STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

THE CONNECTICUT LIGHT AND POWER COMPANY AND THE UNITED ILLUMINATING COMPANY APPLICATION FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED FOR THE CONSTRUCTION OF A NEW 345-KV ELECTRIC TRANSMISSION LINE AND ASSOCIATED FACILITES BETWEEN THE SCOVILLE ROCK SWITCHING STATION IN MIDDLETOWN AND THE NORWALK SUBSTATION IN NORWALK, INCLUDING THE RECONSTRUCTION OF PORTIONS OF EXISTING 115-KV AND 345 KV ELECTRIC TRANSMISSION LINES, THE CONSTRUCTION OF BESECK SWITCHING STATION IN WALLINFORD, EAST DEVON SUBSTATION IN MILFORD, AND SINGER SUBSTATION IN BRIDGEPORT, MODIFICATIONS AT SCOVILL ROCK SWITCHING STATION AND NORWALK SUBSTATION, AND THE RECONFIGURATION OF CERTAIN INTERCONNECTIONS	:	DOCKET NO. 272
	:	MARCH 28, 2005

TOWN OF WOODBRIDGE EXCEPTIONS TO DRAFT FINDINGS OF FACT

The Town of Woodbridge ("Town") submits these Exceptions to the Draft Findings of Fact distributed by the Siting Council on March 23, 2005. The Town submits these exceptions only as to certain proposed findings. However, in submitting these exceptions, in no way should the Town be construed as waiving any rights to contest any other proposed findings of fact, and the Town expressly reserves its rights to do so.

FOF 286. The applicants are doing studies to re-evaluate the placement of the transmission poles, to move them outside of the wetlands. The applicants have attempted to place the poles where they are currently located and if they are currently located in wetlands modifications are being attempted to move the structures out of the wetlands. (Tr. 6/01/04, p. 61, 62).

EXCEPTION: While it is true that the applicants represented almost nine months ago that it had been working on studies to move the structures out of the wetlands, those studies were never submitted to the Council or provided to the Town of Woodbridge, and are not part of the Record. To the contrary, in Woodbridge alone, of the 6.2 mile length of ROW, approximately 2.7 miles of the length of the ROW has wetlands, and the project could result in approximately 7.3 acres of temporary wetland disturbance and 4.3 acres of wetland fill in Woodbridge alone.

FOF 288. Final placement of the poles would be determined in accordance with the Development and Management plan to ensure that the aerial photography are up to date.

EXCEPTION: Deferring placement of the poles to the D&M stage violates the PUESA, the Siting Council Guidelines, due process and fundamental fairness.

FOF 289. The area of permanent fill in a wetland includes the base of a pole that is located in a wetland. Assuming the foundation of the transmission pole would be approximately eight feet by eight feet on average, the impact to the wetland would be 64 square feet.

EXCEPTION: As a result of the larger structures to be used to reduce EMF, the assumption regarding the foundation of the transmission pole underestimates the size of the foundation and the resulting direct impact to wetlands. The footprint for the structures is significantly larger than represented in the Application. Tr. 2/01/05 at 161-64. The Applicants have not provided an assessment of the increased impact of the larger structures in violation of PUESA, the Siting Council Guidelines, due process and fundamental fairness.

FOF 290. The temporary impact of construction to wetlands could be reduced from 100 feet by 100 feet as stated in the application to 40 to 50 feet through the use of wooden mats. (Tr. 06/01/04, p. 76, 77)

EXCEPTION: In its February 1, 2005 letter to the Council, the applicants specifically retracted its claim that it might be able to reduce the temporary impact area. In that letter, the applicants recognized that higher towers will require larger foundations, more fill, and other construction related impacts to wetlands. The applicants, however, have no intention of providing updated environmental information to the Council until the D&M, in violation of PUESA, the Siting Council Guidelines, due process and fundamental fairness.

FOF 294. The area with the greatest wetland impacts is in northern Woodbridge on the water company property (Tr. 06/01/04, p. 148, 149).

