Petition No. 1057

CL&P

Bloomfield and Simsbury, Connecticut

Staff Report

February 5, 2013

Introduction

On December 24, 2013, the Connecticut Siting Council (Council) received a petition from The Connecticut Light and Power Company (CL&P) for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the proposed modifications to the existing Northeast Simsbury Substation and replacement of structures in Simsbury and Bloomfield, as well as the re-conductoring of a 115-kV transmission line from Northeast Simsbury Substation (Simsbury, Connecticut) to the North Bloomfield Substation, Bloomfield, Connecticut. Specifically, CL&P seeks to expand the substation fenced area of the Northeast Simsbury Substation on property that would be subject to an easement to accommodate new equipment and convert the substation from a tap line configuration to a loop through configuration with structure modifications within CL&P’s ROW. Also, CL&P would replace the #1784 line conductors and replace six structures to obtain required clearances, and install marking and lighting on two structures for aviation safety. The purpose of this project is to address system load in the transmission and distribution system reliability criteria violations.

Proposed Modifications to Northeast Simsbury Substation

The proposed modifications to the Northeast Simsbury Substation are listed below.

a) Expansion of the fenced area on the west side of the substation by approximately 200 feet. (The substation expansion would be on property that would be subject to easement to be granted to CL&P.)

b) Replacement of a 115-kV A-frame termination structure with a height of 45 feet with one 115-kV box termination structure with a height of approximately 65 feet.

d) Installation of a new 115-kV box termination structure with a height of approximately 65 feet.

e) Removal of one 115-kV disconnect switch.

f) Installation of six capacitor coupled voltage transformers

g) Installation of one 115-kV circuit breaker.

h) Installation of two 115-kV circuit switchers.

i) Installation of four 115-kV manually-operated disconnect switches.

j) Installation of three 115-kV motor-operated disconnect switches including a mobile transformer position.

k) Installation of six lightning arresters.

l) Installation of a new control enclosure, approximately 24 feet by 52 feet.

m) Installation of foundations, underground conduits, mounting and support beams, relay/controls and cables to accommodate the new equipment.

n) Installation of a retaining wall on the north side and partially on the west side of the substation. (The wall would be approximately 275 feet long along the north side and approximately 55 feet long along the west side of the substation. The maximum height would be 15 feet.)

o) Removal of two three-wood-pole tap structures within CL&P’s ROW.

p) Replacing one wood H-frame structure #40099 with two three-steel-pole dead-end angle structures #40099A and #40099B within CL&P ROW. Structures #40099A and #40099B would be located 35 feet west and 120 feet east of structure #40099, respectively. (The existing height of structure #40099 is approximately 66 feet. The proposed structures #40099A and #40099B would each be 70 feet tall.)

Proposed #1784 Line Re-conductoring and associated Structure Replacements

The proposed #1784 line re-conductoring with associated structure replacements are listed below.

a) Replacement of existing 795-kcmil ACSR conductors with 1590-kcmil ACSS conductors in an existing three-phase horizontal configuration from structure #40099 to structure #40123 (or approximately 2.6 miles from Northeast Simsbury Substation to North Bloomfield Substation).

b) Replacement of six existing wood H-frame structures #40102, #40111, #40117, #40118, #40121, #40122 with new H-frame structures. The existing structures range from 56.5 feet to 74.5 feet tall. The new structures would range from 65.5 feet to 83.5 feet tall. The typical height increase is about 9 feet.

c) Like for like replacements of 15 structure cross-arms and braces.

d) Replacement of one shield wire with one OPGW fiber optic cable.

e) Installation of Federal Aviation Administration (FAA) lighting on two structures: #40117 and #40118. A red beacon would be installed on each of these two structures. Both structures are in a remote area of the CL&P ROW with no homes in the vicinity.

f) The existing 115-kV line section would be removed after it has been de-energized and would be disposed of in accordance with CL&P’s best management practices for H-frame wood pole structures dispoal.

g) All of the transmission conductors and associated shield wires would be removed prior to removing the structures.

Field Review

Council member Phil Ashton and Michael Perrone of the Council staff visited the site on January 18, 2013 to review the proposal. The following representatives of CL&P also attended the field review: John Morissette, Manager – Siting and Permitting; Susan Provost, Licensing and Permitting; David Coleman, Project Manager – Transmission Projects; Ali Karimi, Subsation Engineering; and Mehul Patel, Assistant Civil Engineer – Transmission Civil Engineering. Hiram Peck, Director of Community Planning and Development - Town of Simsbury also attended the field review.

