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

COMMENTS AND EXCEPTIONS OF RICHARD BLUMENTHAL, ATTORNEY GENERAL FOR THE STATE OF CONNECTICUT

Richard Blumenthal, Attorney General for the State of Connecticut ("Attorney General"), hereby submits his comments and exceptions regarding the Draft Findings of Fact issued by the Connecticut Siting Council ("Council") on March 23, 2005 ("Draft Findings"). The Attorney General respectfully submits that the following changes and clarifications to the Draft Findings are necessary and appropriate to ensure that the final decision in this proceeding is consistent with the letter and intent of Connecticut law and best protects our environment as well as our energy needs into the future.

The Council's Draft Findings include 778 individual findings, and the Council did not review findings 632 through 778 during its March 23, 2005 meeting. Moreover, certain issues that are critical to resolving this case, such as how a buffer zone will be designed and applied in specific instances, are not clearly addressed in the Draft Findings. As a result of these factors, as well as the extremely expedited schedule in this case, the Attorney General's exceptions must be considered preliminary and do not necessarily provide an exhaustive presentation of the Attorney General's comments. The failure to comment herein on any particular draft finding or findings should not be interpreted as any sort of assent or agreement therewith.

I. INTRODUCTION

The Attorney General strongly supports improving our state's transmission facilities as quickly as possible. Transmission system upgrades are vitally necessary to deliver reliable power throughout the state and to improve the overall reliability and integrity of the regional electric grid. These upgrades are also necessary to reduce electricity costs and enable economic growth in all areas of Connecticut.

In siting the proposed transmission line, however, the Council must take reasonable steps to reduce any immediate damage or lasting detriment. The proposed 69 mile project traverses one of the most densely populated and highly developed areas of the country, permanently impacting our landscape, environment and health as it increases the levels of electric and magnetic fields ("EMF").

For these reasons, the Attorney General respectfully requests that the Council carefully consider these comments and exceptions as well as those submitted by the towns and citizens that will be directly affected by this project and only approve the

construction of a Middletown to Norwalk electric transmission line if the design of the line provides the most effective environmental and public health safeguards. Additionally, any approval must completely comply with the legislative mandates regarding undergrounding as much of the line as is technologically feasible and protecting against the harmful effects of EMF.

II. COMMENTS AND EXCEPTIONS

A. Reliability

The Council's Draft Findings under the heading of "Reliability" include a number of findings regarding the various alternatives to the 345 kV transmission line that was proposed by the Applicants in this case to meet the needs of our state's electric system. These alternatives include:

-a no action alternative, Draft Finding of Fact ("FOF") 84;

-a 115 kV alternative, FOF 85-86;

-an all underground alternative, FOF 87-89;

-a generation alternative, FOF 90-93; and

-a conservation and demand response alternative, FOF 94-102.

The Council should recognize in its findings of fact that upgrading the electrical system in Connecticut requires a balanced approach and strategy. Transmission, generation (including distributed generation) and conservation and load management are all important in meeting the state's electric needs. This proposed transmission facility is only one aspect of a comprehensive approach to solving Connecticut's energy needs and should not be imposed on the state, by federal mandate or otherwise, at any undue cost to our environment or the health of our citizens.

B. ROC

Starting at FOF 379, the Council addresses the conclusions reached by the Reliability and Operability Committee ("ROC") in this case. Draft FOF 386 states that:

> [t]he ROC found that 24 miles of underground cable was the maximum amount that could be installed. The preference of the ROC would be to have four miles or 13 miles of underground cable because it would be less risky.

(Citation omitted).

