DOCKET NO. 435 - The Connecticut Light & Power Company Application for a Certificate of Environmental Compatibility and Public Need for the Stamford Reliability Cable Project, which consists of construction, maintenance, and operation of a new 115-kV underground transmission circuit extending approximately 1.5 miles between Glenbrook and South End Substations, Stamford, Connecticut and related substation improvements.	}	Connecticut Siting Council September 5, 2013

Opinion

On January 18, 2013, The Connecticut Light and Power Company (CL&P) applied to the Connecticut Siting Council (Council) for a Certificate of Environmental Compatibility and Public Need (Certificate) for the Stamford Reliability Cable Project (SRCP), which consists of the construction, maintenance, and operation of a new 115-kV underground transmission circuit extending approximately 1.5 miles between Glenbrook and South End Substations in Stamford, Connecticut and related substation improvements. The primary purpose of the SRCP is to strengthen the 115-kilovolt (kV) transmission system serving the Stamford-Greenwich Sub-area by relieving power flows, thus eliminating existing and potential reliability criteria violations and bringing the system into compliance with mandatory national and regional reliability standards. The Connecticut Office of Consumer Counsel participated as a party in this proceeding.

As part of a Working Group formed by New England's Independent System Operator (ISO-NE) to study grid reliability in the Southwestern Connecticut area, CL&P conducted analyses of transmission load capability between the Glenbrook Substation and the South End Substation under contingency events. Their analysis indicated that the existing system is insufficient to serve projected customer demands reliably in the Stamford-Greenwich Sub-area under such events. The existing transmission system in this area could potentially experience voltage collapse with thermal overloads exceeding emergency ratings and system voltages at substations falling below acceptable limits.

The SRCP was the Working Group's recommended solution to the identified transmission needs. With the SRCP in service, further Stamford-Greenwich Sub-area insufficiencies would likely be prevented for at least twenty years. The New England Power Pool (NEPOOL) Reliability Committee voted to recommend approval of SRCP to ISO-NE on June 20, 2012.

In addition to correcting existing insufficiencies, the SRCP would provide the Stamford-Greenwich Sub-area with a strong electric supply source arising from its connection at the Glenbrook Substation to the system of new 345- kV transmission lines installed in Southwest Connecticut since 2006—including the Bethel-Norwalk transmission line, Long Island Cables, the Middletown-to-Norwalk transmission line, and Glenbrook Cables. Further, the SRCP anticipates economic development and urban redevelopment projects planned or under construction at Stamford that have the potential to significantly affect load levels throughout the Stamford-Greenwich Sub-area. Finally, SRCP would also implement an important component of long-range plans for the expansion of Connecticut's electric power grid in the Stamford-Greenwich area, which include a new substation in Greenwich and additional transmission connections to this substation.

During the Working Group's planning for a solution to the Stamford-Greenwich insufficiencies, CL&P considered and rejected a "no action" alternate on the grounds that doing nothing to eliminate existing and potential violations of national and regional reliability standards would be inconsistent with its obligation to provide reliable electric service. CL&P also considered several non-transmission alternatives to the proposed SRCP, namely: central generation, energy efficiency and contracted load curtailment. However, none of the non-transmission alternatives were considered to be available at levels necessary to resolve the existing reliability criteria violations.

CL&P also considered the possibility of bringing the needed additional transmission capacity from the Glenbrook to the South End Substation on an overhead circuit. One possible route for the new overhead transmission circuit would have been its existing double-circuit 1440/1450 transmission line. Utilizing this line, however, would have required CL&P to widen its existing right-of-way, which, in turn, would have required purchasing additional easements over approximately 29 properties. CL&P estimated the cost of this particular overhead solution at approximately $107 million. Another overhead alternative would have been to add a second 115-kV circuit to an existing CL&P transmission line, designated as the 1977 Line, that runs between the Glenbrook and South End substations. In order to do this, however, all 23 of the existing transmission line structures between the two substations would have to be replaced, as they do not have the structural capacity to accommodate a second circuit. In addition, any construction on this line would be severely constrained due to restrictions imposed by Metro North to satisfy engineering and safety criteria established by the Federal Railroad Administration. CL&P estimated the cost of this overhead alternative at $69 million. Having reviewed these overhead alternatives, the Council finds neither one feasible. The construction constraints in this highly urbanized section of Stamford would make any overhead solution more expensive than the proposed underground route.

In planning the specific route of its proposed underground transmission circuit, CL&P wanted to find the shortest feasible route with the fewest potential environmental and social impacts. A number of other important factors also needed consideration, however. To get from one substation to the other, a new circuit would have to cross the Metro North rail line, as well as Interstate Highway I-95, which is elevated in this area of Stamford. As a result of consultations with the City of Stamford, CL&P also sought to avoid impacting a city roadway improvement project known as the Stamford Urban Transitway (SUT).

CL&P identified three possible routes that it included in its initial application to the Council. These three routes were designated as: the Preferred Route, the Preferred Route with Variation, and the Alternate Route. Two of these routes—the Preferred Route and the Alternate Route—would require a jack and bore crossing of the Metro North rail line. All three routes would reach the South End Substation via Atlantic Street, which crosses under the elevated Metro North line and I-95.

In subsequent discussions with the Connecticut Department of Transportation (ConnDOT), CL&P learned that ConnDOT had plans to lower Atlantic Street as part of a Metro North bridge replacement project. The surface of Atlantic Street would be brought much closer to bedrock, making it difficult for CL&P to fit its cable under the new roadway. Therefore, CL&P reviewed other route options and presented the Council with a fourth possible route, the Preferred Route with Canal Street Option, which would cross the railroad and the highway via Canal Street instead of Atlantic Street.

