

January 5, 2016

VIA E-MAIL AND HAND DELIVERY

Attorney Melanie Bachman
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Connecticut Siting Council
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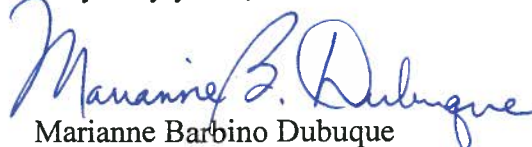
Re: **DOCKET NO. 461** - Eversource Energy Application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a 115-kilovolt (kV) bulk substation located at 290 Railroad Avenue, Greenwich, Connecticut, and two 115-kV underground transmission circuits extending approximately 2.3 miles between the proposed substation and the existing Cos Cob Substation, Greenwich, Connecticut, and related substation improvements.

Dear Attorney Bachman:

In connection with the above-referenced Docket No. 461, enclosed please find an original plus fifteen (15) copies of the following documents:

1. Third Supplemental Direct Testimony – Testimony of Kenneth B. Bowes;
2. Objection to the Office of Consumer Counsel’s December 21, 2015 Motion; and
3. Motion to Exclude Cross-Examination of Applicant on Issues of Real Property Ownership.

Very truly yours,


Marianne Barbino Dubuque

MBD/mkw
Enclosures

cc: Service List dated October 2, 2015 attached (with enclosures)

{W2628132}

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>Jacqueline Gardell Project Manager Eversource Energy 56 Prospect Street Hartford, CT 06103 jacqueline.gardell@eversource.com</p> <p>John Morissette Project Manager-Transmission Siting-CT Eversource Energy 56 Prospect Street Hartford, CT 06103 john.morissette@eversource.com</p> <p>Jeffery Cochran, Esq. Senior Counsel, Legal Department Eversource Energy 107 Selden Street Berlin, CT 06037 jeffery.cochran@eversource.com</p> <p>Marianne Barbino Dubuque Carmody Torrance Sandak & Hennessey LLP 50 Leavenworth Street Waterbury, CT 06702 mdubuque@carmodylaw.com</p>
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STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

DOCKET NO. 461 – EVERSOURCE ENERGY	:	DOCKET NO. 461
APPLICATION FOR A CERTIFICATE OF	:	
ENVIRONMENTAL COMPATIBILITY AND	:	
PUBLIC NEED FOR THE CONSTRUCTION,	:	
MAINTENANCE, AND OPERATION OF A 115-	:	
KILOVOLT (KV) BULK SUBSTATION LOCATED	:	
AT 290 RAILROAD AVENUE, GREENWICH,	:	
CONNECTICUT, AND TWO 115-KV	:	
UNDERGROUND TRANSMISSION CIRCUITS	:	
EXTENDING APPROXIMATELY 2.3 MILES	:	
BETWEEN THE PROPOSED SUBSTATION AND	:	
THE EXISTING COS COB SUBSTATION,	:	
GREENWICH, CONNECTICUT, AND RELATED	:	
SUBSTATION IMPROVEMENTS	:	JANUARY 5, 2016

OBJECTION TO THE OFFICE OF CONSUMER COUNSEL’S
DECEMBER 21, 2015 MOTION

On December 21, 2015, The Office of Consumer Counsel (“OCC”) filed a Motion requesting that the Connecticut Siting Council (the “Council”) direct Eversource to provide detailed information “regarding transformer replacements at the Cos Cob substation” (“OCC’s Motion”). For the reasons set forth below, The Connecticut Light and Power Company, doing business as Eversource Energy (“Eversource”), hereby objects to OCC’s Motion.

Eversource’s objection to OCC’s Motion is based on the following four (4) reasons, which are each explained in detail in the “Discussion” section below:

1. The Motion seeks information that is not helpful or necessary for the Council’s determination of whether to issue a Certificate of Environmental Compatibility and Public Need (“Certificate”) under the Public Utility Environmental Standards Act (“PUESA”) and is unduly burdensome.

- a. Eversource evaluated larger transformers at Cos Cob Substation and concluded that there would be insufficient space to accommodate larger transformers.
 - b. Focusing solely on increasing transformer capacity at Cos Cob Substation could address at most only one of the three key reliability issues that the proposed Greenwich Substation and Line Project (the “Project”) would resolve and such transformer capacity increase could not provide for the additional reliability improvements that the proposed Project offers by fixing the heavily-loaded distribution feeders and the future overloads at Prospect Substation.
2. OCC’s Motion is a thinly-veiled attempt to engineer and design Eversource’s electric system and to micro-manage Eversource’s due diligence, which the Council should not allow.
3. Granting of the Motion would cause needless delay in achieving important electric service reliability benefits for Eversource’s customers in the Town of Greenwich that the Project would achieve.
4. The Motion is based on an unsupported, unsworn belief of OCC that it would be possible to fit larger capacity transformers at Cos Cob Substation, without any technical evidence in the record that installation of such higher capacity transformers could provide continuing reliable service in Eversource’s electric distribution system in Greenwich.