Contrary to this finding, throughout this proceeding the ROC made clear that the 24 mile underground route is the ROC's preferred solution. The ROC Report states that "the ROC Group is willing to accept the increased risks inherent in Case 5 as a matter of compliance with Public Act 04-246." Ex. 176, ROC Report, 7. The Applicants as well as ISO New England "stand behind" and fully support the 24 mile underground route as adequately reliable. Transcript ("Tr.") January 11, 2005, 31-32. In fact, considering all of the factors and interests at stake in this case, including environmental impact and compliance with P.A. 04-246, the Applicants prefer the 24 mile underground route to any of the alternatives that call for shorter lengths of underground cable. Tr. January 13, 2005, 205. Thus, the Council should alter its Draft FOF to reflect that the proposed 24 mile underground route is the ROC's preferred solution.

C. Split Phasing

The Council makes numerous references to split phasing throughout its Draft Findings. For example:

-split phasing is a common industry practice, FOF 493;

-the Applicants' description of split phasing, FOF 514-515, 521;

-where and how split phasing may be possible, FOF 516, 519, 527; and

-split phasing as a method of mitigating EMFs, FOF 548, 609, 707-716, 736.

The Council should require that split phasing be tested thoroughly to ensure its effectiveness as an EMF mitigation technique given its limited track record for this specific purpose. Although promising, the Council should also provide for some recourse or further mitigation measures should this technique prove to be ineffective.

D. Residence Defined

Throughout its discussion of buffer zone issues as well as the route through the various municipalities in its Draft Findings, the Council made numerous references to "homes," "residences" and "statutory facilities," which by includes residential areas. See, e.g. FOF 511, 539, 541, 546, 554, 570. The Council did not, however, make any findings or reach any conclusions as to how the terms "home," "residence" and "residential areas" should be defined for the purpose complying with Conn. Gen. Stat. § 16-50p(a)(3)(D).

The Council should find and explicitly state that for the purpose of defining a buffer zone, the term "residential area" should be considered to be any dwelling where people live that is located in an area that is zoned residential. The Council should reject the Applicants' proposed definition that required a certain number of homes be located within a certain proximity to each other. Children deserve the same level of protection regardless of whether their homes happen to be closely surrounded by other homes.

E. Reject the "No Net Increase" Standard

In FOF 557, the Council refers to the "no net increase" standard. The Council should delete this reference and completely reject the no net increase standard because it is flatly inconsistent with the letter and intent of P.A. 04-246. Conn. Gen. Stat. § 16-

50p(a)(3)(D) requires that any portions of the proposed 345 kV transmission line that must be placed overhead "are to be contained within an area that provides a buffer zone that protects the public health and safety, as determined by the council." Moreover, when establishing a buffer zone, the Council "shall take into consideration" not only the specifically identified types of facilities such as schools and day care facilities, but also "the level of the voltage of the overhead portions and any existing overhead transmission lines on the proposed route." Conn. Gen. Stat. § 16-50p(a)(3)(D) (emphasis added). In other words, the proposed transmission line as well as any existing transmission lines on the proposed route must be placed in a buffer zone that protects public health and safety.

It is beyond dispute that pursuant to P.A. 04-246, the purpose of the buffer zone is to protect public health and safety around any portions of the line that must be overhead. In light of the scientific uncertainty and the serious health risks to children associated with EMF from 345 kV lines, the Connecticut Department of Public Health ("DPH") recommended in this case that the Council should seek to avoid this risk when possible. Tr. October 14, 2004, 149. Avoiding this risk means reducing EMFs to levels that are not associated with increased risk of childhood leukemia. The DPH testified in this case that prudent avoidance measures should begin at 3 mG. DPH further testified that between 3 and 6 mG is a "grey area" that is slightly above background levels which is not ideal but is not an identifiable health risk. Above 6 mG, however, there is a larger public health risk that should be protected against. Tr. October 14, 2004, 139.

In light of this testimony, the Council should begin with the goal of designing a buffer zone that extends 300 feet from each side of the 345 kV transmission line. A 300 foot buffer zone would reduce EMFs to less than 2 mG, or levels for which there is no

proof of an increased risk of childhood leukemia. Tr. January 20, 2005, 170. According to DPH, at 300 feet, EMFs from even a strong source would be reduced to background levels. Tr. May 12, 2004, 173; May 13, 2004, 71-72. Such a standard would eliminate any guess work regarding EMF measurements and the effectiveness of various mitigation measures.

