



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: siting.council@ct.gov

www.ct.gov/csc

VIA ELECTRONIC MAIL & CERTIFIED MAIL RETURN RECEIPT REQUESTED

January 28, 2022

Kathleen M. Shanley
Manager-Transmission Siting
Eversource Energy
P.O. Box 270
Hartford, CT 06104-0270
Kathleen.shanley@eversource.com

RE: **PETITION NO. 1468** – The Connecticut Light and Power Company d/b/a Eversource Energy petition for a declaratory ruling, pursuant to Connecticut General Statutes §4-176 and §16-50k, for the proposed Montville to Horton Cove Rebuild Project consisting of the replacement and reconductoring of electric transmission line structures along approximately 0.6 mile of its existing Nos. 100 69-kilovolt (kV) and No. 1410 115-kV electric transmission lines within existing Eversource electric transmission line right-of-way between Horton Cove and Montville Substation in Montville, Connecticut, and related electric transmission line and substation improvements.

Dear Ms. Shanley:

At a public meeting held on January 27, 2022, the Connecticut Siting Council (Council) considered and ruled that the above-referenced proposal would not have a substantial adverse environmental effect, and pursuant to Connecticut General Statutes § 16-50k, would not require a Certificate of Environmental Compatibility and Public Need, with the recommendation that Eversource work with the Town to develop and implement traffic management procedures, as needed, and with the following conditions:

1. Approval of any project changes be delegated to Council staff;
2. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed within three years from the date of the mailing of the Council's decision, this decision shall be void, and the facility owner/operator shall dismantle the facility and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's decision shall not be counted in calculating this deadline. Authority to monitor and modify this schedule, as necessary, is delegated to the Executive Director. The facility owner/operator shall provide written notice to the Executive Director of any schedule changes as soon as is practicable;
3. Any request for extension of the time period to fully construct the facility shall be filed with the Council not later than 60 days prior to the expiration date of this decision and shall be served on all parties and intervenors, if applicable, and the Town of Montville;
4. Within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;



CONNECTICUT SITING COUNCIL

Affirmative Action / Equal Opportunity Employer

5. The facility owner/operator shall remit timely payments associated with annual assessments and invoices submitted by the Council for expenses attributable to the facility under Conn. Gen. Stat. §16-50v;
6. This Declaratory Ruling may be transferred, provided the facility owner/operator/transferor is current with payments to the Council for annual assessments and invoices under Conn. Gen. Stat. §16-50v and the transferee provides written confirmation that the transferee agrees to comply with the terms, limitations and conditions contained in the Declaratory Ruling, including timely payments to the Council for annual assessments and invoices under Conn. Gen. Stat. §16-50v; and
7. If the facility owner/operator is a wholly owned subsidiary of a corporation or other entity and is sold/transferred to another corporation or other entity, the Council shall be notified of such sale and/or transfer and of any change in contact information for the individual or representative responsible for management and operations of the facility within 30 days of the sale and/or transfer.

This decision is under the exclusive jurisdiction of the Council and is not applicable to any other modification or construction. All work is to be implemented as specified in the petition dated October 22, 2021 and additional information received on December 3, 2021.

Enclosed for your information is a copy of the staff report on this project.

Sincerely,



Melanie A. Bachman
Executive Director

MAB/MP/lm

Enclosure: Staff Report dated January 27, 2022

c: The Honorable Ronald K. McDaniel, Mayor, Town of Montville (rmcdaniel@montville-ct.org)



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Petition No. 1468

The Connecticut Light and Power Company d/b/a Eversource Energy

Montville to Horton Cove Project

Montville, Connecticut

Staff Report

January 27, 2022

Introduction

On October 22, 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 Montville to Horton Cove Rebuild Project within existing Eversource electric transmission line right-of-way (ROW) and on Eversource-owned property. The project consists of the replacement and reconductoring of electric transmission line structures along approximately 0.6 mile of existing No. 100 69-kilovolt (kV) and No. 1410 115-kV electric transmission lines between Eversource's Montville Substation and Horton Cove; and modifications to Montville Substation in Montville, Connecticut.

On October 27, 2021, the Council sent correspondence to the Town of Montville (Town) stating that the Council has received the Petition and invited the Town to contact the Council with any questions or comments by November 21, 2021. No comments have been received.

The Council submitted interrogatories to Eversource on November 17, 2021. On November 30, 2021, Eversource requested an extension of time until December 6, 2021 to respond to Council interrogatories. On November 30, 2021, the Council granted such extension of time. Eversource submitted responses to the interrogatories on December 3, 2021.

On December 16, 2021, pursuant to CGS §4-176(e) of the Uniform Administrative Procedure Act, which requires an administrative agency to take action on a petition within 60 days of receipt, the Council voted to set the date by which to render a decision on the petition as April 20, 2022, the statutorily-mandated 180-day decision deadline for this petition under CGS §4-176(i).

The purpose of the proposed project is to improve system reliability by rebuilding an approximately 0.6-mile segment of the double-circuit #1410 and #100 Lines between Montville Substation and Horton Cove.

