (FT)	CLASS	HEIGHT (FT) RED INDICATES +5'Δ STRUCTURE HEIGHT	STR TYPE	CLASS	STRUCTURE MOVE AHEAD OR BACK
1606	6101	VERNON, CT	MONOPOLE SC	85	CUSTOM	105	MONOPOLE SC	CUSTOM STEEL	MOVE BACK 15 FT TOWARDS STR 6102
1724	6702	VERNON, CT	MONOPOLE SC	120	CUSTOM	120	MONOPOLE SC	CUSTOM STEEL	MOVE BACK 20 FT TOWARDS STR 6102
1606 / 1724	6703	VERNON, CT	LATTICE DC	87	STEEL TOWER	110	MONOPOLE DC	TYPE I	MOVE AHEAD 25FT TOWARDS STR 6704
1606 / 1724	6704	VERNON, CT	LATTICE DC	87	STEEL TOWER	120	MONOPOLE DC	TYPE I	MOVE AHEAD 20 FT TOWARDS STR 6705
1606 / 1724	6705	VERNON, CT	LATTICE DC	87	STEEL TOWER	115	MONOPOLE DC	TYPE I	MOVE AHEAD 20 FT TOWARDS STR 6706
1606 / 1724	6706	VERNON, CT	LATTICE DC	87	STEEL TOWER	110	MONOPOLE DC	TYPE I	MOVE AHEAD 20 FT TOWARDS STR 6707
1606 / 1724	6707	VERNON, CT	LATTICE DC	87	STEEL TOWER	125	MONOPOLE DC	TYPE I	MOVE AHEAD 125 FT TOWARDS STR 6708
1606	6708	VERNON, CT	LATTICE DC	87	STEEL TOWER	95	MONOPOLE SC	CUSTOM STEEL	MOVE AHEAD 21 FT TOWARDS STR 6709
1724	6708A	VERNON, CT				95	MONOPOLE SC	CUSTOM STEEL	MOVE AHEAD 20 FT TOWARDS STR 6709A
1606	6709	VERNON, CT	LATTICE DC	87	STEEL TOWER	100	MONOPOLE SC	CUSTOM STEEL	MOVE AHEAD 20 FT TOWARDS STR 6710
1724	6709A	VERNON, CT				100	MONOPOLE SC	CUSTOM STEEL	MOVE AHEAD 20 FT TOWARDS STR 6710
1606	6710	VERNON, CT	LATTICE DC	88	STEEL TOWER	100	MONOPOLE SC	CUSTOM STEEL	---
1724	6710A	VERNON, CT				100	MONOPOLE SC	CUSTOM STEEL	---
1606	6711	VERNON, CT	LATTICE DC	88	STEEL TOWER	95	MONOPOLE SC	CUSTOM STEEL	MOVE BACK 25 FT TOWARDS STR 6710
1724	6711A	VERNON, CT				95	MONOPOLE SC	CUSTOM STEEL	MOVE BACK 20 FT TOWARDS STR 6710
1606	6712	VERNON, CT	LATTICE DC	88	STEEL TOWER	95	MONOPOLE SC	CUSTOM STEEL	MOVE BACK 22 FT TOWARDS STR 6711
1724	6712A	VERNON, CT				95	MONOPOLE SC	CUSTOM STEEL	MOVE BACK 12 FT TOWARDS STR 6711
1724	6713	VERNON, CT	---	---	---	75	MONOPOLE SC	CUSTOM STEEL	SET NEW STR 10' FROM SS FENCE LINE