A 300 foot buffer zone, however, may not be practical in this case because it is generally wider than the existing overhead right-of-way. Thus, in the event that underground cable is not technologically feasible and a 300 foot buffer zone is not reasonably practical, in order to protect public health and safety the Council must design a buffer zone that reduces EMF levels to no more than 3 mG near all schools, day care facilities, youth camps, playgrounds and other locations where children congregate in order to protect Connecticut's children from an increased risk of childhood leukemia. Elsewhere along the overhead route, EMF levels should be reduced to no more than 3 mG where possible, but absolutely no higher than 6 mG.

The Council may not, consistent with the Act, approve a Phase II line in a manner that leaves EMFs along that route at levels that threaten public health and safety simply because such levels existed before the proposed 345 kV line was constructed. Rather, 04-246 requires that the Council site any overhead portions of the proposed line, as well as any transmission lines that already exist in that overhead route, in a buffer zone that protects public health and safety from the EMFs emitted by all of those lines.

Moreover, the evidence presented in this case makes clear that there is no reliable way for the Council to even know what "present" EMF levels are even if it were inclined to apply such an inappropriate standard. That is because the "existing" EMF levels

presented by the Applicants are based on too many debatable assumptions. See, tr. February 17, 2005, 247-248.

F. EMF

In its discussion of EMF beginning at FOF 632, the Council seems to have inappropriately minimized the wealth of convincing evidence that was presented in this case that clearly indicates the health risks associated with EMF. For instance, the only reference in the Draft Findings the NIEHS[1] Report on Health Effects from Exposure to Power-Line Frequency Electric and Magnetic Fields, NIH Publication No. 99-4493, dated May 4, 1999 ("NIEHS Study"), was in FOF 664, which stated that, "[t]he NIEHS determined EMF fields are a possible human carcinogen, Group 2B."

The NIEHS study is one of the primary studies in this area. In this study, the NIEHS concluded that "[w]hile support from individual studies is weak, the epidemiological studies demonstrate, for some methods of measuring exposure, a fairly consistent pattern of a small, increased risk with increasing exposure that is somewhat weaker for chronic lymphocytic leukemia than for childhood leukemia." The NIEHS went on to conclude "that ELF-EMF exposure cannot be recognized as entirely safe because of weak scientific evidence that exposure may pose a leukemia hazard." NIEHS Study, ii-iii. The Council should include in its findings that the NIEHS concluded that EMF exposure cannot be recognized as entirely safe.

Another example concerns FOF 670, in which the Council stated that:

> [t]here is no clear documentation that exposures to magnetic fields below 3 mG pose a health risk. Levels above 6 mG are a clear public health concern. Best management practices try to limit the number of people exposed in the range of 3.0 and 6.0 mG.

[1] NIEHS stands for the National Institute of Environmental Health Sciences.

Similarly, in FOF 679, the Council noted that "[b]etween 3 mG and 6 mG is relatively close to background levels."

These findings do not accurately reflect the credible evidence presented in this case and will not adequately protect public health and safety. The DPH, the most impartial, disinterested and unbiased expert that testified in this case regarding the health effects of EMF, made clear that there is a definite association between EMF and childhood leukemia. Tr. October 14, 2004, 96. This association, while weak, is not random and presents a definite risk factor. Tr. October 14, 2004, 123-124. Though the question is difficult to study, according to DPH there is a statistical association above 4 mG, and at 5.8 mG the evidence supports a doubling of the risk of childhood leukemia. Tr. October 14, 2004, 125-126.

As a result, as noted supra the DPH testified in this case that prudent avoidance measures should begin at 3 mG, that between 3 and 6 mG is a "grey area" that is slightly above background levels which is not ideal but is not an identifiable health risk and that above 6 mG there is a larger public health risk that should be protected against. Tr. October 14, 2004, 139. In order to be consistent with the DPH's testimony, the Council should revise its Draft Findings. For example, FOF 670 should be revised to state that the Council should seek to "limit the number of people exposed above 3 mG." Similarly, FOF 679 should be revised to state that "below 3 mG is relatively close to background levels."