Municipal and Abutter Notice

During September and October 2021, Eversource consulted with municipal officials in the Town to brief them on the proposed project and provided written notice of the Petition filing to the Town on October 22, 2021. Representatives from the Town did not express concerns to Eversource regarding the proposed project.

Also during September and October 2021, Eversource conducted outreach to property owners located 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.

Eversource was contacted by the abutting property owner at 54 Lathrop Road who expressed concern that his dogs could escape from the fenced area within the ROW on his property during project construction because the existing gate and portions of the fence must be temporarily removed. The property owner believes temporary fencing would keep the dogs from entering the construction area. After work on the ROW is completed, Eversource would remove the temporary fencing and reinstall the removed section of the fence, as well as the gate. Eversource will keep adjacent property owners informed of construction progress and restore impacted areas during the project restoration activities.

Existing Project Area

The existing project area includes an approximately 0.6-mile portion of existing Eversource ROW located between Montville Substation and Horton Cove to the north. The project ROW is approximately 200 feet wide. The ROW contains the #1090 and #1000 Lines supported on existing double-circuit lattice structures; the #1080 and #1280 Lines supported on existing double-circuit monopole structures; and the #1410 and #100 Lines supported on existing double-circuit lattice structures¹.

Eversource's Montville Substation is located on Eversource ROW within NRG Energy, Inc. owned property. Montville Substation is connected to the #364, #371², #1090, #1000, #1080, #1280, #1120, #1410, and #100 Lines. The #100 Line provides one overhead 69-kV transmission connection to NRG Montville Generating Station (MGS)³. Land uses adjacent to the project area consist of a mix of residential areas, commercial/industrial developments, and NRG's MGS.

Proposed Project

The project is being proposed to implement part of a solution determined by ISO New England, Inc. (ISO-NE) to address thermal overloads and voltage violations identified by the Final Eastern Connecticut 2029 Needs Assessment. Specifically, this involves the rebuild of a portion of the #100 and #1410 Lines which includes converting the #100 Line from 69-kV to 115-kV. The #100 Line upgrade would also require modifications to Montville Substation to terminate the #100 Line in the 115-kV yard, and a new 17X 115-kV/69-kV transformer would be installed within the substation. There would also be upgrades to the existing 69-kV connections from Montville Substation to MGS. The project is identified in the March 1, 2021 Eversource Ten-Year Forecast of Electric Loads and Resources and in the October 2021 ISO-NE Regional System Plan Project List.

Rebuild #1410 and #100 Lines and Convert #100 Line to 115-kV

The #1410 and #100 Line rebuild work would consist of replacing four lattice structures ranging in height from 78 to 82 feet with five new galvanized steel monopoles ranging in height from 96.5 to 105 feet tall. Both lines would be reconducted, and the #100 Line would be upgraded to 115-kV. The upgraded #100 Line would require a different line entry to and termination at Montville Substation; thus, existing double-circuit lattice Structure No. 7003 (located directly north of the substation) would be replaced with two new single-circuit monopole structures: Structure No. 7003 to support the #1410 Line connection to the substation and Structure No. 7003A to support the #100 Line connection to the new termination at the substation's 115-kV yard.

Specifically, the transmission rebuild portion of the Project and conversion of the #100 Line to 115-kV consist of the following:

- a) Improve or construct access roads and work pads;
- b) Perform selective tree and vegetation removal (mowing) and/or trimming to accommodate the work or to meet conductor clearances;
- c) Replace existing double-circuit Structure No. 7003 with two single-circuit galvanized steel monopoles known as Structure Nos. 7003 and 7003A;
- d) Replace existing double-circuit Structure Nos. 7004, 7005 and 7006 with three double-circuit galvanized steel monopoles;

¹ All of the existing lines in the ROW are 115-kV except for the #100 Line, which is currently 69-kV.

² The #364 and #371 Lines are 345-kV.

³ An underground 69-kV line also connects MGS to Montville Substation that provides a secondary connection from the power plant to the grid for redundancy and reliability.

- e) Install new attachment hardware and insulators;
- f) Install grounding and counterpoise;
- g) Replace approximately 0.6 miles of existing 556-kcmil aluminum conductor steel reinforced (ACSR) conductor with 1272-kcmil aluminum conductor steel supported (ACSS) conductor;
- h) Replace approximately 0.6 miles of existing 7 #8 Copperweld shield wire with 48-fiber OPGW; and
- i) Convert the #100 Line from 69-kV to 115-kV.

Re-terminate the Upgraded #100 Line at Montville Substation

The existing 69-kV #100 Line extends into Montville Substation and attaches to an existing 95-foot tall structure in the northeast corner of the substation. From there, the #100 Line spans the New England Central Railroad (NECR) to a termination in the substation's 69-kV yard, which is located adjacent to MGS. Eversource would remove the existing #100 Line's 69-kV termination and connect the upgraded 115-kV #100 Line to a termination in the substation's 115-kV yard. The upgraded #100 Line would extend from Structure No. 7003A into the substation's 115-kV yard at the 16X transformer. From there, the 115-kV line would connect an approximately 250-foot long segment of 3500-kcmil, cross-linked polyethylene (XLPE) insulated underground cable and overhead line to the 115-kV bus.

