Petition No. 1448
Eversource
Card Substation, 181 Card Street, Lebanon, Connecticut
DRAFT Staff Report
May 27, 2021

Introduction

On March 23, 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 modifications to Card Substation located at 181 Card Street in Lebanon, Connecticut.

Card Substation is located on an approximately 125-acre property located to the north and west of Card Street. Card Substation currently contains one 345-kilovolt (kV) to 115-kV transformer; two 115-kV/69-kV transformers; two 115-kV/23-kV transformers; four 345-kV transmission circuits; four 115-kV transmission circuits; two 69-kV transmission circuits; and five 23-kV distribution circuits.

On March 23, 2021, Eversource provided notice of the proposed project to the Town of Lebanon (Town), state and local officials and agencies, and abutting property owners.

On March 24, 2021, the Council sent correspondence to the Town stating that the Council has received the Petition and invited the Town to contact the Council with any questions or comments by April 23, 2021. No comments from the Town were received.

Pursuant to CGS §4-176(e) of the Uniform Administrative Procedure Act, an administrative agency is required to take action on a petition within 60 days of receipt, and therefore, May 23, 2021 was the deadline for action on this Petition. In response to the Coronavirus pandemic, Governor Lamont issued Executive Order No. 7, as subsequently extended, that provides for a 90-day extension of statutory and regulatory deadlines for administrative agencies. Thus, the deadline under CGS §4-176(e) is extended to August 21, 2021.

Proposed Project

The project is being proposed to implement one of the system solutions determined by ISO New England, Inc. (ISO-NE) to address multiple thermal overloads and low voltage violations identified by the Eastern Connecticut 2029 Needs Assessment in the Montville Substation to Card Substation corridor caused by contingency scenarios involving the loss of the existing 345-kV/115-kV autotransformer at Card Substation. The proposed solution is to add a second 345-kV/115-kV autotransformer at Card Substation and upgrade certain 115-kV components of the substation to meet Bulk Power Standards (BPS). The proposed modifications within Card Substation would mitigate identified contingencies and improve reliability of the transmission system. The project is identified in the March 1, 2021 Eversource Ten-Year Forecast of Electric Loads and Resources and in the March 2021 ISO-NE Regional System Plan Project List.

Specifically, Eversource proposes the following modifications to Card Substation:

a) Add a second 345-kV/115-kV autotransformer;
b) Install one 345-kV circuit breaker;
c) Terminate the 345-kV terminal of the new 345-kV/115-kV autotransformer into the bus;
d) Relocate the existing 2X transformer connection to the 115-kV ring bus to share a position with the #1220 Line;

e) Terminate the 115-kV terminal of the new 345-kV/115-kV autotransformer into the bus using underground cable;
f) Upgrade the existing and proposed protection system to ensure that the substation's 115-kV system meets BPS Standards and satisfies, "NPCC Regional Reliability Reference Directory #4 – Bulk Power System Protection Criteria";
g) Install a new 115-kV control enclosure for 115-kV protection and control equipment;
h) Expand the 23-kV substation yard to the south (by about 4,050 square feet) to accommodate the new 115-kV control enclosure;
i) Install a new primary and backup trench and conduit between the 115-kV substation equipment and the new control enclosure; and
j) Install a 115-kV circuit breaker in series with the existing 14T circuit breaker located between the #1490 Line and the 5X autotransformer positions to address system planning contingencies.

Eversource would utilize existing access from Card Street.

Most of the proposed project is located within the existing fenced substation footprint, except for the proposed control enclosure installation. The southeastern portion of the fenced substation would be expanded within an approximately 90-foot by 45-foot rectangular area to accommodate the proposed 60-foot long by 28-foot wide by 13-foot high control enclosure. The expanded area would also be fenced. The proposed fence would reach a maximum height of about 16 feet.

Environmental Effects and Mitigation Measures

The expanded area to accommodate the control enclosure would require the removal of a few small trees and some vegetation that has grown along the existing fence line; however, most of this area is already cleared due to existing overhead transmission lines.

Wetland 1 is located east of the existing Card Substation footprint, and Wetland 2 is located west of the existing Card Substation footprint. No direct wetland impacts would result from the proposed project, including the expanded area for the new control enclosure.

The project would conform to the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control* and Eversource's Best Management Practices. Typical erosion and sediment control (E&S control) measures include, but are not limited to, straw blankets, hay bales, compost filter socks, silt fencing and gravel anti-tracking pads. Following completion of construction, seeding and mulching or finished surface treatments would be completed to permanently stabilize the areas disturbed by the work outside of the substation fence. Temporary E&S control measures would remain in place until project work is complete and all disturbed areas have been stabilized.

The project is not located within a DEEP-designated Aquifer Protection Area.

According to the DEEP Natural Diversity Database, no state-listed species are within the project area.