EXCEPTION: This finding is in direct contradiction to the evidence in the Record. It is true that Mr. Prete, who is not qualified to give opinions on environmental issues, stated on page 149 of the June 1, 2004 transcript:"Chairman Katz, I'd like to get you a better answer on that. My recollection is it was north of there in that water company property in Woodbridge." However, on the preceding page, Kenneth Stevens, the Companies' soil scientist, testified that the greatest wetland impacts on the line are in Woodbridge and Orange, and identified the area of the JCC in particular. This proposed finding ignores Wetland 133 in the vicinity of Ezra Academy, which is the largest wetland in the ROW and contains Race Brook, which is a DEP stocked trout stream, and two vernal pools. In response to a question from Attorney Larry Golden, Chris Allen of Land-Tech testified:

> MR. GOLDEN: And Mr. Prete indicated he thought the most significant wetlands area was to the north. Based on your own site visits, do you gentlemen have an opinion?
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> MR. ALLAN: Yes. We feel there are several wetlands within the right-of-way at Woodbridge that are probably more significant than others. One would be Wetland 123, which is the Glen Dam Reservoir. Obviously, it's an important water resource. It's also habitat for the Red-Shouldered Hawk, which is a species of special concern.
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> We've identified Wetland 131 as a significant wetland. It's a rather large diverse wetland system. It's also habitat for the Eastern Box Turtle, which was identified by the Applicant.
>
> And then probably the more -- the most significant one would be Wetlands 133. It's the largest wetland along the right-of-way. We calculated that it's about eight -- the length within the right-of-way is about eight-tenths of a mile, so it extends quite a long way. It goes from basically just north of Route 313 and extends down to Salem Drive. Again, it's a very large system. It's -- a lot of it's associated with Race Brook. It's a floodplain wetland adjacent to Race Brook, which is a trout stocked stream. So it provides a lot of valuable wetland functions from flood storage to water quality protection and wildlife habitat.

Accordingly, for the Council to adopt a finding of fact based on a preliminary response from Mr, Prete who is not an environmental expert, in contradiction to both the Town's and the Applicants' own environmental professionals defies logic.

GENERAL EXCEPTION TO ENVIROMENTAL FINDINGS OF FACT:

The proposed Findings of Fact do not support any conclusions as to the environmental impact to the Town of Woodbridge resulting from the higher structures and larger foundations, including wetland and vernal pool impacts, viewshed impacts, historical and cultural resources, and recreational resources. While the height of the

towers have grown from no more than 85 feet in the application to 135 feet during the course of this docket the applicants have not provided a viewshed analysis. More than 100 towers will now be significantly above the treeline, while the application had them at or just above the treeline. The Applicants have also failed to provide an updated cultural resources assessment as a result of the impact of the taller towers on the historic resources in Woodbridge, including the Thomas Darling House, the New England Cement Co. Kiln and Quarry, and the Town Center, known as the Woodbridge Green Historic District, all of which are listed on the National Register of Historic Places. Moreover, the record is devoid of any comments from the Connecticut Historical Commission concerning the much taller towers. As a result the record does not permit the Council to make any findings concerning the impact of the taller towers on the Town's scenic and historic resources as required by PUESA, and, indeed, the proposed findings do not contain any such findings which are necessary to support a decision in this docket.

FOF 366. STATCOMs were not found to be an effective mitigation tool. The results of the KEMA studies found that C-type filtering, a passive filtering, were encouraging. KEMA concluded that an additional up to 20 miles of undergrounding appeared to be technologically feasible. (T. 12/14/04, p. 22, 23)

EXCEPTION: The first sentence of this FOF, "*STATCOMs were not found to be an effective mitigation tool*," does not accurately reflect the testimony of the witness or the complete record on the issue of STATCOMs as a mitigation device. To the contrary, KEMA stated that "[a] combined mitigation solution, using one or two STATCOMs, together with a number of C-Type Filters in place of most large capacitor banks should add excellent harmonic and dynamic voltage performance to the system." *KEMA Report @ p.* 69.