The modifications to Montville Substation to accommodate the re-termination of the upgraded #100 Line consist of the following:

- a) Install two new 115-kV, 63 kiloampere (kA) circuit breakers;
- b) Install two 115-kV pothead structures;
- c) Re-terminate the converted #100 Line into the bus position between the two new circuit breakers;
- d) Install 12ea. 115-kV cable potheads;
- e) Install new line terminal equipment including, but not limited to, motor-operated disconnect switch, capacitor coupled voltage transformers, and lightning arresters;
- f) Install new bus, cable, and connectors as needed to facilitate the connection between the new line terminal equipment and the 115-kV bus;
- g) Install approximately 250 feet of 3500-kcmil underground 115-kV per phase within the substation yard to connect the upgraded #100 Line to the proposed 115-kV bus position;
- h) Install necessary grounding connections and ground grid repairs to disturbed areas;
- i) Complete above and below grade civil work including, but not limited to, grading, conduit, foundations, and support steel required to support the above-listed scope; and
- j) Add related protection relays and associated equipment inside the Montville Substation control enclosure.

New Interconnection from MGS 69-kV Bus and AC Station Service Separation from MGS

A new 115-kV/69-kV transformer (i.e. 17X transformer) is required along with a new 69-kV line segment in order to continue to provide the redundant (or backup) connection to the 69-kV yard. Within the 115-kV yard, this new 69-kV line segment would consist of approximately 250 feet of underground XLPE cable, extending from the new 17X transformer to a new underground-overhead riser structure in the northeast corner of the substation's 115-kV yard. The 69-kV cable would be placed in the same trench as the underground 115-kV cable. From the new approximately 110-foot tall riser structure, an approximately 250-foot long segment of 69-kV overhead line would span the NECR tracks to a termination in the existing 69-kV yard.

In conjunction with the #100 Line upgrade, alternating current (AC) station service for the substation control enclosure and yard equipment would be disconnected from MGS and sourced from the existing 16X transformer and the proposed 17X transformer in the 115-kV yard. This would require the installation of two new small transformers near the control enclosure to provide 120V/240V AC power.

The modifications to the 115-kV yard at Montville Substation associated with this portion of the Project consist of the following:

- a) Install one 115-kV/69-kV 62.5 megavolt-ampere (MVA) transformer;
- b) Install one 115-kV, 3000 amp, 63-kA rated circuit breaker (17X high side);
- c) Install 115-kV, 3000 amp, horizontal, manually-operated disconnect switches;
- d) Install approximately 250 feet of 69-kV cable from the 17X transformer to the new transition (riser) structure;
- e) Replace the existing 95-foot tall #100 Line monopole in the 115-kV yard with a new 110-foot tall monopole, to be located in the northeast portion of the 115-kV yard. At this replacement structure, the underground 69-kV cable would transition to overhead before extending east to span the railroad tracks to the 69-kV yard;
- f) Add six 115-kV potheads;
- g) Add nine 115-kV, 70-kV MCOV rated lightning arresters;
- h) Add approximately 1,200 feet of 556-ACSR strain bus to extend between the 115-kV transformer terminal and the terminal in the 69-kV yard;
- i) Install new bus, cable and connectors as needed to facilitate the connection between the new terminal equipment and existing 115-kV bus;
- j) Add two 13.8-kV/120V-240V pad mount station service transformers to connect to the 16X and 17X transformers (one for each);
- k) Complete the above and below grade civil work including, but not limited to, grading, conduit, foundations and support steel required to support this scope of work;
- l) Add related protection relays and associated equipment inside the control house; and
- m) Remove existing 2.3-kV/120V-208V-240V pad mount transformers and associated equipment for existing AC station service.

The modifications to the 69-kV yard at Montville Substation associated with this portion of the Project consist of the following:

- a) Re-purpose and/or replace existing #100 Line terminal equipment;
- b) Remove the existing #100 Line from its existing terminal position on the 69-kV bus which would create a spare position. This terminal and its associated equipment would be the termination point for the rebuilt 69-kV line which would connect from the new 17X transformer, via the riser structure in the 115-kV yard, to the 69-kV yard;
- c) Upgrade the existing 69-kV power circuit breaker and control cabling in the 69-kV yard by removing an existing protection and control cable and replacing it with a new shielded control cable all within the existing underground conduit; and
- d) Change out protection schemes from line protection to transformer protection.

Additional Modifications at Montville Substation

Installation of All Dielectric Self-supporting (ADSS) fiber cables for the #1410 Line at Montville Substation would consist of the following:

- a) Install ADSS fiber cable in below grade conduit, routed from the splice can installed in the line terminal structure to the control enclosure; and
- b) Install necessary auxiliary equipment in the control enclosure to facilitate proper tie-in to the Critical Infrastructure Protection communication network.

The bus relay equipment replacement would consist of the following:

- a) Install new relays for the 115-kV A and B buses to accommodate the terminal expansions; and
- b) Add relay cabinets to house new relays.

There would be no expansion of the existing fenced Montville Substation footprint as a result of the Project.