No historic or archaeological resources would be impacted by the project. A Phase 1A Cultural Resources Assessment was completed during January 2021. On February 9, 2021, the State Historic Preservation Office responded that no adverse impacts to cultural resources are anticipated to result from the proposed project.

The project would result in some minor changes to the visual character of the substation, but the changes are not expected to be significant. The project is largely surrounded by forest and would only be visible from certain locations along Card Street.

The proposed project is located in Federal Emergency Management Agency-designated unshaded Zone X, an area outside of both the 100-year and 500-year flood zones.

Noise levels associated with construction would be temporary and typical of construction activities. Noise associated with construction activities is exempt from DEEP Noise Control Regulations. Post-construction noise levels would continue to comply with DEEP Noise Control Regulations.

Electric and magnetic field levels at boundaries of the substation property would not change as a result of the project.

Construction Schedule

If approved, construction would begin in August 2021 and be completed by year-end 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 hours may be necessary due to delays caused by inclement weather and/or outage constraints.

Staff Recommendation

If approved, staff recommends the following condition:

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

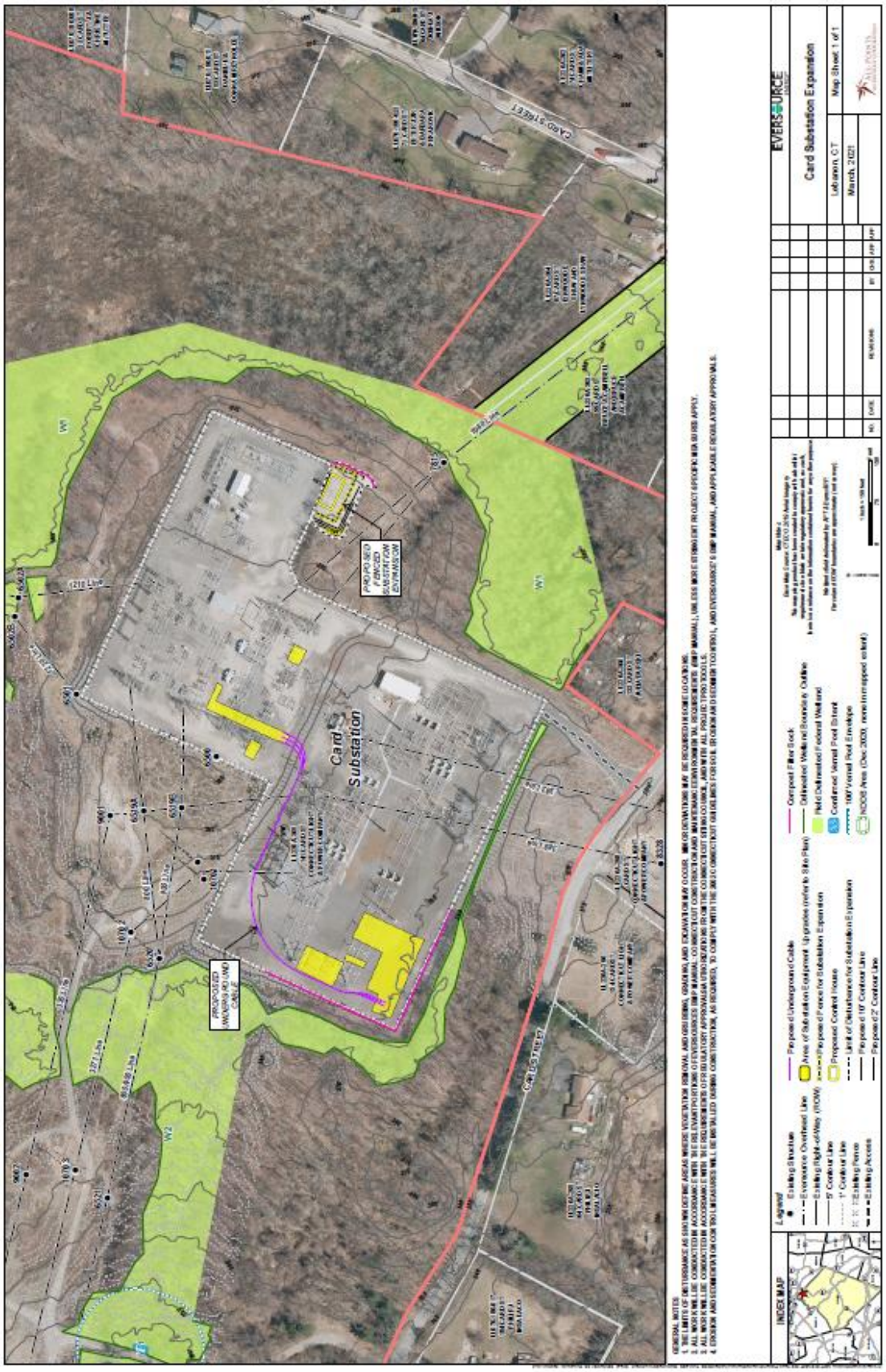

Figure 1. Site location.