The Council should also specifically reject the so-called "Lincoln Street" standard that was discussed during the Council's public meeting on March 23, 2005. This standard, as it was described, would find that the EMF levels associated with

underground cable are acceptable levels when designing a buffer zone pursuant to P.A. 04-246. For example, if buried cable in this case produces an EMF level of "X" mG, along the underground route, then the Council need only reduce EMF to "X" along the overhead route to comply with the buffer zone requirements of P.A. 04-246.

This standard is flatly inconsistent with Connecticut law and common sense. P.A. 04-246 affirmatively requires the Council to site any portions of the proposed line that must be overhead within a buffer zone that protects the public health and safety. Conn. Gen. Stat. § 16-50p(a)(3)(D). The application of a "Lincoln Street" standard could result in EMF levels at the edge of the overhead right of way that are far above those recommended as safe by the DPH. If so, then the Council could not discharge its obligation of placing the overhead lines in a buffer zone that protects public health and safety. Moreover, aside from the buffer zone requirement of P.A. 04-246, the Council has long had a duty to protect the environment and public health and safety along all parts of the route. See Conn. Gen. Stat. § 16-50p(a)(3)B.

G. EMF Measurements – Line Loadings

The Council should specifically reject the application of a 15 gigawatt ("GW") New England load level when evaluating EMF levels. In FOF 682, the Council states that "[t]he 15 GW case reflects the average system load in New England." That was, however, true in 2002. See FOF, 683. The 15 GW case reflects the normal line loading conditions for years gone by and will be far obsolete by the time the Phase II line is put into service in 2008.

The average load that will occur during the 40 years that the Phase II line is expected to be in use will likely be 16 to 18 gigawatts ("GW"). If the Council must

choose between the 15 GW case and the 27.7 GW case since these were the only two cases provided by the Applicants in this case, it should go with the 27.7 GW case. Of the two, the 27.7 GW case better reflects load levels that will be reached in the future.

The Council cannot rely upon the hope that the completion of the 345 kV loop in SWCT will attract sufficient new generation to SWCT to reduce the loadings on the Phase II lines. While new generation is certainly possible and would benefit Connecticut's ratepayers, economy and environment, the decision to site new generation is now left to "market forces" which are nearly impossible to predict and should not be relied upon for this purpose.

H. Implantable Defibrillators

The Council should find that the EMFs associated with 345 kV transmission lines have a negative impact on the functioning of implantable defibrillators, known as ICD's. Woodbridge Educational Institution Ex. 2, Pre-Filed Testimony of Dr. Grubman, 1-3.

I. Development and Management Phase

During its public meeting on March 23, 2005, the Council indicated that it intended to allow towns to request changes to pole heights and locations in the development and management ("D&M") phase of this proceeding. The Attorney General appreciates the Council's good intentions and respectfully requests that the Council take additional steps in this regard. Specifically, the Council should permit individuals and groups, as well as towns, to participate in the D&M phase and should allow them to raise issues beyond just pole placement and location.

In addition, the Council should make its decision contingent upon the D&M phase of this proceeding where locally specific overhead and underground route configurations

and designs, as well as the impact of construction on traffic and safety, can be examined and resolved. This approach will allow the affected towns and interested parties the opportunity to participate in such decision-making processes. Such give-and-take is critical to the fair and appropriate design of a buffer zone that protects public health and safety without unnecessarily impacting or destroying the usefulness of the facilities themselves.

WHEREFORE, for the foregoing reasons, the Attorney General respectfully requests that the Council consider these comments and exceptions regarding the Draft Findings.

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Service is hereby
certified to all parties
and intervenors designated
on this Agency's service
list in this proceeding.

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