Cost

The total estimated cost of the project is approximately \$26.6M. Of this total, approximately \$16.3M is associated with Pool Transmission Facilities (PTFs)⁴ and approximately \$10.3M is associated with Non-PTFs. Costs associated with PTFs are eligible for regionalization. Pending a final determination from ISO-NE, PTF costs are expected to be allocated⁵ as follows:

Eversource Connecticut ratepayers⁶ 34.6% (\$5.64M)

Other Connecticut ratepayers⁷ 4.4% (\$ 717k)

Other New England ratepayers⁸ 61.0% (\$9.94M)

PTF Cost Total 100% (\$16.3M)

Project Construction and Work Procedures

Eversource would utilize an existing leased area at 82 Depot Road, Montville for a staging/laydown area. This area is approximately 2 acres in size and would be used for storage of construction materials, equipment, tools and supplies. Office trailers and Conex storage containers may also be located at the staging area. Appropriate erosion and sedimentation (E&S) controls would be installed and maintained until completion of construction in accordance with Project permitting and Eversource Best Management Practices (BMPs).

Eversource would utilize existing access roads to the extent possible. No new permanent access drives would be required. Construction matting would be utilized to install temporary access roads to protect sensitive areas (e.g. lawn, meadow) to reach certain structure locations.

Construction areas would be isolated by establishing E&S controls in accordance with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control* and Eversource 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 Department of Energy and Environmental Protection (DEEP) Stormwater Permit would not be required for this project.

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 150 feet by 150 feet. For areas where machinery is needed for pulling conductors through an angled structure, work pads of approximately 150 feet by 50 feet would be required. All work pads would be matted except for Structure No. 7006, at which a combination of both matting and gravel would be used.

The proposed structures would have either drilled (caisson) foundations or direct embed 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.

⁴ ISO-NE defines PTFs as 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.

⁵ These allocations are estimates based on 2020 actual loads.

⁶ Electrical service customers of Eversource and located within Connecticut.

⁷ Electrical service customers located within Connecticut but outside of Eversource's service territory.

⁸ Electrical service customers located within New England but outside of Connecticut.

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 new structures are installed, the lines are re-energized and the existing structures are removed, ROW restoration activities would commence. Restoration work would include the removal of construction debris, signage, flagging, temporary fencing, and construction mats and work pads that are designated for removal. 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 affected property owners.

Upon completion of the project, access roads and work pads located in uplands would be left in place to facilitate future transmission line maintenance. If a property owner requests their removal, Eversource would work with such property owner regarding mitigation options.

Construction-related traffic would utilize public roads in the project area to access the ROW and the substation. However, generally, Project-related traffic would be expected to be temporary and highly localized in the vicinity of the substation, ROW access points and 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. Notwithstanding, Eversource or its contractor would work with the Town to develop and implement traffic management procedures as necessary.

Construction is expected begin in January 2022. Normal work hours would be Monday through Saturday from 7:00 a.m. to 7:00 p.m. Sunday work hours or evening work (i.e. after 7:00 p.m.) may be necessary due to delays caused by unforeseen circumstances, inclement weather and/or outage constraints; in the event that this is necessary, Eversource would provide notice to the Council and the Town.

Environmental Considerations

The proposed modifications to Montville Substation would be performed with the substation's 69-kV and 115-kV yards which are already developed with traprock and do not have vegetation to be removed.

The vegetation within the approximately 200-foot wide Eversource ROW containing the #1410 and #100 Lines currently consist of managed low-growth species. For the Project, some limited vegetation removal/tree trimming would be required in select areas to accommodate access road installation and improvements, work pad installations, and along the Project ROW where conductor clearances need to be improved to meet NESC and Eversource clearance standards.

Vegetation removal/tree trimming would be accomplished using mechanical methods. This would typically involve the use of flat-bed trucks, brush hogs or other types of mowing equipment, skidders, forwarders, bucket trucks for canopy trimming, and chippers. Vegetation removal activities would be performed in accordance with Eversource BMPs.

One wetland is located near the project area. This wetland is characterized as the border of Gay Cemetery Pond (GCP). GCP is only the watercourse located near the project area. There would be no temporary or permanent impacts to wetlands or watercourses as a result of the project.

No vernal pools were identified within the Project area.

None of the proposed replacement structures would be located within a Federal Emergency Management Agency (FEMA) 100-year or 500-year flood zone. The 69-kV yard portion of Montville Substation is located within the 100-year and 500-year FEMA flood zones. However, no new structures or equipment would be installed within such areas.

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. Additionally, no private water supply wells were observed within the Project area during field investigation activities. To be protective of water quality, Eversource would require its contractors to employ best practices for the proper storage, secondary containment, and handling of diesel fuel, motor oil, grease, and other lubricants. Construction activities would conform to Eversource BMPs.

Eversource has reviewed the DEEP Natural Diversity Database (NDDB) and determined that portions of the Project are located within the buffered NDDB habitat area. However, due to the avoidance of wetland impacts and minimal ground disturbances, there are no regulatory triggers that necessitate the submission of an NDDB review request for this project.

