

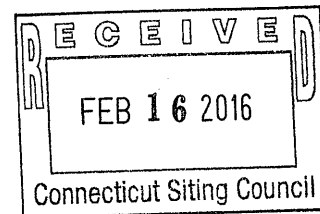
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February 16, 2016

**VIA E-MAIL & HAND DELIVERY**

Attorney Melanie Bachman  
Acting Executive Director  
Connecticut Siting Council  
Ten Franklin Square  
New Britain, CT 06051

ORIGINAL



**Re: DOCKET NO. 466** - The Connecticut Light & Power Company d/b/a Eversource Energy application for a Certificate of Environmental Compatibility and Public Need for the Frost Bridge to Campville 115-kilovolt (kV) electric transmission line project that traverses the municipalities of Watertown, Thomaston, Litchfield, and Harwinton, which consists of: (a) construction, maintenance and operation of a new 115-kV overhead electric transmission line entirely within existing Eversource right-of-way and associated facilities extending approximately 10.4 miles between Eversource's existing Frost Bridge Substation in the Town of Watertown and existing Campville Substation in the Town of Harwinton; (b) related modifications to Frost Bridge Substation and Campville Substation; and (c) reconfiguration of a 0.4-mile segment of two existing 115-kV electric transmission lines across the Naugatuck River in the towns of Litchfield and Harwinton within the same existing right-of-way as the new 115-kV transmission line.

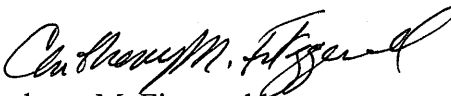
Dear Attorney Bachman:

In connection with the above-referenced Docket No. 466, I enclose the original and fifteen (15) copies of the following pre-filed direct testimony:

- Direct Testimony of Raymond Gagnon, Bradley Bentley, and Jason Cabral concerning Engineering, Design, Route Selection, Project Need, Construction, EMF Characteristics, and Outreach;
- Direct Testimony of Louise F. Mango and Matthew E. Davison concerning Environmental Features, Impacts, and Mitigation Measures; and
- Direct Testimony of Julia Frayer concerning Non-Transmission Alternatives.

I also enclose an original and fifteen (15) copies of a volume of resumes of potential witnesses.

Very truly yours,

  
Anthony M. Fitzgerald

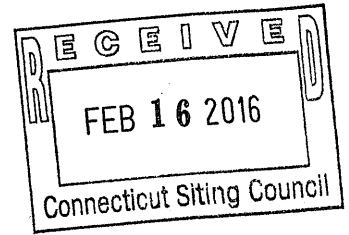
AMF/cf  
Enc.

cc: Service List dated January 21, 2016 attached (w/enc.)

LIST OF PARTIES AND INTERVENORS  
SERVICE LIST

Status Granted	Document Service	Status Holder (name, address & phone number)	Representative (name, address & phone number)
Applicant	<input checked="" type="checkbox"/> E-Mail	Eversource Energy	<p>Kenneth P. Roberts Project Manager Eversource Energy 56 Prospect Street Hartford, CT 06103 <a href="mailto:kenneth.roberts@eversource.com">kenneth.roberts@eversource.com</a></p> <p>John Morissette Project Manager-Transmission Sting-CT Eversource Energy 56 Prospect Street Hartford, CT 06103 <a href="mailto:john.morissette@eversource.com">john.morissette@eversource.com</a></p> <p>Jeffery Cochran, Esq. Senior Counsel, Legal Department Eversource Energy 107 Selden Street Berlin, CT 06037 <a href="mailto:jeffery.cochran@eversource.com">jeffery.cochran@eversource.com</a></p> <p>Anthony M. Fitzgerald Carmody Torrance Sandak &amp; Hennessey LLP 195 Church Street New Haven, CT 06509 <a href="mailto:afitzgerald@carmodylaw.com">afitzgerald@carmodylaw.com</a></p>
Party (Approved on 1/ 21/ 16)	<input checked="" type="checkbox"/> E-Mail	Office of Consumer Counsel	<p>Lauren Henault Bidra Staff Attorney Office of Consumer Counsel Ten Franklin Square New Britain, CT 06051 <a href="mailto:Lauren.bidra@ct.gov">Lauren.bidra@ct.gov</a></p> <p>Richard E. Sobolewski Supervisor of Technical Analysis Office of Consumer Counsel Ten Franklin Square New Britain, CT 06051 <a href="mailto:Richard.sobolewski@ct.gov">Richard.sobolewski@ct.gov</a></p>