DISCUSSION

1. EVERSOURCE HAS PROVIDED COMPREHENSIVE INFORMATION – ADDITIONAL INFORMATION REQUESTED IN OCC’S MOTION IS NOT HELPFUL OR NECESSARY

In this proceeding, Eversource submitted a comprehensive application with appendices that includes a thorough discussion of Eversource’s exhaustion of interim measures to satisfy its obligation to provide reliable electric service to its customers in Greenwich and its proposed long-term solution. Furthermore, Eversource submitted 36 additional exhibits that fully support the need for the proposed Project. Eversource’s Application and supporting Exhibits comply not only with the requirements set forth in PUESA but also the applicable provisions in the Regulations of Connecticut State Agencies (Sections 16-50j-1 et. seq.), which govern applications to the Council.

In contrast, neither the OCC (the only party in this proceeding) nor any of the 10 intervenors in this proceeding, have submitted any evidence to contradict or challenge Eversource’s evidence. Despite the absence of any such evidence, OCC, in OCC’s Motion, is requesting that the Council direct Eversource to undertake significant efforts to pursue information that OCC believes would point to an alternative to the proposed Project; however, Eversource has already considered replacing transformers at Cos Cob Substation and deemed that approach to be inadequate. Accordingly, obtaining such information would not be helpful or necessary for the Council’s decision-making, and would serve only to delay this proceeding and divert resources to an unproductive investigation; therefore, compelling that such information be obtained would be unduly burdensome.

- a. Eversource evaluated larger transformers at Cos Cob Substation and concluded that there would be insufficient space to accommodate larger transformers. Eversource's Third Supplemental Direct Testimony, Testimony of Kenneth B. Bowes ("Third Supplemental Direct Testimony") filed in this Docket on January 5, 2016 (see Attachment A), provides information as to the evaluation conducted by Eversource and support for Eversource's conclusion.

It should be noted that although the OCC Motion requests, in relevant part, to "Tell the manufacturers...that a tap changer operable under load would not be needed...", OCC lacks not only expertise but also a foundation for its belief that such equipment would not be needed. As explained in the Third Supplemental Direct Testimony, for the proper functioning of the equipment at Cos Cob Substation, any replacement transformers at Cos Cob Substation would require voltage regulating equipment (tap changer operable under load); otherwise, Eversource would not be able to maintain proper voltage for the downtown network or for its customers that are supplied at 27.6-kV.

- b. Increasing Transformation Capacity at Cos Cob Substation Would Be Only A Partial Fix Without the Reliability Benefits of the Project

Eversource has repeatedly explained, in its application, prefiled testimony and interrogatory responses submitted in this Docket, the multifaceted need for, and benefits of, the Project. As proposed, the Project would provide immediate load relief to the distribution supply system in Greenwich, greatly improve the reliability of the electric power system and accommodate anticipated future load growth for the next 30 years. Specifically, the existing

reliability issues with the electric distribution system in Greenwich result from the following interrelated factors:

- i. The 115- to 27.6-kV transformation capacity at Cos Cob Substation is limited and the load on the 27.6-kV system served by this substation is projected to exceed this substation's permissible load rating starting in 2017, under certain system conditions in contingency events;
- ii. A substantial amount of Greenwich's 27.6-kV load is served by lengthy, heavily-loaded distribution feeders that operate in parallel and extend over two miles from Cos Cob Substation to central Greenwich. When one of these feeders fails and trips off-line or is out-of-service for any reason, the other feeders necessarily pick up the additional load, which places additional strain on the feeders that remain in service at that time.
- iii. A substantial amount of existing load is served by Prospect Substation, a non-bulk substation that is supplied by the lengthy, heavily-loaded distribution feeders, fed from Cos Cob Substation.

The new Substation would resolve each of the key reliability issues concerning the electric distribution system in Greenwich and thereby create a more reliable system in Greenwich. First, the proposed Greenwich Substation will provide a second bulk substation in Greenwich that will relieve the projected transformation capacity issue at Cos Cob Substation by transferring roughly half of the 27.6-kV load to the new substation from Cos Cob Substation. Also, the second supply source in Greenwich will allow for increased flexibility in supplying customer loads (e.g., the ability to move load between 27.6-kV distribution substations). Further, the reliability of the 27.6-kV supply to the Greenwich downtown secondary network will be improved because the existing 13.2-kV load currently served by Prospect Substation will be removed from the Cos Cob Substation supply via Prospect Substation and transferred to new Greenwich Substation.