Eversource also consulted with the U.S. Fish & Wildlife Service's Information, Planning and Consultation (IPaC) service regarding federally-listed species that may be present within the project area. The IPaC report identified two federally-listed Threatened Species, both of which are also state-listed Endangered Species. The two identified species are the northern long-eared bat (NLEB) and the small whorled pogonia (SWP).

There are no known NLEB maternity roost trees within 150 feet of the Project area, and the nearest NLEB hibernaculum is located approximately 33 miles to southwest in the Town of North Branford. Thus, no impacts to the NLEB are expected to result from the Project.

The SWP is a small, perennial orchid of deciduous forests that blooms from late spring to early summer. Soil characteristics typically found within the SWP's habitat include a sandy loam textured soil type with a restrictive layer below the soil surface, allowing for lateral water movement. Deciduous forests would not be affected by the Project. Additionally, soils within the Project area are comprised of well-drained (dry), glacial outwash derived sand and gravel. These soils have high infiltration rates and lack a restrictive layer below the soil surface which limits surface runoff or lateral water movement. Thus, no suitable habitat for the SWP was identified within the Project area.

The nearest publicly-accessible recreational resource is a boat launch at the eastern end of Dock Road in Montville, located approximately 0.23 mile east of the project ROW. The proposed project is not expected to have any direct impacts on this resource.

The Decatur Trail⁹ is located in Gales Ferry, approximately 0.75 mile to the east of Project area. The proposed project is not expected to result in visual impacts on the Decatur Trail due to the distance, topography and intervening mature vegetation.

⁹ The Decatur Trail is not a Connecticut Blue-blazed trail.

A Phase 1A Cultural Resources Assessment (Phase 1A Assessment) was conducted, and no National Register of Historic Places (NRHP) listed properties or inventoried historical structures were identified in the vicinity of the Project work areas. One historic structure listed on the State Register of Historic Places (SRHP) and two previously identified archaeological sites were identified within 1,000 feet of the Project area. However, these historical and archaeological resources would not be impacted by the proposed Project.

Notwithstanding, the location of Structure No. 7004 and two access roads were determined to possess moderate to high potential for archaeological sensitivity. Thus, a Phase 1B Cultural Resources Reconnaissance Survey (Phase 1B Survey) was performed and included shovel testing these three locations. The Phase 1B Survey found no physical evidence of archaeological significance; thus, it was determined that no further archaeological investigations are warranted.

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.

There would be no permanent changes to existing sound levels for the upgraded #1410 and #100 Lines after completion of the Project. The proposed 17X 115-kV/69-kV transformer would result in a minor increase in sound levels at Montville Substation. However, the projected sound levels associated at the substation fence line for this transformer would be 34.5 dBA, which is below the most stringent DEEP nighttime noise limits. Thus, project would comply with DEEP Noise Control Regulations.

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

The proposed replacement structures would be slightly taller than the existing lattice structures. Specifically, Structure Nos. 7004 and 7006 would increase in height by about 6 to 6.5 feet, and the remaining three structures would increase in height by 14.5 feet¹⁰. The upgraded #1410 and #100 Lines would continue to be co-located within the ROW with four other 115-kV overhead lines; thus, the proposed modifications would represent a minor and highly localized visual change. Additionally, the replacement of the existing lattice structures with monopoles may be considered a visual improvement due to the narrow profile of the monopole structure design.

The proposed substation modifications would involve adding equipment and structures similar to those already present at the substation, including the replacement of the 69-kV structure within the substation and rebuilding 69-kV line to the 69-kV yard adjacent to the NRG generating station. Thus, the project would not result in a significant change to the existing visual character in the Project area.

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.

¹⁰ The replacement 69-kV monopole inside the substation fence would increase in height by 15 feet.

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. Pre- and post-construction EMF levels (based on average annual loads for MF) are presented in the table below.

Montville Substation - Structure 7007 (Annual Average Loads)		West ROW Edge	Max in ROW	East ROW Edge
Magnetic Fields (mG)	Existing	51.3	113.0	22.9
	Proposed	51.4	109.3	25.6
Electric Fields (kV/m)	Existing	0.11	2.25	0.09
	Proposed	0.10	2.21	0.12