STATE OF CONNECTICUT  
SITING COUNCIL



**DOCKET NO. 466** - The Connecticut Light & Power Company d/b/a Eversource Energy application for a Certificate of Environmental Compatibility and Public Need for the Frost Bridge to Campville 115-kilovolt (kV) electric transmission line project that traverses the municipalities of Watertown, Thomaston, Litchfield, and Harwinton, which consists of (a) construction, maintenance and operation of a new 115-kV overhead electric transmission line entirely within existing Eversource right-of-way and associated facilities extending approximately 10.4 miles between Eversource's existing Frost Bridge Substation in the Town of Watertown and existing Campville Substation in the Town of Harwinton; (b) related modifications to Frost Bridge Substation and Campville Substation; and (c) reconfiguration of a 0.4-mile segment of two existing 115-kV electric transmission lines across the Naugatuck River in the towns of Litchfield and Harwinton within the same existing right-of-way as the new 115-kV transmission line.

**DOCKET NO. 466**

February 16, 2016

*ORIGINAL*

**DIRECT TESTIMONY OF JULIA FRAYER ON BEHALF OF THE CONNECTICUT LIGHT AND POWER COMPANY DOING BUSINESS AS EVERSOURCE ENERGY CONCERNING NON TRANSMISSION ALTERNATIVES TO THE FROST BRIDGE TO CAMPVILLE 115-kV PROJECT**

1 **Q. Please state your name, business affiliation and business address for the record.**

2  
3 **A.** My name is Julia Frayer.

4 My firm's name is London Economics International LLC. My offices are located at 717  
5 Atlantic Avenue in Boston, Massachusetts.

6  
7 **Q. What is your position with London Economics International?**

8  
9 **A.** I am a Managing Director at London Economics International and lead many of the firm's  
10 consulting engagements involving market analysis and infrastructure evaluation. This is  
11 the business area under which the subject matter of non-transmission alternatives  
12 ("NTAs") falls.

13 **Q. What has been your role on the project?**

14  
15 **A.** I managed and oversaw an economic analysis of NTAs for the Frostbridge to Campville  
16 115-kV transmission line project. The methodological approach for this analysis as well  
17 as study findings were documented in a report, entitled *Analysis of the Feasibility and*  
18 *Practicality of Non-Transmission Alternatives ("NTAs") to Transmission Solution in the*  
19 *Northwestern Connecticut Subarea*, dated July 27th, 2015. A copy of the report is  
20 provided as Exhibit 4 in Volume 4 of Eversource's application in this Docket.

21  
22 **Q. Were all materials that bear your name prepared by you or under your**  
23 **supervision?**

24  
25 **A.** Yes.

26  
27  
28 **Q. Can you describe the NTA analysis you performed?**

29  
30 **A.** The study essentially had two broad components. First, from the ISO-NE's Market  
31 Resource Alternatives ("MRAs") analyses, I extracted information on the location and the

1 aggregate quantity of injections (as measured in MW terms) that would be necessary to  
2 substitute for the Frostbridge to Campville project (I refer to these quantities as “NTA  
3 requirements”). I then identified NTA technologies that could operationally meet the  
4 contingencies associated with the NTA requirements at each designated location.  
5 Consistent with the state’s commitment to energy conservation measures, I also  
6 considered potential energy efficiency (“EE”) resources as a component of each NTA  
7 solution. Technically feasible EE quantities were forecast for each location based on  
8 projected peak load for 2022 and an assumed peak load reduction as described in my  
9 report. Once this amount of technically feasible EE quantity was set, the remaining NTA  
10 requirement was assumed to be achieved through a supply-side NTA technology. The  
11 second stage of the analysis consisted of identifying the optimal combination of the  
12 supply-side NTA technology for each location. In summary, I sought to identify an  
13 overall NTA solution that could technically substitute for the Frostbridge to Campville  
14 reliability project while meeting the Council’s objective of appropriately balancing the  
15 objectives of providing reliable service at the lowest reasonable cost to consumers and  
16 minimizing adverse environmental effects.