The Project will also increase the redundancy of supply to the Greenwich downtown area and remove approximately half of the current load from the lengthy distribution feeders, by transferring such load to the new substation. The existing customers that are supplied at 13.2 kV from Prospect and Byram Substations will be supplied instead from the new Greenwich Substation and will benefit from the increased reliability of the new substation supplied by the new transmission lines. Moreover, the addition of the new bulk substation will also create future capabilities to provide backup supply to Greenwich customers using automatic recloser loop schemes.

In contrast, focusing solely on increasing the transformation capacity at Cos Cob Substation would address only this specific issue (lack of additional transformation capacity to supply the 27.6-kV system in Greenwich); would continue reliance on the heavily-loaded distribution feeders that supply the substations in central Greenwich; and would not reduce the load served by Prospect Substation which is projected to be at risk for overloading starting in 2021 or provide the other reliability benefits that the Project would provide.

2. OCC’S MOTION IS UNSUPPORTED AND INAPPROPRIATE

OCC’s Motion contains an inflammatory and inaccurate statement, e.g. “It does not appear that the Company has the impetus on its own to seek out and share information on this potential alternative.” As noted herein, Eversource has undertaken extraordinary measures over the years to provide electric service in Greenwich and the information in Eversource’s Application and 36 additional Exhibits in this proceeding substantiates its efforts to propose the Project as a viable solution to the unique challenges presented by the electric system in Greenwich. Eversource’s team is composed of qualified experts with years of education and

training in system design and operations. The Application reflects Eversource's scientific and technical expertise in these matters. In contrast, there is no other evidence in the record. It is the responsibility of those participating in the Council's process to offer evidence if they disagree with an applicant's evidence and not to merely set forth unsubstantiated beliefs.

Furthermore, OCC's Motion requests that Eversource submit essentially a draft letter, seeking the information the OCC requests, to the service list for comments and to the Council for its approval. Nowhere in the statutory framework for this proceeding is such a procedure authorized or even remotely contemplated. Requiring an applicant for a Certificate to submit to such a procedure would be unwarranted and absurd.

The governing statutes and the regulations contemplate the participation of parties and intervenors to assist the Council in its decision-making, and for government agencies to fairly represent the interests of the public. OCC's proposed approach as set forth in OCC's Motion does not in any way assist the Council; rather, it creates an additional burden on the Council to review comments and essentially craft the letter the OCC requests. This approach also does not advance any public interest because the public interest is unlikely to be affected by the wording of a letter.

3. GRANTING OCC's MOTION WOULD CAUSE NEEDLESS DELAY IN ACHIEVING IMPORTANT RELIABILITY BENEFITS FOR GREENWICH CUSTOMERS

Assuming, for the sake of argument, that the Council were to grant OCC's Motion, the proceedings could be delayed significantly based on the time required for the following sequential steps:

- i. draft the letter to the manufacturers;

- ii. allow for comments from OCC and the 10 intervenors;
- iii. obtain the Council's approval; and
- ii. receive written responses from all 7 manufacturers, including any time to respond to any requests for additional information or answer questions from any of the manufacturers.

As noted in the Application and Eversource's supporting Exhibits, the proposed Project is needed in 2017 and any delay would jeopardize reliable service in Greenwich.

4. THERE IS NO RECORD EVIDENCE THAT INSTALLATION OF HIGHER CAPACITY 115- TO 27.6-KV TRANSFORMERS AT COS COB SUBSTATION COULD PROVIDE CONTINUED RELIABLE ELECTRIC DISTRIBUTION SERVICE TO CUSTOMERS IN GREENWICH.

If OCC wishes to pursue an approach that OCC "believes" could be an alternative to the Project and OCC "believes" that Eversource has not sufficiently investigated this approach, then the burden of proof should be on OCC to offer more than its "belief". In particular, OCC should be required to furnish facts demonstrating the basis for its belief that replacement transformers at Cos Cob Substation are feasible within the same footprint in a manner that serves Eversource's customers reliably. Applicants for a Certificate should not be required to undertake investigations, based on the whim of the OCC, or based on its arbitrary decision to disregard Eversource's sworn testimony and filed Exhibits.

For the reasons set forth above, Eversource objects to OCC's Motion because it would delay achievement of important reliability benefits for electric service customers in Greenwich that the Project would achieve initially and in the future.

Respectfully submitted,

THE CONNECTICUT LIGHT AND POWER
COMPANY DOING BUSINESS AS
EVERSOURCE ENERGY

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Attachment A

**STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL**

<p>Eversource Energy Application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a 115-kilovolt (kV) bulk substation located at 290 Railroad Avenue, Greenwich, Connecticut, and two 115-kV underground transmission circuits extending approximately 2.3 miles between the proposed substation and the existing Cos Cob Substation, Greenwich, Connecticut, and related substation improvements.</p>	<p style="text-align:center">DOCKET NO. 461</p> <p style="text-align:center">January 5, 2016</p>
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**THIRD SUPPLEMENTAL DIRECT TESTIMONY
TESTIMONY OF KENNETH B. BOWES**

Q. What is the purpose of this supplemental testimony?

A. The purpose of this supplemental testimony is to provide additional background information on the analysis conducted by Eversource concerning the replacement of existing transformers with larger transformers at Cos Cob Substation.