Although the ROC Group concluded that the addition of four STATCOMs to the system would not be a feasible mitigation device due to the operational complexity of this many STATCOMs (Case 7), it made no such conclusions about the addition of 1-2 STATCOMs, as recommended by KEMA. Further, KEMA testified that the operational complexity of just 1-2 STATCOMs would be "greatly reduced." *Tr. 12-14-04 @ 94*. The benefit of an additional STATCOM is in providing voltage support. *Tr. 12-14-04 @ 96*.

The Applicants also concede that STATCOMs provide voltage support, and, significantly, Mr. Zaklukiewicz admitted that adding STATCOMs to the system could have a positive effect on the temporary overvoltage problem. *Tr. 1-13-05 @ 120*. Mr. Zaklukiewicz also admitted that the Applicants did not run any studies assuming the installation of C-Type Filters and one additional STATCOM. *Id*.

FOF 387. If the Council were to approve the transmission line with more than 24 miles of undergrounding, studies would be required to show that the additional undergrounding would work before ISO-NE could support the project. If studies do not support additional undergrounding the ISO-NE would not approve the project and the transmission line could not be built. (Tr. 01/11/05, p. 43, 44).

EXCEPTION: This FOF inappropriately references ISO-NE' s approval process, and hypothesizes as to whether the transmission line will be built based on whether ISO-NE will approve additional undergrounding. Unlike the Siting Council, ISO-NE is not required to balance the need for reliable electric service with "the need to protect the environment and ecology of the state and to minimize damage to scenic, historic and recreational values." Conn. Gen. Stat. §16-50g. Unlike the Siting Council, ISO-NE is not required to approve the burial of the new line to protect statutory facilities under P.A. 04-246. Accordingly, whether ISO-NE will approve this line is irrelevant to the Siting Council' s statutory obligations.

Furthermore, this FOF appears to confuse the burden of proof on the issue of additional undergrounding. P.A. 04-246 does not require studies to show that additional undergrounding will work. It imposes the burden on the Applicants to show why undergrounding is technologically infeasible. Since KEMA has concluded that if C-Filters are employed, up to an additional 5 miles can be buried, the burden of demonstrating technological infeasibility beyond 24 miles has not been met.

FOF 477. Additional investigations of undergrounding beyond 24 miles are not recommended. Evidence to support this conclusion was found with Appendix E of the final ROC Report. (Tr. 2/17/05, p. 44-45).

EXCEPTION: This FOF does not accurately reflect the statement made by this witness. Dr. Wakefield does make these statements, but taken in context they are in regard to "the severity of TOVS that could potentially occur at ***5, 10 and 20 miles***." (Emphasis supplied). (Tr. 2/17/05, p. 45-46). They do not include less than 5 miles of additional undergrounding.

FOF 479. An additional underground length of three miles would be as problematic as five miles, resulting in more temporary over-voltages exceeding the safety margin. The total capacitance resulting in second and third harmonic resonance is the deciding factor.

EXCEPTION: This FOF is contradicted by KEMA' s testimony that "an additional five miles of undergrounding may be technically feasible using C-Type Filters." *Id*. Further, KEMA agreed that if C-Type Filters were employed as a mitigation device, there is no question that they would expect improved results with TOVs. *Tr. 2-17-05 @ 33*.

FOF 491. Porpoising the transmission line adds increased risk. The weak point is typically the hardware where the conversion is made from overhead to underground and at the opposite end from underground to overhead.

EXCEPTION: This FOF does not fully state the testimony on propoising. KEMA testified that a porpoise configuration does not weaken the system. *Tr. 2-17-05 @ 29*. Although it may be preferable to extend undergrounding from a substation from an operational point of view, KEMA testified that from a resonance and TOV point of view, it would be better to porpoise the line to add underground miles. *Tr. 2-17-05 @ 41*. Although KEMA stated that there is some risk in porpoising, it also testified that a porpoise is not in and of itself technologically infeasible. *Tr. 2-17-05 @ 31*.

FOF 493. The use of split-phasing is a common industry practice in use for the past 15 years throughout New England and the United States. The reliability of split-phasing has been proven in thousands of miles of 345kV and 500kV lines across the nation. (Tr. 2/17/05, p. 104-105).

