CARMODY & TORRANCE LLP
Attorneys at Law

50 Leavenworth Street
Post Office Box 1110
Waterbury, Connecticut
06721-1110
Telephone: 203 573-1200
Facsimile: 203 575-2600
www.carmodylaw.com

Brian T. Henebry

Direct: 203-575-2601

February 16, 2007

Honorable Daniel F. Caruso
Chairman
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

Re: Docket 272

Dear Chairman Caruso:

The Connecticut Light and Power Company and The United Illuminating Company ("the Companies") hereby file the enclosed original and twenty copies of the Post-Construction Electric and Magnetic Field Monitoring Plan for the Middletown to Norwalk 345-kV Electric Transmission Project. The Companies are filing this plan pursuant to item 14(j) in the Connecticut Siting Council's Decision and Order dated April 7, 2005 in the above-referenced docket. Please call me if you have any questions regarding this matter.

Very truly yours,

Brian T. Henebry

BTH/da

cc: Service List (via electronic mail)

{W1490581}

POST-CONSTRUCTION E&MF MONITORING PLAN

MIDDLETOWN TO NORWALK 345-kV ELECTRIC TRANSMISSION PROJECT

I. Introduction and Purpose

In accordance with the April 7, 2005 Decision and Order of the Connecticut Siting Council (the "Council") in Docket 272, The Connecticut Light and Power Company and The United Illuminating Company (collectively, the "Companies") propose the following post-construction electric and magnetic field monitoring plan for the Middletown-Norwalk 345-kV Electric Transmission Project (the "Project").

A primary purpose for electric and magnetic field measurements near to transmission lines is to make comparisons to levels predicted by calculations. This purpose is best served by selecting post-construction measurement locations where terrain is relatively flat, conductor configurations and heights are typical and representative, and where few if any confounding sources and objects exist. A secondary purpose for electric and magnetic field measurements is to make comparisons of levels before and after new line construction at points of interest. However, those points of interest may not be at locations which best serve the primary purpose, and measurements of magnetic fields should not be so compared because grid and power-flow circumstances can be significantly different at the times of these before and after measurements.

II. Selection of Monitoring Locations

The Companies' proposed list of monitoring locations for magnetic fields is attached. The selected locations capture each newly constructed overhead and underground line type that is part of the line design, and in each town where that type occurs.

Specifically, the criteria that the Companies applied in selecting these locations are as follows:

1. Cross Sections

At a minimum, the Companies chose at least one readily accessible monitoring location within each distinctly different cross section along both the overhead and underground portions of the route. Cross sections illustrate changes in the type of line construction.

At each of the monitoring locations on the attached list, measurements will be made within the Companies' rights of ways ("ROWs") or public roadways, and not on nearby private property, absent landowner approval.

a. Municipalities

For a cross section continuing through more than one municipality, the Companies chose at least one readily accessible monitoring location for that cross section within each municipality.

b. Statutory Facilities

Public Act 04-246 identifies "statutory facilities" as "residential areas, private or public schools, licensed child daycare facilities, licensed youth camps, or public playgrounds" that are "adjacent" to the proposed facility. During the Council's proceedings for the Project, the Companies identified numerous statutory facilities along the overhead and underground portions of the Project route.

The Companies did not select each statutory facility identified during the Council proceedings for post-construction monitoring locations. Rather, using the criteria set forth below, the Companies chose a subset of each type of statutory facility identified during the proceedings.

The Companies reviewed the private or public schools, licensed child daycare facilities, licensed youth camps and public playgrounds identified during the Council proceedings, and chose a portion of each of the facilities for monitoring locations based on the proximity to the ROW, the approximate number of children who attend the facility, the typical duration and frequency of such attendance, and any other factors deemed relevant.

The Companies reviewed residential areas identified during the Council proceedings and selected a small subset of residential areas for monitoring locations based on density of development along ROW and the proximity of residences to the ROW.

For the selected monitoring locations near to these facilities and areas, measurements will be made within the Companies' rights of ways ("ROWs") or public roadways.

2. Substations/switching stations

The Companies will take measurements along one continuous path around the perimeter fence line of each substation and switching station to be constructed or modified as part of the Project.