Q. Please summarize the analysis conducted by Eversource concerning the replacement of existing transformers with larger transformers at Cos Cob Substation.

A. In the course of Eversource's comprehensive evaluation of alternatives to the proposed Project, Eversource considered removing the existing transformers at Cos Cob Substation and replacing them with larger transformers (36/48/60 MVA or 48/64/80 MVA). However, as noted in its response to interrogatory OCC- Set IV- 056 (See Eversource Exhibit 35), Eversource could not replace the existing transformers with larger transformers because there is insufficient space to accommodate the larger transformers at Cos Cob Substation.

Q. Please provide the underlying factors that led Eversource to conclude that installing larger transformers at Cos Cob Substation was not a feasible option.

A. Eversource's evaluation was based on the following:

- Replacement transformers would be 115- to 27.6-kV, 48/64/80 MVA.
- Replacement transformers would be purchased per Eversource's standard specification for substation transformers that supply distribution customer load. This includes a requirement that the transformer include voltage regulating equipment ("tap changer operable under load") to allow proper regulation of customer voltage. The existing transformers have the required voltage regulating equipment and any future replacements would need to have the required voltage regulating equipment as well.
- The installation of the replacement transformers would meet Eversource standards for clearances between equipment.
- The installation of the replacement transformers would require sufficient space around each transformer to permit rigging onto the foundation, assembly, maintenance, and future removal/replacement of the transformer without the need to remove adjacent equipment from service.
- Eversource has existing 48/64/80 MVA transformers on its system, and used the as-built drawings for those transformers to evaluate space requirements at Cos Cob Substation for direct replacement of the existing 115- to 27.6-kV transformers. In addition, the as-built

drawings for existing 36/48/60 MVA transformers on Eversource's system were used to evaluate space requirements. Although 36/48/60 MVA transformers were determined to be insufficient to meet the load requirements, they were evaluated for use as an interim measure.

Based on the above considerations, Eversource concluded that larger transformers (36/48/60 MVA or 48/64/80 MVA) could not be installed in accordance with Eversource standards due to space limitations at Cos Cob Substation.

Q. Please explain why voltage regulating equipment (tap changer operable under load) would be necessary.

A. For the proper functioning of the equipment at Cos Cob Substation, any replacement transformers at Cos Cob Substation would require voltage regulating equipment (tap changer operable under load); otherwise, Eversource would not be able to maintain proper voltage for the downtown network or for its customers that are supplied at 27.6-kV.

Q. Are there any other considerations if the transformers were to be replaced at Cos Cob Substation?

A. Yes. As noted in Section E.4.1.1 of the Application (See Eversource Exhibit 1), Cos Cob Substation is the cornerstone of the electrical distribution system supplying electric service to Greenwich customers. Cos Cob Substation performs critical functions, including acting as an electrical "off-ramp," taking power at 115 kV from the transmission system (the highway system of lines that move high voltage power over long distances) and reducing the transmission voltage levels down to distribution voltage levels, in this case 27.6 and 13.2 kV, which levels are reduced further to serve homes and businesses; supplying power at 27.6 kV to other substations in Greenwich to enable those substations to serve homes and businesses; and

supplying power at 27.6 kV to large commercial customers and the secondary network in downtown Greenwich.

Q. Does the proposed Project provide system-wide benefits that could not be achieved by using larger transformers even if such an option were feasible?

A. As noted in Eversource's Supplemental Testimony of November 24, 2015 (See Eversource Exhibit 32), the proposed Project addresses the need for capacity to avoid transformer overloads at Cos Cob Substation, eliminates potential distribution feeder overloads supplying power to Prospect Substation from Cos Cob Substation and addresses the need for capacity to reduce the risk of transformer overloads at Prospect Substation. Use of larger transformers at Cos Cob Substation would address at most only the issue of transformer overloads at Cos Cob Substation and would not address the risk of potential distribution feeder overloads or potential overloads at Prospect Substation.

Q. Based on your education, training and experience with the proper functioning of the Eversource electric service at the distribution level, is it your opinion that the use of larger transformers at Cos Cob Substation is not feasible and also that use of larger transformers at Cos Cob Substation (presuming feasibility) would not provide the reliability benefits that the proposed Project would provide to Eversource's customers in Greenwich?

A. Yes.

Q. Does this conclude your testimony?

A. Yes