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

Aviation Safety

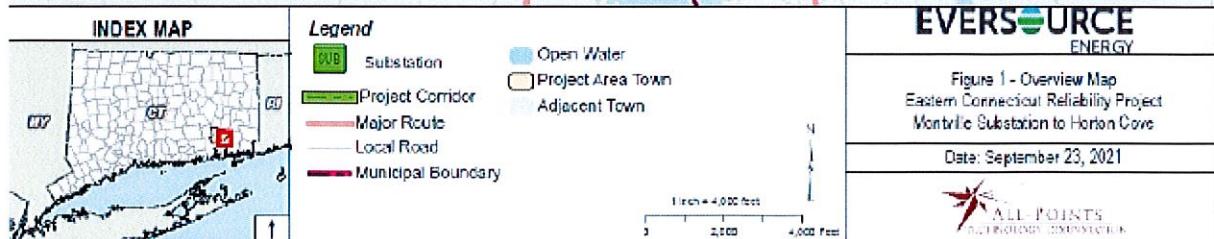
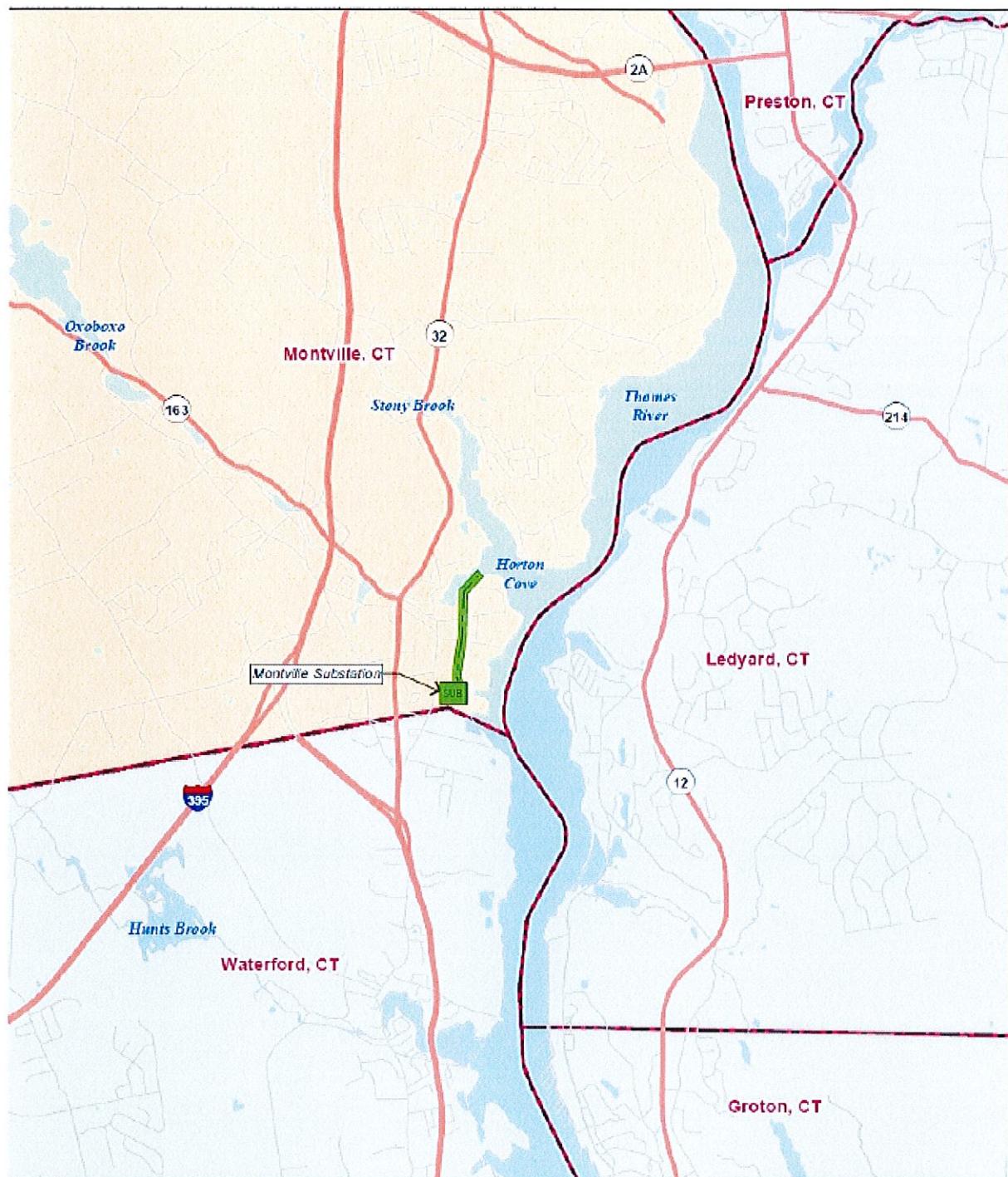
Notice to the Federal Aviation Administration (FAA) would not be required for any of the proposed structures.

