



# STATE OF CONNECTICUT

## CONNECTICUT SITING COUNCIL

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Petition No. 280  
The United Illuminating Company  
Bridgeport Viaduct Transmission Line  
Relocation Project  
Staff Report  
April 1, 1992

On January 21, 1992, the Connecticut Siting Council (Council) received a petition from the United Illuminating Company (UI) seeking a declaratory ruling that no Certificate of Environmental Compatibility and Public Need would be needed for the proposed Bridgeport Viaduct transmission line relocation project (project) because, even though the project would be a modification of existing facilities, there would be no substantial environmental effects. On February 7, 1992, Council Chairman Mortimer A. Gelston, Council member William H. Smith, Council Executive Director Joel M. Rinebold, and staff analyst Stephen M. Howard, met Ted Grave and Robert Silvestri of UI at the site of the proposed project.

The proposed project is necessary because the existing Peck drawbridge is inoperable and the Connecticut Department of Transportation (DOT) has begun plans to replace it. UI currently has transmission lines on the approximately 208-foot high catenary structures that are on the existing drawbridge. During DOT's construction work, UI would have to temporarily relocate its transmission lines away from the drawbridge construction to an area west of a temporary railroad shunt that would be built by the DOT to allow for continued rail traffic. The temporary relocation would involve the placement of tubular poles, wood poles, a lattice structure, and H-frame supports for the rerouting of the transmission line. Concurrent with the temporary transmission line rerouting would be a reconfiguration of the Congress Street substation (substation), located south of the drawbridge, in order to align the substation with the temporary transmission line route. Interim wood and tubular poles would be necessary during the approximate five month substation reconfiguration work; however, these interim poles would be removed following the substation modifications. The remaining poles necessary for the temporary transmission line relocation would remain in place for the approximate five year duration of the drawbridge replacement construction.

Upon the DOT's completion of the new Peck drawbridge, UI has proposed that the transmission lines to the north of the

substation would cross the river independently of the drawbridge catenary system and then rejoin the new catenary structures at a point north of the drawbridge. The permanent H-frame supports that would be used for the river crossing would have a height of approximately 124 feet. The proposed H-frame supports would allow for adequate clearance of water traffic on the river with the transmission lines in accordance with National Electric Safety Code requirements. South of the substation, UI would remove three of the temporary tubular poles and place the southbound transmission lines directly from the substation property onto the new catenary structures.

The installation of all temporary, interim, and permanent poles and supports would occur on property that is either owned by UI or the City of Bridgeport or will be acquired by the State of Connecticut with a subsequent grant to UI for ROW activities. The majority of the project is located inland except for the footings for the temporary lattice support for the river crossing that would be north of the substation. The lattice support footings would extend approximately seven feet waterward from the mean high tide line. The footings would be placed within an old bulkhead which is located outside of the U.S. Harbor Lines. UI has determined that the footings cannot be located outside of the river without the demolition of the existing storage and service building in the substation. The permanent replacement for the temporary lattice structure would be aligned closer to the drawbridge and out of the water.

Under typical line loading conditions of 100 amperes, the electric field levels measured at the east and west edges of the ROW, adjacent to where the transmission line would rejoin the railroad catenary structures north of the river crossing, would increase from 0.21 and 0.21 kiloVolts per meter (kV/m) to 0.31 and 0.28 kV/m and the magnetic field levels would increase from 1.8 and 1.8 milliGauss (mG) to 2.1 and 2.6 mG. Under the winter long term emergency rating of 1364 amperes, the electric field levels measured at the east and west edges of the ROW, adjacent to where the transmission line would rejoin the railroad catenary structures to the north of the river crossing, would increase from 0.21 and 0.21 kV/m to 0.31 and 0.28 kV/m and the magnetic field levels would increase from 24 and 24 mG to 29 and 36 mG.

UI investigated alternative permanent river crossing methods, including undergrounding the line and returning the line to new drawbridge catenary structures. UI rejected the underground options due to costs five to seven million dollars higher than the proposed crossing method and the need to include a second substation or transition station to switch from underground cable to overhead conductor.

The second alternative considered by UI was the return of the transmission lines onto new drawbridge catenary structures. This option would eliminate the need for a separate river crossing; however, UI rejected this option because of an increase in construction costs of approximately 1.3 million

dollars over the proposed construction, an aesthetic impact of drawbridge catenary structures that would have to be 65 feet higher than the proposed drawbridge-independent H-frame supports in order to maintain adequate clearance with the open drawbridge, and an increased difficulty in accessing the lines during maintenance work.

The UI project has received a tentative "Finding of No Significant Impact" by the Urban Mass Transportation Administration for the purpose of the National Environmental Policy Act. UI and the DOT have filed or will file applications for permits or approvals from the Army Corps of Engineers, the United States Coast Guard, the Connecticut Department of Environmental Protection Coastal Area Management Division, the Connecticut Department of Public Utility Control, and the City of Bridgeport. The City of Bridgeport has determined that the proposed project is exempt from its municipal coastal site plan review process.

To accommodate the DOT's construction schedule, UI is planning to begin the temporary relocation construction in July 1992.

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