Environmental Effects – Substation

Sound pressure levels at all points along the substation property lines would continue to meet State noise regulations. Magnetic fields (MF) would increase along the north fence of the substation due to the loop through configuration. These changes would be limited to an area approximately 200 feet east and west of the loop through. The maximum MF underneath the transmission line loop would increase from 6.3 mG to 114.4 mG. The site is an undeveloped sand and gravel lot with no development proximate to the site. Thus, there are no residences, public playgrounds, schools, licensed youth camps or licensed child day-care facilities in the area of increased magnetic fields.

The Department of Energy and Environmental Protection’s (DEEP) Natural Diversity Database (NDDB) has historic records regarding the presence of the Horned Lark and the Vesper Sparrow in the vicinity of Northeast Simsbury Substation. Based on consultations with DEEP, CL&P would conduct mowing and clearing activities in the vicinity of the substation from October through April to avoid disturbance to possible nesting birds. CL&P would also avoid impacts to State-listed butterflies and moths by avoiding disturbance to their host plants: sand joint weed and wild indigo.

There are no wetlands in the substation and loop project areas. CL&P would adhere to the soil erosion and sedimentation control practices as specified in the *2002 Connecticut Guidelines for Soil and Erosion Control* (2002 E&S Guidelines). The substation is not within the 100-year flood zone. The proposed clearing work for the loop would be similar to the moving and vegetation management performed every four years.

The site is fairly remote and located over 1,000 feet to the west of Route 202. The nearest home is approximately 750 feet to the north with heavy vegetation between the home and the substation. Thus, the visual impact of the substation expansion is expected to be negligible.

If approved, staff recommends that a landscaping and grading plan for the substation be submitted to the Council for review and approval.

Environmental Effects – Re-conductoring and structure replacement

Replacing the conductors on the transmission line between North Bloomfield Substation and the Northeast Simsbury Substation would not alter the line’s position in the ROW or the phase spacing. There would only be slight changes in MF within the existing ROW. At the edges of the ROW and beyond, the changes to MF would be negligible.

CL&P plans to use existing access drives during construction. Only one of the replacement structures (#40111) is located in wetlands. However, any wetland area crossings would utilize temporary construction mats and/or the permanent installation of clean rock fill within existing access road, per Section 404(h) of the Clean Water Act. The proposed clearing work for the re-conductoring would be similar to the moving and vegetation management performed every four years.

The United States Fish and Wildlife Service has mapped the Dwarf Red Mussel in the Farmington River. Although CL&P would not be working in the river, it would install high visibility construction fencing to prevent vegetative disturbance near the river. The Eastern Box Turtle may be found in the vicinity of structure #40123. However, CL&P would perform \turtle sweeps when working near that structure.

The Spinose flower moth and the Scribbled Sallow Moth are both State-designed species of special concern. Neither of these moths have been located on the ROW, but the host plants have been. Blue toadflax is the host plant of the Scribbled Sallow Moth, and the Sand jointweed is the host plant of the Spiny flower moth. Both plants have been located along the edge of the ROW west of structure #40099 and just beyond the limits of construction on the ROW to the west. Based on CL&P’s consultation with DEEP, CL&P would install high visibility fencing in the areas of the previously located plants to ensure that the plants are not disturbed. This same type of fencing would also be used to prevent disturbance to the Davis sedge, a State-designated threatened species.

At the field review, Mr. Ashton asked CL&P if structure #40111 could remain (in lieu of being replaced with an approximately 9-foot taller structure) and an existing distribution line on the opposite side of Route 315 could be lowered or converted to underground to ensure proper transmission clearances. CL&P investigated this and found that lowering the distribution line would result in a National Electrical Safety Code clearance violation. Converting the overhead distribution to underground would cost approximately $125,000 with an additional $30,000 to resolve other ground clearance issues with structures #40110 and #40111. As proposed, CL&P’s replacement transmission structure would cost less at $97,000. Thus, CL&P believes that replacing the transmission structure would have less impact on ratepayers.

Overall, the visual impact of the re-conductoring would be minimal due to the same phase locations and configuration. Any increase in height from structure replacements would be relatively small at about 9 feet. Replacement structures would look similar to the existing structures.

Construction Schedule

If approved, construction would begin in spring 2013 and would be completed by spring 2014.

Notice and Comments

Notice was provided to the Town of Bloomfield and Simsbury and abutting property owners on or about December 21, 2012. No comments were received from abutters. Mr. Peck expressed the Town of Simsbury’s support for this project.

Conclusion

With the wildlife impact mitigation measures, wetland protections, and small increases in structure heights, this project is not expected to have a significant adverse environmental effect.

**Northeast Simsbury Substation**



**West Side of Northeast Simsbury Substation (to be expanded)**



**The existing #1784 line is in the rear of the photo.**

**This substation connection would be converted to “loop through.”**