After doing more detailed engineering analysis of the Canal Street Option route, CL&P realized that a portion of the route could be installed underneath the South End Substation instead of within the right-of-way of Manhattan Street, as originally planned. With this information, CL&P submitted to the Council its fifth alternate route, the Preferred Route with Canal Street Option (Updated). This route would be the shortest of all the routes presented, which would translate into lower construction costs, fewer potential conflicts with existing underground utilities, and a shorter time of construction. For these reasons, the Council favors the updated Canal Street route.

As it would be installed in a densely urbanized area, the SRCP would not cross any watercourses or wetland areas, although it would cross over the East Branch of the Rippowam River, which is underground and contained within a culvert at the crossing location.

The Preferred Route with Canal Street Option (Updated) would not cross any area within a 100-year floodplain. A short portion of the route, however, would cross a 500-year flood area in the vicinity of Canal Street just south of I-95 and the Metro North Railroad. Underground electric cables are not susceptible to flood damage because they are contained within sealed conduits. Floodwaters can infiltrate into the splice vaults used as access points for system maintenance, however, and CL&P uses standard dewatering procedures in those cases. Flooding at substations is a different matter. In the case of the substations relevant to Docket 435, the Glenbrook Substation at elevation 30 feet amsl, is not within the 500-year flood zone and is not particularly vulnerable to flooding. While the South End Substation is not within the 500-year flood zone either, its elevation at 12 feet amsl is relatively low, and it did come close to flooding in 2012 due to the high surge of Superstorm Sandy. The Council urges that the applicant consider current and future modifications at the South End Substation to ensure it is protected not only against a 500-year flood but also against a storm surge that might go beyond that.

No state-listed endangered, threatened and special concern species occur in the vicinity of the SRCP. According to the State Historic Preservation Office, the potential that any intact and significant archaeological resources exist within the SRCP area is low.

Included in the review of SRCP's environmental impacts was a review of electromagnetic fields. The SCRP route traverses a corridor already occupied by other sources of electromagnetic fields, not only other CL&P transmission lines, but the catenaries supplying electricity to the railroad. Considered in this context, and also considering the EMF mitigation generally achieved by putting transmission lines underground in urban areas, due to shielding either from the ground itself or from the cable design, SCRP adheres to the Council's EMF Best Practices Guidelines, and the Council finds any adverse impacts from electromagnetic fields to be de minimis.

The environmental effects that are the subject of Conn. Gen. Stat. § 16-50p (a)(3)(B) can be sufficiently mitigated and do not overcome the public need for the facility approved by the Council in the Opinion, Decision and Order.

CL&P's estimated cost for its Preferred Route was $46.9 million. A cost of this magnitude for a transmission circuit 1.5 miles in length was a serious concern to some Council members. In most circumstances, an overhead transmission circuit would be much less expensive than underground cable. However, CL&P demonstrated that, in this densely urbanized downtown area of Stamford, with an elevated railroad and highway to cross, the usual rule-of-thumb does not apply. The Council is satisfied that, in this case, the underground transmission circuit will be the more cost-effective solution.

Who is to pay the cost of the project was another concern for the Council. In its deliberations, the Council relied on CL&P's representations that the cost of the project would be regionalized throughout the New England states that come under ISO-NE's jurisdiction and that Connecticut ratepayers would be billed for approximately 25 percent of the project's cost. Should ISO-NE decide, however, that the SRCP is unwarrantedly expensive and that a greater portion of the project's cost should be borne by Connecticut ratepayers, the Council could consider such a decision to be a changed condition and, therefore, grounds to reopen this docket.

The facility approved by this Council in the Opinion, Decision and Order conforms to a long-range plan for expansion of the electric power grid of the electric systems serving the State of Connecticut and its people and interconnected utility systems and will serve the interests of electric system economy and reliability. There is a public need for the facility approved by this Council in the Opinion, Decision and Order.

The Council has examined the policies of the state concerning the natural environment, ecological balance, public health and safety, air and water purity, and fish, aquaculture and wildlife, together with all other environmental concerns, including EMF, and balanced the interests in accordance with Conn. Gen. Stat. § 16-50p(a)(3)(B) and Conn. Gen. Stat. § 16-50p(a)(3)(C). The environmental effects that are the subject of Conn. Gen. Stat. § 16-50p (a)(3)(B) can be sufficiently mitigated and do not overcome the public need for the facility approved by the Council in the Opinion, Decision and Order. Furthermore, the Council finds that the location of the line will not pose an undue hazard to persons or property along the area traversed by the line pursuant to Conn. Gen. Stat. § 16-50p (a)(3)(E).

To ensure that the proposed project is properly developed, the Council will require the applicant to submit a Development and Management (D&M) Plan that will include, among other items, provisions for public comment and review; detailed site plans identifying structure and equipment locations; 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 revegetation and maintenance of the proposed ROW; provisions for inspection and monitoring of the proposed underground cable and other accessory equipment; pre-construction and post-construction measurements of electric and magnetic fields. In order to verify consistency with the Council's Decision and Order, the Council will require the Certificate holder to document compliance with environmental requirements and prepare periodic status reports.

With the conditions listed above, the Council will issue a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a new 115-kV underground transmission circuit—the Preferred Route with Canal Street Option (Updated)—extending approximately 1.5 miles between Glenbrook and South End Substations and related substation improvements in Stamford, Connecticut.