EXCEPTION: There is no absolutely no track record for split phasing at 345 KV as a mitigation measure for EMF exposure levels. The record is abundantly clear, that while split phasing of 345 kV transmission lines may have operational history, it has never been used to consistently and reliably reduce EMF levels in the U.S. (Tr. 5/12/04 p 50)

FOF 629. The Town of Woodbridge has proposed a transition station near the intersection of Clark, Cedar and Amity Road where CL&P owns property. (Tr. 2/1/05, p. 211)

EXCEPTION: This FOF identifies only one of the two locations for transition stations in Woodbridge, which are 3.4 miles apart. The other transition station would be located on the 180 acres of property currently owned by the Regional Water Authority in Southern Woodbridge, which the Town is in the process of purchasing. This property has been designated as Class III property; it is not a part of the RWA watershed, is considered excess land, and is not needed for the public water supply. The Applicants conceded that this 3.4 mile route could be constructed. *Tr. 6/15/04 @ 191-92*.

FOF 640. The most recent meta analyses have concluded that a causal relationship cannot be established for EMF and cancer, and that if there is any association, it will be extremely small, extremely rare and extremely difficult to establish. (Tr. 3/25, p. 29)

EXCEPTION: The Council's own witness, Dr. Gary Ginsberg, opined that the association is not insignificant, but is "somewhat impressive." Moreover, this finding is irrelevant as the Legislature, in enacting P.A. 04-246, already determined that EMF presents a significant public health concern. *See Towns' Joint Brief at pp. 18-22.*

FOF 644. The meta-analyses which have been completed have shown that there is a weak inconsistent relationship at best between EMF from power lines and childhood leukemia. (Tr. 3/25, p. 95)

EXCEPTION: The Council's own witness, Dr. Gary Ginsberg, opined that the association is not insignificant, but is "somewhat impressive" and consistent. Moreover, this finding is irrelevant as the Legislature, in enacting P.A. 04-246, already determined that EMF presents a significant public health concern. *See Towns' Joint Brief at pp. 18-22.*

FOF 682. The calculations assumed loads of 15 gigawatts (GW) and 27.7 GW. The 15 GW case reflects the average system loading in New England. (Tr. 5/12, p. 33-34, 39).

EXCEPTION: The 15GW case represents average system loading in New England in 2002, and should not be considered as a basis for establishing a meaningful buffer as required by P.A. 04-246. *See the Towns' Joint Brief at pp. 28-33.*

FOF 689. As shown on the following table, by adopting low magnetic field designs, the magnetic fields along the edge of the proposed overhead ROW could be limited to at or below those associated with the existing lines for most of the length of the ROW. The aggregate length of the "cross sections" shown in the following table where magnetic fields would be at or below existing levels is approximately 40 of the 45 miles of the overhead route. Moreover, where the magnetic fields at the edge of the ROW would not be lower than for the existing lines, they would be for the most part at or below 6 mG, with the highest fields calculated under the "15 GW Case" that reflects average conditions, at 12.4 mG. Applicant 145

EXCEPTION: First, the "no net increase" standard violates P.A. 04-246. *See the Towns' Joint Brief at pp. 36-38*. Second, the 15GW case represents average system loading in New England in 2002, and should not be considered as a basis for establishing a meaningful buffer as required by P.A. 04-246. *See the Towns' Joint Brief at pp. 28-33.* Third, 3 mG and not 6 mG must be the threshold exposure level for

establishing a meaningful buffer zone as required by P.A. 04-246. *See the Towns' Joint Brief at pp. 22-28.*

FOF 702. Cross Section 8, middle section, is from Glen Lake Junction to Pease Road Junction, approximately 2.9 miles long. There are two statutory facilities adjacent to the right-of-way, the Jewish Community Center Day Care, and on the west side of the right of way, the Jewish Community Center baseball field. Option 5 provides the lowest magnetic field, of 0.6 mG, and at the JCC Day Care facility it would be 0.3 mG. The 345kV line would be split phase and the 115kV line on its own structure. They are both taller than in the application.

