



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

10 Franklin Square
New Britain, Connecticut 06051
Phone: (860) 827-2935
Fax: (860) 827-2950

Petition No. 385
Connecticut and Light and Power Company
Temporary Substation
Simsbury Connecticut
January 8, 1998

On January 5, 1998, Connecticut Siting Council (Council) members Colin C. Tait and Edward S. Wilensky with Fred O. Cunliffe and Joel M. Rinebold of Council staff met with Connecticut Light and Power Company representatives including Donald Allen, Michael Carlson, and George Becker, and Simsbury Town Planner William Voelker at the proposed temporary substation site located approximately 700 feet west from the intersection of Wolcott Road and Hopmeadow Street, Simsbury, Connecticut.

CL&P proposes to install a 115-kV transmission line tap, a mobile transformer, circuit breaker with four wood poles to accommodate the 115-kV connection, and a battery trailer within a 50-foot by 90-foot fenced enclosure. A single 1,270-foot long 23-kV overhead distribution feeder would be installed adjacent to an existing access road to Hopmeadow Street. Existing transmission and distribution pole heights above ground level (agl) are approximately 61 feet and 34 feet, respectively. The proposed substation interconnection pole heights would range between 27 and 60 feet agl. The proposed distribution feeder poles would be approximately 34 feet high agl.

There have been approximately 432 outages within the Town of Simsbury during the past three years with seven lengthy interruptions during this same period. The Town requested CL&P to implement a plan to increase electric supply reliability which resulted in a plan to place a substation along one of two 115-kV electric transmission lines that pass through the town. While the proposed substation is not a planned bulk supply substation identified in the Connecticut Siting Council Review of the Connecticut Electric Utilities' 1997 Twenty-Year Forecasts of Loads and Resources, this proposed temporary substation would provide contingency back-up to two existing circuits from the North Bloomfield substation. CL&P proposes the temporary substation as a measure to maintain electric supply reliability in the Town while it prepares a proposal to permanently site a substation on the same parcel later in 1998. A permanent substation would provide two underground distribution feeders with the capability to install a third feeder in the future.

The proposed site is a four-acre parcel zoned industrial and is owned by the Town. This parcel is a sand pit currently being used to store demolition debris and compost. The Town recommended the development of this property to CL&P as appropriate for development of the proposed electric substation. Adjacent land uses include an existing sand and gravel operations directly south of the proposed site, various commercial businesses along Hopmeadow Street east of the proposed site, and residences approximately 1700 feet and 800 feet, west and north, respectively, of the proposed site. Dense woodland exists between the proposed site and the residential areas. The proposed site is near the load center of Simsbury, and approximately 200 south of a 115-kV electric transmission line. Access to the site would be from Hopmeadow Street over an existing gravel-covered access road. No clearing of vegetation is proposed and only minor grading would be needed to install the temporary substation.

While the proposed site is within an aquifer protection zone, the proposed temporary substation would not discharge materials and the mobile transformer would contain a non-PCB oil within a self-contained unit. In addition, the Town's Conservation Commission has granted use of the property for an electric substation. No inland wetlands would be affected. Installation of the proposed temporary substation would take approximately four to six weeks.

The petitioner contends the strength of electric fields would not change along the existing transmission line following installation of the proposed temporary substation. However, existing magnetic fields would change based upon an increase in the flow of electricity along the transmission line between North Bloomfield and Simsbury. Historically, the transmission line carries an average current load of 300 amperes with a peak current load of 550 amperes. The proposed substation would increase average and peak current flow 35 and 50 amperes, respectively. The closest home along this section of the transmission line is 65 feet. The magnetic field for average current load conditions is 10.5 milligauss (mG) at this location and is expected to increase 1.2 mG following construction of the temporary substation. The magnetic field for peak current load at this location is 19.2 mG with an expectant increase of 1.7 mG. The strength of magnetic fields diminish quickly with distance and CL&P expects no measurable electric and magnetic fields at the residential areas west and north of the proposed substation.

CL&P would incur costs of \$405,000 to construct the proposed substation and \$40,000 to dismantle and restore the site.

While the petitioner has stated it would conduct pre- and post-construction noise measurements; Council staff believes pre-and post-construction measurements of electric and magnetic fields should be taken as well.

CL&P contends the proposed installation is temporary and could be removed without compromising the environment, and believes the proposed temporary substation would not have a substantial adverse environmental effect.