

Date: May 18, 2007

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To: Mr. Daniel Caruso
Chairman, Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

CONNECTICUT
SITING COUNCIL

From: Russi T. Suntoke P.E.
10 Stepstone Hill Rd
Guilford, CT 06437

R.T. Suntoke
5/18/07

Re: Docket No. 326

The Connecticut Light and Power Company application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a proposed substation located at Stepstone Hill Rd, Guilford, CT

As a party in the above referred docket, I submit herewith a Brief and Proposed Findings of Fact (original and twenty copies).

Encl:

cc: Service List

May 18, 2007

Re: Docket No. 326

The Connecticut Light and Power Company application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a proposed substation located at Stepstone Hill Road, Guilford, Connecticut.

BRIEF AND PROPOSED FINDINGS OF FACT

Respectfully submitted

R. T. Suntoke
5/18/07

Russi T. Suntoke P.E.
(Party)

This submittal details this party's concerns regarding the proposed substation.

1) Inadequate fire protection measures

a) CL&P has stated that the only precaution they would take would be to build a sump under the transformer capable of holding 110 percent of the transformer oil volume to hold the burning oil from the transformer tank in the event of a fire. No specific alarms for such a disastrous event have been envisioned. CL&P's stated position is that upon receiving a generic "Transformer Trouble/Trip" alarm or a "Feeder Trip" alarm at a remote monitoring location, they would dispatch a crew to determine the cause of the alarm. If such an alarm, which could be actuated for several reasons without the occurrence of a fire, were to occur during peak traffic hours, it would take considerable time for a CL&P truck to reach the substation site, given that the CL&P vehicle would have to observe all the normal rules of the road. If a fire was indeed the cause of the alarm, the crew would find this only upon reaching the site and only then would they summon the Guilford fire department. Clearly, the time lapse from the actual occurrence of the fire to the commencement of fire fighting operations is unacceptably high. Remember, we are talking about a large volume of highly flammable oil burning in a populated neighborhood, screened from view by tall and mature trees from surrounding homes and adjoining streets.

b) At the September 12, 2006, meeting held by the Guilford Planning and Zoning Commission, CL&P's manager Mr. Robert Carberry stated unequivocally that a fire had never occurred at any of CL&P's substations. This party subsequently determined that this statement was false. To give just one example, on March 29, 2006, a fire occurred at the Tunnel substation located at Roosevelt Street in Preston, knocking out power to about 11,000 customers in New London and Windham counties.

c) Transformer fires and explosions in electric substations are not as rare an occurrence as CL&P would like us to believe.

On December 16, 2006 a transformer caught fire at a PGE substation in Beaverton, Oregon causing more than 50,000 customers to lose power. The blaze was so intense that firefighters pulled back from the blaze and waited for the blaze to burn itself out. Several explosions accompanied the fire, including one that launched a fireball 500 feet into the air.

On December 20, 2003 a fire occurred in Pacific Gas and Electric's Mission Street substation in San Francisco.

On August 19, 2002 a transformer substation fire occurred at a Jersey Central Power & Light substation, serving Howell, Lakewood and other neighboring towns in central New Jersey.

On August 1, 2000, a substation fire occurred at Virginia Power's substation in Fairfax, Virginia.

In 2000, a substation fire occurred at Florida Power & Light's Ives Dairy substation in Miami, Florida.

In 1993, Orange & Rockland Utilities' Garnerville substation exploded, the force of the explosion causing large pieces of equipment to fly out in all directions and land perilously close to neighboring resident homes.

d) Mineral oil filled transformers of the rating envisioned for this substation are routinely provided with automatic fire detection/suppression systems. The most common of these is a water sprinkler system which would automatically direct a spray of water on the burning transformer immediately upon the system sensors, strategically located around the transformer, detecting an abnormally high temperature and/or rate of rise of temperature in the transformer vicinity. The actual fire fighting process would thus begin immediately, without the time delay inherent in CL&P's proposed approach (Section 1-a, Page 2) to this crisis. At the previously referred Planning and Zoning Commission hearing, Mr. Carberry stated that the decision not to provide such a system was based on economics. However, at the CSC hearing on April 24, 2007, Mr. Kenneth Bowes testifying for the applicant stated that if such a system was improperly installed and maintained it would very likely maloperate. Both these contentions are without merit. The cost of such a system is miniscule compared to the overall project cost. Further, no system or equipment can be expected to operate reliably and efficiently if it is improperly installed and maintained. In the vital interest of public safety, it should be made incumbent on CL&P to provide such a system, correctly installed and properly maintained.