EXCEPTION: The EMF calculations are based on the 15GW case, which should not be the basis for creating meaningful buffer zones as required under P.A. 04-246. *See the Towns' Joint Brief at pp. 28-33.* Second, the JCC, whether considered as a whole or in part, has facilities protected by P.A. 04-246 in addition to the facilities listed, such as its day camp and playgrounds.

FOF 703 Cross Section 8 south runs from Pease Road Junction to East Devon Substation, a 12 mile distance. This segment itself is divided into north and south segments. The north segment runs through Woodbridge and Orange has 7 buffer zone statutory facilities along the right of way. There are two schools, the Ezra Academy-Gan Hayeled School on the east side of the right-of-way in Milford, and the Race Brook Elementary School on the west side of the right-of-way in Orange. There are five residential areas, one in Woodbridge and 4 in Orange. On the east side is the Salem Road neighborhood and the Dogwood Road neighborhood. On the west side are the Bittersweet neighborhood and the Overland Drive neighborhood and the South Race Brook Road neighborhood. (Tr. 7/27, p. 31-32)

EXCEPTION: First, Ezra Academy is in Woodbridge, not Milford. Second, there are more than 5 residential properties along the ROW in Woodbridge.

FOF 715. Optimized split-phase has been used by a utility in New York. It would be expected to be as reliable as a double-circuit line, and is very similar to a double circuit line with three wires on each side of the structure. Split-phase lines show reductions in EMF levels and match calculated levels. (Tr. 7/27, p. 161-62)

EXCEPTION: The New York utility employed optimized split phasing at 115kV, not 345 kV. There is no industry experience for split phasing a 345 kV transmission line as a mitigation strategy for EMF.

FOF 723. Directly over underground cables, substantial levels of magnetic fields would be expected. Background levels might not be reached until a distance of 40 to 100 feet, depending on the design of the line. (Tr. 3/25, p. 112-113)

EXCEPTION: To the extent that the Council deems 3mG to constitute background, that level is achieved 20 feet from the center of the cable. See proposed findings 722 and 726.

FOF 766. Considering EMF from a perspective of specific sources or environments does not fully reflect the variations in a person's personal exposure as encountered in everyday life. Sources of magnetic fields include transmission lines, distribution lines, home appliances, wiring in the home, exposure at grocery stores, visits around town, etc. (Applicant 1 Vol. 6, "Electric and Magnetic Field Assessment : Middletown-Norwalk Transmission Reinforcement," pp. 1-5); Applicant 190; Council's Administrative Notice 2).

EXCEPTION: This proposed finding is irrelevant to this Docket as the Public Act specifically applies to new transmission lines. EMF sources, other than new transmission lines, are irrelevant under P.A. 04-246.

FOF 771. The surface of a hairdryer may have a magnetic field as high as 20,0000mG. (Tr. 2.1.05, p. 78)

EXCEPTION: This proposed finding is irrelevant to this Docket as the Public Act specifically applies to new transmission lines. EMF sources, other than new transmission lines, are irrelevant under P.A. 04-246.

FOF 775. On January 28, 2005, the Vermont Public Service Commission approved the Velco Northwest Reliability Project, a new 115-kV and 345-kV transmission lines, stating a policy of "prudent avoidance" in the siting of transmission lines. The proposed are expected to produce edge of ROW magnetic fields of 14mG to 42 mG at average loads, and 183 mG to 286 mG at maximum loads. (Applicant Administrative Notice, pp. 6, 64).

EXCEPTION: The Vermont decision is irrelevant. *See the Towns' Joint Brief at pp. 38 – 39.*

FOF 778. The Council's Electric and Magnetic Field Best Management Practices in effect at the time this Application was filed were those initially adopted on February 11, 1993. (Applicant 1, Vol. 6, "Electric and Magnetic Field Assessment : Middletown-Norwalk Transmission Reinforcement"; Applicant Administrative Notice1).

EXCEPTION: While it is true that the 1993 BMPs were in effect at the time this Application was filed, the Council did not update it in the manner required by P.A. 04-246.

Respectfully submitted,

TOWN OF WOODBRIDGE

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