3. Measurement Location Characteristics

To the extent possible, the Companies chose measurement locations where: (1) the terrain is relatively flat and bare of vegetation; (2) conductor configurations and heights are typical and representative; and (3) few if any confounding sources, such as local distribution lines, and objects exist.

4. Electric Field Measurement Locations

Locations where electric field measurements will be taken are a subset of the locations where magnetic field measurements will be made.

5. True-up Locations

"True-ups" are magnetic and electric field calculations that are performed based on site-specific conditions, including input data related to the conductor height at the time the measurement is made, system loading (current flow on the lines) at the time the measurement is made, and the terrain. These calculations are compared with the measurements taken at the site. True-up measurements vs. calculation comparisons will be performed for a small subset of locations to demonstrate model accuracy.

III. Measurements for Line Segments

The Companies have taken pre-construction measurements of magnetic fields at all of the listed locations and have measured electric fields at a few of these locations. The Companies will take similar post-construction measurements at each measurement location twice within the first six months of line operation.

For the locations selected to meet criteria II.1, the Companies will measure magnetic fields along a transect (i.e., profile) passing perpendicularly over each new underground 345- and 115-kV transmission line, and also beneath new sections of overhead 345- and 115-kV lines, at the listed locations. The Companies will measure electric fields in at least one transect beneath each of the basic types of overhead 345-kV line designs used on the Project. There is no electric field above ground associated with these underground cables, and any above-ground measurements would reflect other sources. To demonstrate this, the Companies will record electric field measurements for each cable system at one location directly above the cables where no local electrical lines are evident.

IV. Measurements at Substations and Switching Stations

The Companies will measure electric and magnetic fields outside of the perimeter fence of the Scovill Rock Switching Station, Beseck Switching Station, East Devon Substation, Singer Substation, and Norwalk Substation after their construction or modification, once before and once after commencement of 345-kV line operations.

V. Measurement Instrumentation and Recording

The Companies will record all electric and magnetic field measurements at a height of one meter (3.28 feet) above ground in accordance with the industry standard protocol for taking measurements near power lines (IEEE Std. 644-1994, *"IEEE Standard Procedures for Measurement of Power Frequency Electric and Magnetic Fields From AC Power Lines"*). The resultant magnetic field will be measured with a 3-axis, recording digital meter (EMDEX II). Electric fields will be measured with an E-Probe attachment accessory to the EMDEX II meter. This accessory enables the EMDEX II to make single-axis measurements of the electric field. Both the EMDEX II magnetic field meter and the E-probe accessory meet the IEEE instrumentation standard for obtaining valid and accurate field measurements at power line frequencies (IEEE Std. 1308-1994, *"IEEE Recommended Practice for Instrumentation: Specifications for Magnetic Flux Density and Electric Field Strength — 10 Hz to 3 kHz."*) With this instrumentation, magnetic fields can be recorded continuously while walking and then plotted, whereas electric fields can be measured at spots and then recorded by hand in a data table.

VII. Reporting

Within eight months of the in-service date of the 345-kV line, the Companies will provide to the Council a report on these measurements with comparisons to predicted values. The report will include aerial photographs on a scale of 1 inch equals 100 feet to mark each measurement location. For each magnetic field measurement, the coincident transmission line currents, as recorded by the CONVEX SCADA system, will be noted and reported. Additionally for each measurement location, the size of transmission line conductors and underground cable sizes and types will be reported.

Attachment
Monitoring Locations for Magnetic Fields
Middletown to Norwalk 345-kV Transmission Project

Location	Cross Section #	Segment #	Municipality	Location	400 Scale Aerial Segment #	Comments
1	Scovill Rock	1A	Middletown	Scovill Rock Switching Station	1	Perimeter of Scovill Rock Switching Station
2	1 LEMF	1A	Middletown	Bartholomew Road	3	
3	2 LEMF	1A	Durham	Arbutus Street	5	Proximity to Residences
4	2 ROB	1B	Middletown/ Middlefield	South Main Street (Rt 17)	6	Proximity to Residences
5	2 LEMF	1A	Durham/ Middlefield	Durham Landfill (near Cherry Hill Road)	7	
6	3 LEMFB	1A	Meriden	Meriden PBA	12	
7	3	1A	Meriden	High Hill Road	12	Proximity to Residences
8	4	1A	Wallingford	Gravel Operation	13	
9	Beseck	2A	Wallingford	Beseck Switching Station	10,14	Perimeter of Beseck Switching Station
10	5 LEMF	2A	Wallingford	Cornfield off of Tamarac Swamp Road	18	
11	5 TGC	2A	Wallingford	Harrison Road	19	Proximity to Residences
12	6 EAST	2A	Wallingford	Field off of Pond Hill Road	19	
13	6 WEST	2A	Wallingford	South Cherry Street	20	
14	7A	2A	Wallingford	Blue Hill Orchard (Behind Woods Edge Circle)	21	
15	7B	2A	Cheshire	Old Farms Road	24	Proximity to Residences
16	8A	2A	Cheshire	Old Lane Road	24	Proximity to Residences
17	8	2B	Hamden	Between Brooksvale Avenue and Whitney Avenue (Rt 10)	25	
18	8	2B	Bethany	First span off of Hatfield Road	29	
19	8	2B	Woodbridge	Dillon Road	31	
20	8 LEMF	2B	Woodbridge	JCC Parking Lot	33	On JCC Property

Attachment
Monitoring Locations for Magnetic Fields
Middletown to Norwalk 345-kV Transmission Project

Location	Cross Section #	Segment #	Municipality	Location	400 Scale Aerial Segment #	Comments
21	8 LEMF	2B	Woodbridge	Congregation B'nai Jacob	34	Proximity to Congregation B'nai Jacob
22	8	2B	Orange	Dogburn Road	36	
23	8 LEMF	2B	Orange	Orange Center Road (Rt 152)	40	Adjacent to High Plains Community Center
24	8 LEMF	2B	Milford	Eisenhower Park Parking Lot and Equestrian Field	42	In Eisenhower Park
25	East Devon	2B	Milford	East Devon Substation	45	Perimeter of East Devon Substation
26	8D	2B	Milford	Off of Caswell Avenue	46	
27	8E	2B	Milford	Access road	47	
28	9 East	3A	Milford	Naugatuck Avenue	47	
29	9 East	3B	Stratford	1895 Barnum Avenue	50	Proximity to School / Daycare
30	9 East	3B	Stratford	Thompson Street and Soundview Avenue	50	Proximity to Residences
31	9 East	3B	Bridgeport	Bishop Avenue and Sage Avenue	50	Proximity to Residences
32	9 East	3B	Bridgeport	510 Barnum Avenue	51	Proximity to School
33	9 East	3B	Bridgeport	Noble Avenue and Barnum Avenue	52	Proximity to Washington Park
34	9 East	3B	Bridgeport	Singer Substation	53	Perimeter of Singer Substation
35	9 West	4A	Bridgeport	Melrose Avenue	55	Proximity to Public Library and Residences
36	9 West	4A	Fairfield	Ruane Street	57	Proximity to Sherman School
37	9 West	4B	Westport	Post Road West	62	Proximity to King's Highway Elementary School
38	9 West	4C	Norwalk	Grand St [Between Tindall Ave and New Canaan Ave (Rt 123)]	See Figure F-2 of CL&P filing dated 7-21-06 RE: Norwalk Route Change	Proximity to Residences
39	Norwalk	4C	Norwalk	Norwalk Substation	66	Perimeter of Norwalk Substation

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
Internet: ct.gov/csc

Daniel F. Caruso
Chairman

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

January 4, 2008

Brian T. Henebry, Esq.
Carmody & Torrance LLP
50 Leavenworth St., P.O. Box 1110
Waterbury, CT 06721-1110

RE: **DOCKET NO. 272** - The Connecticut Light and Power Company and The United Illuminating Company Certificate of Environmental Compatibility and Public Need for the Construction of a New 345-kV Electric Transmission Line and Associated Facilities Between Scovill Rock Switching Station in Middletown and Norwalk Substation in Norwalk, Connecticut Including the Reconstruction of Portions of Existing 115-kV and 345-kV Electric Transmission Lines, the Construction of the Beseck Switching Station in Wallingford, 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. EMF Monitoring Plan

Dear Attorney Henebry:

At a public meeting held on November 5, 2007, the Connecticut Siting Council (Council) considered and approved the Electric and Magnetic Field Monitoring Plan as proposed with the addition of the following locations; Lyman's Golf Course, Middlefield under the new 345-kV line; Old Farms Road, Cheshire above the new 115-kV underground cables and Lincoln Street, Westport above the new 345-kV underground cables.

This approval applies only to the correspondence dated February 16, 2007 and November 2, 2007. Enclosed for your information is the staff report dated November 5, 2007.

Any deviation from the D&M plans may result in the Council implementing enforcement proceedings pursuant to General Statutes § 16-50u including, without limitation, imposition of expenses resulting from such failure and of civil penalties in an amount not less than one thousand dollars per day for each day of construction or operation in material violation.

Please feel free to call S. Derek Phelps, Executive Director if you have any questions.

Sincerely,

Daniel F. Caruso

Daniel F. Caruso
Chairman

DFC/FOC/laf

Enclosure

c: Council Members
Parties and Intervenors

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STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
Internet: ct.gov/csc

Daniel F. Caruso
Chairman

NOTICE OF SERVICE

I hereby affirm that a photocopy of this document was sent to each Party and Intervenor on the service list dated December 10, 2007.

Dated: January 4, 2008

Lisa Fontaine
Custodian of Docket No. 272

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
Internet: ct.gov/csc

Daniel F. Caruso
Chairman

Docket No. 272
Connecticut Light and Power Company and The United Illuminating Company
Middletown to Norwalk 345-kV and 115-kV Transmission Line
Development and Management Plan
Electric and Magnetic Field Monitoring Plan
November 5, 2007

The Connecticut Light and Power Company and The Unite Illuminating Company (Certificate Holders) submitted an electric and magnetic field (EMF) post-construction monitoring plan for Middletown to Norwalk 345-kV and 115-kV Transmission Line facility to the Connecticut Siting Council (Council) for review and approval. These plans were presented to the parties and intervenors on February 16, 2007 and the Council received no comments.

The plan identifies 39 measurement locations which incorporates each municipality and each type of transmission line configurations consistent with the Council's Findings of Fact and Development and Management Plan. CL&P proposes to conduct EMF measurements along the outside of the perimeter fence of each substation (Scovill, Beseck, East Devon, and Singer), once before and once after commencement of operations.

The Certificate Holders would measure magnetic fields along a transect passing perpendicularly over each new 345-kV and 115-kV transmission underground cables and beneath new sections of overhead 345-kV and 115-kV transmission lines. Electric field measurements would be taken under each basic type of overhead 345-kV design. No electric field is expected from underground cables however the Certificate Holders would take electric field measurements to demonstrate such effect. Council staff also recommends that measurements be also taken at Lyman's Golf Course, Middlefield under the new 345-kV line; Old Farms Road, Cheshire above the new 115-kV underground cables and Lincoln Street, Westport above the new 345-kV underground cables. The Certificate Holder does not object to the added locations.

During the certificate proceedings numerous statutory facilities were identified. The Certificate Holders chose a subset of locations based on proximity to right-of-way, duration and frequency of use and density of residential development. Council staff believes this is a practical approach and this would not preclude this Council from ordering measurements at locations in the future.

Measurements would be in accordance with industry standard protocol; IEEE Std. 644-1994, "IEEE Standard Procedures for Measurement of Power Frequency Electric and Magnetic Fields From AC Power Lines" and IEEE Std. 1308-1994, "IEEE Recommended Practice for Instrumentation: Specifications for Magnetic Flux Density and Electric Field Strength -10 Hz to 3 kHz".

A report on the EMF measurements including comparisons to calculated values would be filed with the Council within eight months of the in-service date of the lines. The report would include conductor size, cable type and size, line loading, an aerial photograph 1 inch equals 100 feet marking measurement location(s) and comparison with predicted values.

Council staff recommends approval with recommendations of the EMF monitoring plan.