Staff Recommendation

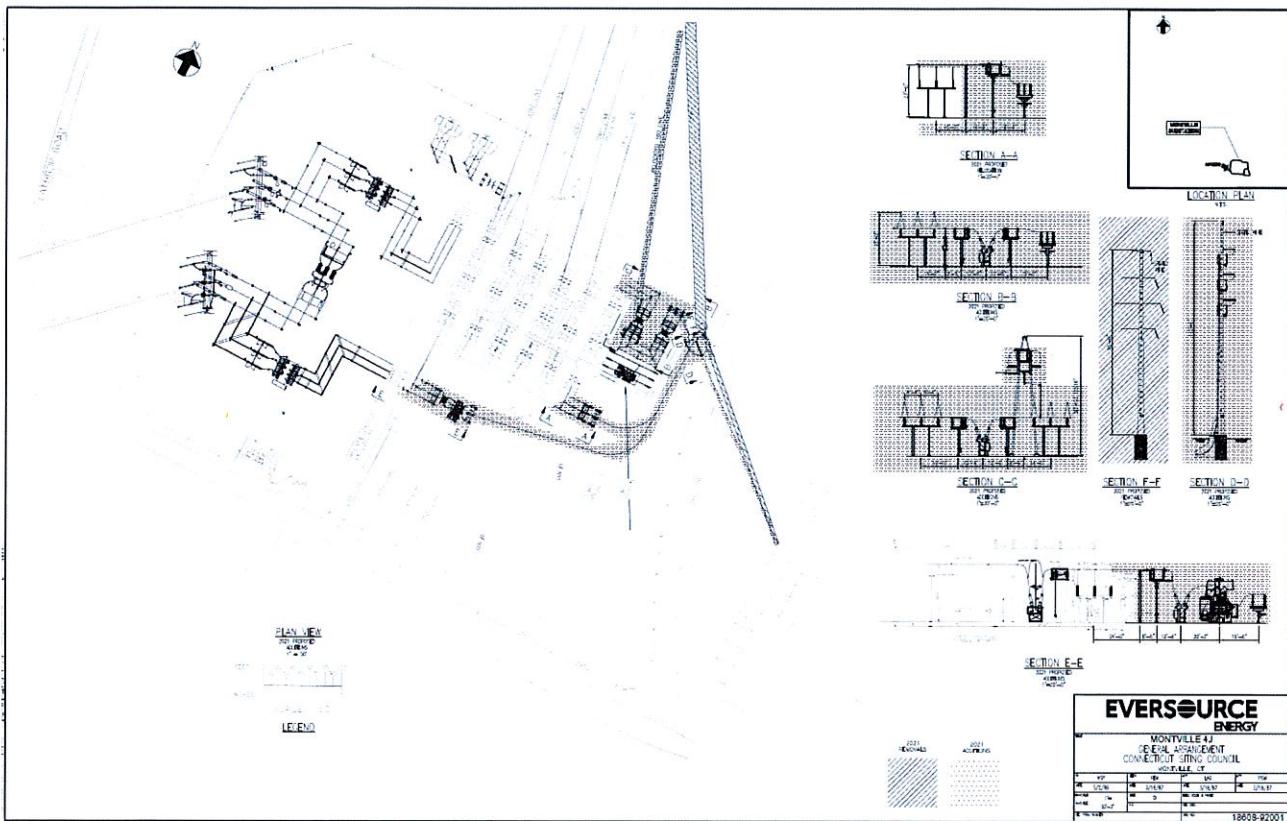
If approved, staff recommends the following condition:

1. Approval of any project changes be delegated to Council staff.

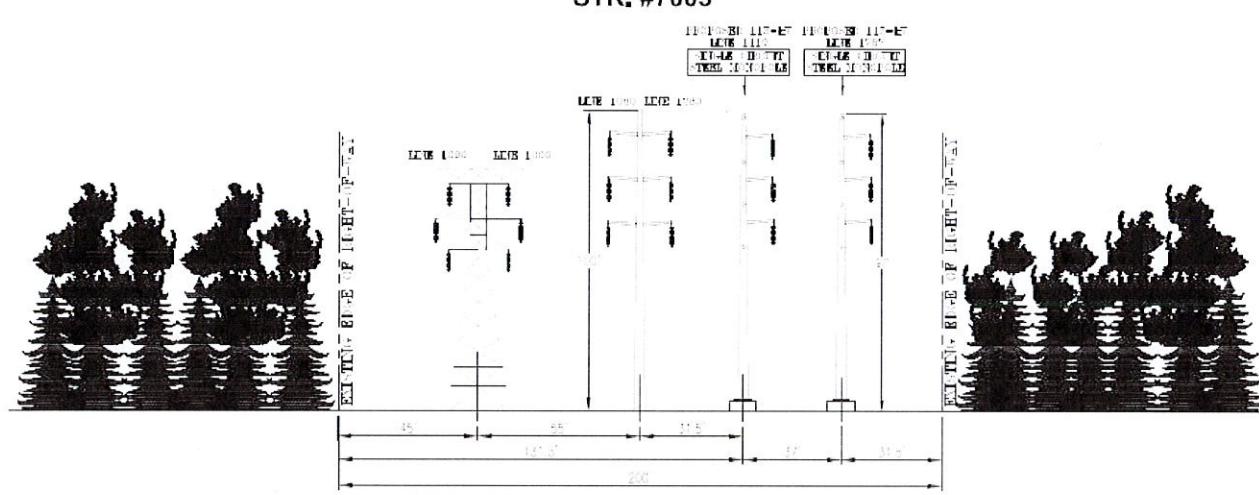
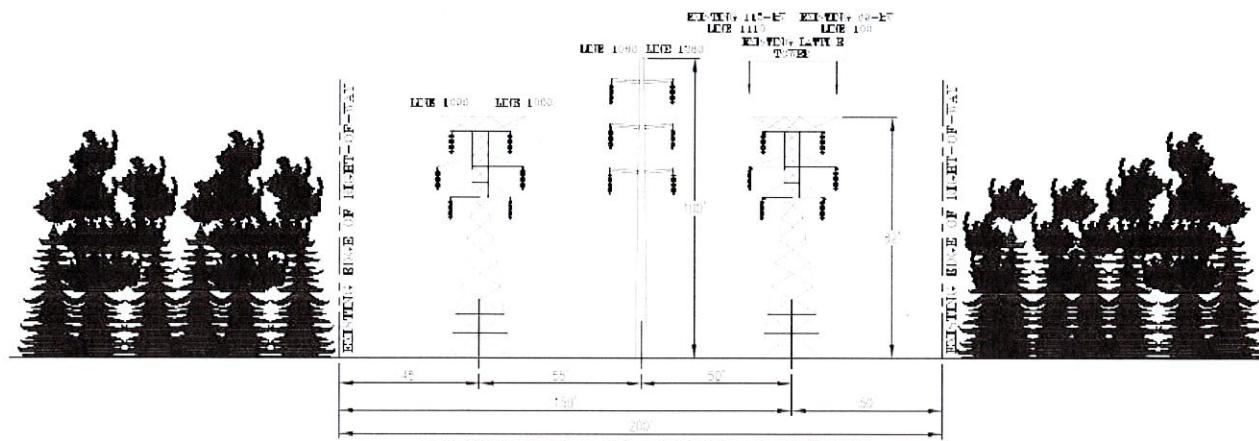
Project Location