It is pertinent to note here that the smoke and heat detectors (see Page J-2, Vol 1 of CL&P's application) that CL&P proposes to install would be installed around/in the relay and control equipment enclosure (the "control enclosure") and would not detect smoke or abnormally high temperatures in the vicinity of the transformer and thus would not detect a transformer fire.

e) Another safety development in transformer technology is use of non-flammable synthetic oil in lieu of the traditional highly flammable mineral oil. The use of synthetic oil has been recognized and endorsed by the American National Standards Institute, the US Environmental Protection Agency, and overseas, by the International Electrotechnical Commission (IEC) standards. These oils are non-toxic, non-hazardous, have excellent dielectric and thermal characteristics,

high fire point (greater than 300 degrees Celsius) and a safety record of over 25 years in-service operation.

In response to my specific question at the April 24, 2007 public hearing, Mr. Bowes stated that he was unaware of the existence of synthetic oil filled transformers. While it is difficult to accept such professed ignorance coming from an expert as highly qualified and experienced as Mr. Bowes, such ignorance is no excuse for not utilizing state-of-the-art technology, particularly when such technology would reduce the possibility of a transformer fire to practically zero.

f) I respectfully urge the Council to follow its statutory mandate to ensure that all constructions be executed in such manner and utilize such equipment as will minimize environmental damage and maximize public safety. For the subject under consideration, this can be accomplished in part by mandating the applicant provide an automatic fire suppression system for a mineral oil insulated transformer or alternatively, use a synthetic liquid filled transformer.

2) Provision of a concrete wall around substation perimeter.

Applicant proposes to enclose the substation by a seven foot high chain link fence topped with an additional foot of three strands of barbed wire.

Given that the proposed substation is located in a purely residential area where children routinely play outdoors, this protection is woefully inadequate. Only a few years ago, a tragic situation occurred at a substation owned by the United Illuminating Company. A young boy, in hot pursuit of a ball, managed to breach the surrounding fence, enter the substation, and got electrocuted.

I therefore urge the Council to require the applicant to provide a seventeen foot high concrete wall around the substation perimeter. The gates to the substation should be constructed as concrete panels that will operate in a sliding fashion.

Apart from enhancing the safety of the neighboring residents, such concrete wall would have the additional benefits of reducing visibility of the substation from some residences during the winter months and also contribute significantly to noise reduction in the neighborhood.

3) Reforestation Measures

In response to Data Request CSC-01, Q-CSC-007, Applicant has stated that development of the facility will require the removal of up to 256 trees with six inch or greater diameters, as a conservative estimate. Drawing Nos. C-2, C-3, C-3a, C-4, and C-4a submitted by the applicant (Volume 2 of their application) show the trees earmarked for removal. During the April 24, 2007 public hearing, another questioner observed that several of the trees so marked were outside the

construction zone and the proposed entrance pathway to the substation and questioned the need for their removal. Applicant responded that the drawings were “preliminary” and that not all trees so marked on the drawings would in fact be removed. I urge the Council to require applicant to submit final drawings showing the precise number of trees to be removed and a D&M plan incorporating a landscape plan detailing the specific reforestation measures they would adopt. Such documentation should be submitted by applicant for review by the Council and all parties prior to Council rendering its decision. Absent such commitment, applicant will remain at liberty to fell trees indiscriminately and concerned parties and neighboring residents will be left with no recourse.

4) Electric and Magnetic Fields

Applicant will provide two 13.8 kV distribution feeder circuits and one 23 kV distribution feeder circuit in underground conduits in a concrete encased duct bank southward to Stepstone Hill Road, following the general route of the new access drive.

Applicant has calculated post-project the electric and magnetic fields along the east and west property borders generated by the 115 kV line. Applicant has not presented any figures for these fields along the southernmost border of the property and additionally has ignored the contribution to these fields from the above mentioned 23 kV and 13.8 kV feeders. In fact, the major contribution to these field strengths along the southernmost boundary line of the property (where the access pathway meets Stepstone Hill Road) would come from these 23 kV and 13.8 kV feeders.

In response to Data Request CSC-01, Q-CSC-001, applicant has stated that it is impractical to model the effects of these distribution feeders due to varying load conditions. While it is true that load conditions will vary depending on the season and the time of the day, it is possible to and applicant should be required to estimate the post-construction strength of these fields along the aforesaid southernmost line of the property taking the currents in the distribution feeders into account, by assuming balanced phase loadings and using the maximum expected loading of these feeders under summer peak day average load conditions and peak load conditions. Additionally, applicant should be required to make a commitment to measure these field strengths post-construction and furnish these values to all parties.