17 **Q. Please summarize the findings in your report.**

18 **A.** The ISO-NE’s 2012 MRA studies concluded that 229 MW of injection would be needed  
19 at the Torrington and Campville locations to substitute for the Frostbridge to Campville  
20 project and meet the needs of the transmission system. Based on LEI’s assessment of the  
21 technically feasible technologies and their estimated levelized costs, the least cost NTA  
22 solution to the Frostbridge to Campville reliability project that included an EE component  
23 would require 180 MW of new CCGT capacity and 10 MW of incremental energy

1 efficiency at the Torrington location; and, 54 MW of new peaking generation  
2 (aeroderivative) capacity and 2 MW of incremental energy efficiency at the Campville  
3 location.

4 Although the identified technically feasible NTA solution could meet the reliability needs  
5 in the Northwestern Connecticut Subarea at the specific nodes identified by ISO-NE's  
6 MRA studies, it was determined to be vastly more costly than the preferred transmission  
7 solution. The identified least cost<sup>1</sup> technically feasible NTA solution was estimated to  
8 cost Connecticut ratepayers \$25.7 million per year - more than twelve times the annual  
9 cost of the transmission solution payable by Connecticut end-use customers (\$2.1 million  
10 a year).

11 I also considered the practical aspects of the identified least cost NTA solution. There  
12 would be challenges to implementing the NTA solution, such as the timing and expense  
13 of the siting process for new generation, acquiring sufficient land for construction, and  
14 the task of building out the requisite fuel supply infrastructure (as well as negotiating fuel  
15 supply contracts). It is worth noting that so far, no gas-fired plants have been proposed in  
16 the ISO-NE's interconnection queue for development at either the Torrington or  
17 Campville substations.

18 Overall, based on these findings, I could not conclude that there was a viable, cost  
19 effective alternative to the Frostbridge to Campville transmission project.

20 **Q. Has there been any new information that could possibly change any inputs or**  
21 **assumptions in your analysis?**

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<sup>1</sup> The "least cost" alternative refers to the lowest cost alternative that included an optimal energy efficiency component.

1 A. From our recent work unrelated to this project, I have not seen any recent development or  
2 market announcement that could have a material impact on the report's overall findings.  
3 For example, the preliminary results of ISO-NE's latest Forward Capacity Auction (FCA  
4 #10) released on February 10<sup>th</sup>, 2016, further suggest that no new generating resources are  
5 planned for this area of Connecticut.

6 However, the expected cost of some of the NTA technologies has increased. For  
7 example, on October 1<sup>st</sup> 2015, Eversource submitted an update of its three year  
8 conservation and load management plan to the Department of Energy and Environmental  
9 Protection. The relatively new data in this plan could be used to update the calculation of  
10 levelized cost of annual incremental energy efficiency resources in the report.

11 **Q. Would this new information on EE costs change the results of your analysis and**  
12 **subsequently the conclusions of your report?**

13  
14 A. No, the conclusions regarding the lack of a practical, cost-effective NTA solution to the  
15 Frostbridge to Campville reliability project do not change. In fact, the most recent  
16 information on costs associated with incremental energy efficiency resources suggests  
17 that the net levelized annual costs for incremental energy efficiency resources was under-  
18 stated in LEI's calculations. If I were to use the updated information, the net direct cost  
19 to end-use consumers would further increase, making the NTA solution even less  
20 favorable relative to the transmission solution.

21  
22