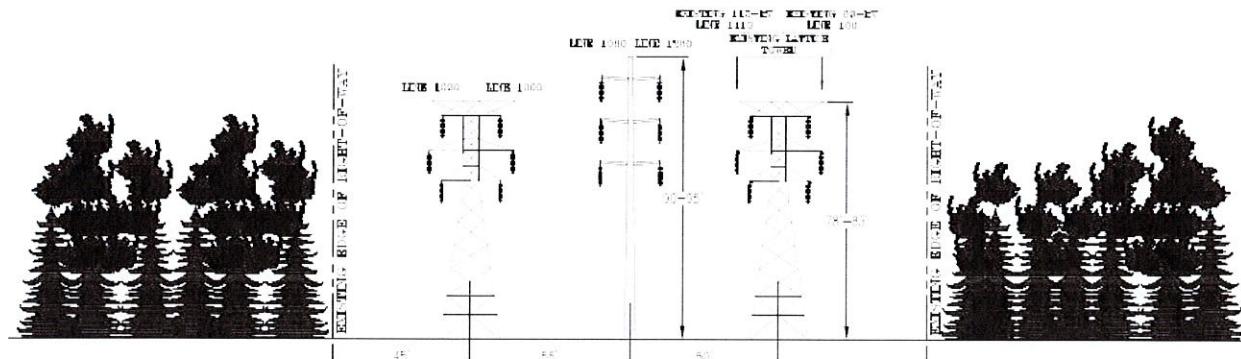
Montville Substation Modifications



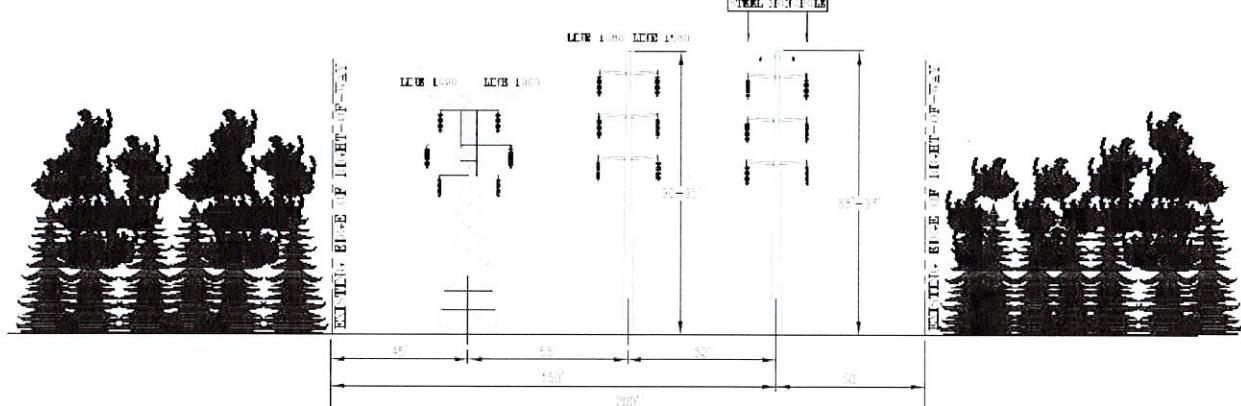
ROW Profiles – Page 1 of 2



ROW Profiles – Page 2 of 2



**EXISTING R.O.W. CONFIGURATION
DOUBLE CIRCUIT STEEL LATTICE TOWER
LOOKING TOWARD MONTVILLE JCT
IN THE TOWN OF MONTVILLE, CT
STRS. #7004, 7005 & 7006**



**PROPOSED R.O.W. CONFIGURATION
DOUBLE CIRCUIT STEEL MONPOLE
LOOKING TOWARD MONTVILLE JCT
IN THE TOWN OF MONTVILLE, CT
STRS 7004, 7005 & 7006**