

**STATE OF CONNECTICUT  
CONNECTICUT SITING COUNCIL**

<b>DOCKET NO. 461A</b> – 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.	DOCKET NO. 461A  November 2, 2017
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**COMMENTS OF THE CONNECTICUT LIGHT AND POWER COMPANY  
DOING BUSINESS AS EVERSOURCE ENERGY REGARDING  
THE DRAFT FINDINGS OF FACT DATED OCTOBER 20, 2017 OF  
THE CONNECTICUT SITING COUNCIL**

The Connecticut Light and Power Company doing business as Eversource Energy (“Eversource”) respectfully files these comments regarding the Draft Findings of Fact issued by the Connecticut Siting Council (the “Council”) dated October 20, 2017 (“DFOF”) in response to the Council’s notice dated October 27, 2017.

I. Proposed Additions

Eversource requests that the Council consider incorporating the following findings of fact, which were included in Eversource’s Proposed Findings of Fact (“PFOF”) filed with the Council on September 28, 2017. Eversource has included a brief explanation of its rationale for its request below the proposed additions.

- A) Add Eversource's PFOF #42, after DFOF #53:

Improving the Prospect Substation to add additional transformational capacity is not a feasible solution. There is no room for additional 27.6-kV feeders, and the site is located in a 500-year flood plain. Requirements of PURA and the Council adopted after storm events in 2012 are such that if the substation were rebuilt, all of its critical elements would have to be located at least one foot above the 500-year flood level. The cost of such construction makes rebuilding impractical. (Eversource 1, Vol.1, PFT, p. 7)

Comment: This finding provides important background information as to the infeasibility of transformer improvements at the Prospect Substation.

- B) Add sentences 2-4 from Eversource's PFOF #53 to DFOF #54:

The cables operate in parallel, so that if one is lost from service, its load is automatically redistributed to the remaining three cables. