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June 8, 2012

VIA HAND DELIVERY

Ms. Linda Roberts  
Executive Director  
Connecticut Siting Council  
10 Franklin Square  
New Britain, CT 06051

Re: Docket No. 426; Third Taxing District Application for a Certificate of Environmental Compatibility and Public Need

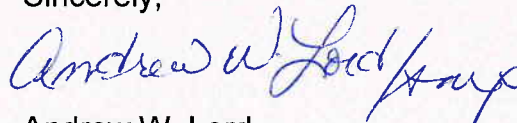
Dear Ms. Roberts:

I am writing on behalf of Third Taxing District Electric Department's application for a Certificate of Environmental Compatibility and Public Need for the above-referenced docket. An original and 20 copies of the following documents are enclosed for your convenience.

1. Pre-filed Testimony of Joshua W. Phinney.

If you have any questions or require additional information, please feel free to contact me.

Sincerely,



Andrew W. Lord

Enclosures

cc: Mr. George E. Leary  
Service List

3940473v2

Murtha Cullina LLP | Attorneys at Law

BOSTON

HARTFORD

MADISON

NEW HAVEN

STAMFORD

WOBURN

**LIST OF PARTIES AND INTERVENORS**  
**SERVICE LIST**

Status Granted	Document Service	Status Holder (name, address & phone number)	Representative (name, address & phone number)
<b>Applicant</b>	<input checked="" type="checkbox"/> E-mail	Third Taxing District Electric Department	Andrew W. Lord, Esq. Murtha Cullina LLP CityPlace I, 29 <sup>th</sup> Floor 185 Asylum Street Hartford, CT 06103 (860) 240-6180 (860) 240-6150 fax <a href="mailto:alord@murthalaw.com">alord@murthalaw.com</a>
	<input checked="" type="checkbox"/> E- Mail		George E. Leary, General Manager Third Taxing District Electric Dept. 2 Second Street East Norwalk, CT 06855 (203) 866-9271 <a href="mailto:manager@ttd.gov">manager@ttd.gov</a>
	<input checked="" type="checkbox"/> U.S. Mail		James T. Olsen, LEP Senior Project Manager, Associate Tighe & Bond, Inc. 213 Court Street, Suite 900 Middletown, CT 06457 (860) 704-4775 (860) 805-8776 (cell)
<b>Party (granted 5/10/12)</b>	<input checked="" type="checkbox"/> E-mail	The Connecticut Light and Power Company (CL&P)	John R. Morissette Manager – Transmission Siting and Permitting Northeast Utilities Service Co. P.O. Box 270 Hartford, CT 06141-0270 (860) 665-2036 (860) 665-6933 fax <a href="mailto:morisjr@nu.com">morisjr@nu.com</a>
	<input checked="" type="checkbox"/> U.S. Mail		Christopher C. Swan Director Municipal Relations & Siting Northeast Utilities Service Company 9 Tindall Avenue Norwalk, CT 06851 (203) 845-3421 (203) 845-3628 <a href="mailto:swancc@nu.com">swancc@nu.com</a>

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Status Granted	Document Service	Status Holder (name, address & phone number)	Representative (name, address & phone number)
	<input checked="" type="checkbox"/> U.S. Mail	The Connecticut Light and Power Company (CL&P) continued...	Jeffery D. Cochran, Senior Counsel Northeast Utilities Service Co. P.O. Box 270 Hartford, CT 06141-0270 (860) 665-3548 (860) 665-5504 <a href="mailto:cochrjd@nu.com">cochrjd@nu.com</a>

STATE OF CONNECTICUT  
CONNECTICUT SITING COUNCIL

APPLICATION TO THE CONNECTICUT : DOCKET NO. 426  
SITING COUNCIL FOR A CERTIFICATE :  
OF ENVIRONMENTAL COMPATIBILITY :  
AND PUBLIC NEED FOR THE 115-kV :  
TRANSMISSION CONNECTION AND :  
EXPANSION OF EAST AVENUE :  
SUBSTATION, 6 FITCH STREET, NORWALK :  
CONNECTICUT : JUNE 7, 2012

PRE-FILED TESTIMONY OF JOSHUA W. PHINNEY, Ph.D., P.E.

**Q. Please state your name, title and business address.**

A. Joshua W. Phinney, Ph.D., P.E.  
Senior Managing Engineer  
Exponent  
420 Lexington Avenue, Suite 1740  
New York, NY 10170

**Q. Please describe your current responsibilities and professional expertise.**

A. My background is in electrical and electronic engineering, particularly related to power electronics, electromagnetics, and electromechanics, specifically including power supplies, radio-frequency electronics, control systems, power transmission and distribution. At Exponent, I assist clients with identifying the root cause of failures in consumer and industrial electronics, transformers, lighting, and power supplies. I assist my clients with electromagnetic assessment issues pertaining to utility and communication infrastructure. These issues include permitting and environmental impact of transmission lines, substations, generation facilities, and electrified mass transit systems. I received my Ph.D. in Electric Engineering from the Massachusetts Institute of Technology. Additional details regarding my qualifications are described in my resume, attached hereto.

**Q. What has been your role in the Third Taxing District's proposed Fitch Street substation that is the subject of this docket?**

A. I have provided consulting services to the Third Taxing District related to the evaluation and mitigation of electric and magnetic fields related to the substation and transmission interconnection. I prepared the "EMF Assessment: Fitch Street Substation, Norwalk, Connecticut," which is included in the Application at

Tab G. I also assisted in the preparation of the discussion regarding Electric and Magnetic Fields in the text of the Application.

**Q. Are you prepared to address those sections of the Application and the interrogatories that you prepared or assisted in preparing?**

A. Yes.

**Q. At this time, are there any additions or corrections to the materials that you prepared?**

A. No.

**Q. Is the information in the Application and Interrogatory Responses that you prepared or assisted in preparing true and accurate to the best of your knowledge and belief?**

A. Yes.

**Q. Does this conclude your testimony?**

A. Yes

**Joshua W. Phinney, Ph.D., P.E.**  
**Senior Managing Engineer**

**Professional Profile**

Dr. Joshua W. Phinney is a Senior Managing Engineer in Exponent's Electrical Engineering and Computer Science practice. Dr. Phinney's background is in electrical and electronic engineering, particularly related to power electronics, electromagnetics, and electromechanics. His specialties include power supplies, radio-frequency electronics, control systems, printed circuits, integrated-circuit packaging, magnetics design, and power transmission and distribution. He has related experience in embedded software, acoustics, and numerical methods for optimization and simulation.

At Exponent, Dr. Phinney has assisted clients with identifying the root cause of failures in consumer and industrial electronics, transformers, lighting, and power supplies. He has testified in patent and trade secret litigation regarding computer hardware and software, power supplies, control systems for hard disk drives, and electronic instruments. In addition, Dr. Phinney has assisted clients with electromagnetic assessment issues pertaining to utility and communication infrastructure. These issues include permitting and environmental impact of transmission lines, substations, generation facilities, and electrified mass transit systems.

Dr. Phinney received his Ph.D. in Electrical Engineering from the Massachusetts Institute of Technology. His doctoral work centered on miniaturization of power converters and electromechanical power conversion. He has related experience in radio-frequency electronics (particularly phase-locked loops and RF amplifiers), network synthesis, system identification, and control. Dr. Phinney is the co-inventor on patents for improving the performance of capacitors, EMI filters, and common-mode chokes.

**Academic Credentials and Professional Honors**

Ph.D., Electrical Engineering, Massachusetts Institute of Technology, 2005  
S.M., Electrical Engineering, Massachusetts Institute of Technology, 2001  
B.S., Electrical Engineering, University of Illinois at Chicago (*summa cum laude*), 1999  
B.A., Ancient and Classical Languages, Philosophy, Wheaton College, 1995

2004 IEEE Power Electronics Society Transactions Prize Paper Award (for the paper "Filters with Active Tuning for Power Applications"); 2003 William M. Pormoy Prize Paper Award (Awarded by the Power Electronics Devices and Components Committee of the IEEE Industry Applications Society)

## **Licenses and Certifications**

Registered Professional Electrical Engineer, New York, #084129

## **Languages**

German

## **Patents**

U.S. Patent No. 7,242,269: Filter Having Parasitic Inductance Cancellation, July 2007 (with D.J. Perreault and T.C. Neugebauer).

U.S. Patent No. 6,937,115: Filter Having Parasitic Inductance Cancellation, February 2002 (with D.J. Perreault and T.C. Neugebauer).

## **Publications**

Phinney JP, Perreault DJ, Lang JH. Synthesis of lumped transmission-line analogs. *IEEE Transactions on Power Electronics* 2007; 22(4):1531–1542.

Phinney JP, Perreault DJ, Lang JH. Radio-frequency inverters with transmission-line input networks. *IEEE Transactions on Power Electronics* 2007; 22(4):1154–1161.

Phinney JP, Perreault DJ, Lang JH. Multi-resonant microfabricated inductors and transformers. *IEEE Power Electronics Specialists Conference* 2004; 4527–4536.

Phinney JP, Perreault DJ. Filters with active tuning for power applications. *IEEE Transactions on Power Electronics* 2003; 18(2):636–647.

Neugebauer TC, Phinney JP, Perreault DJ. Filters and components with inductance cancellation. *IEEE Transactions on Industry Applications* 2002; 939–947.

Phinney JP, Perreault DJ. Filters with active tuning for power applications. *IEEE Power Electronics Specialists Conference* 2001; 363–370.

Batzer MA, Arcot SS, Phinney JP, et al. Genetic variation of recent Alu insertions in human populations. *Journal of Molecular Evolution* 1996; 42(1):22–29.

## **Academic Appointments**

Adjunct Professor, Hofstra University, 2008

### **Peer Reviewer**

- Health Physics Journal, 2007
- IEEE Power Electronics Letters, 2006
- Power Electronics Specialists Conference, Recife, Brazil, 2005
- Power Electronics Specialists Conference, Jeju, Korea, 2006

### **Professional Affiliations**

- Institute of Electrical and Electronic Engineers (member)
- Tau Beta Pi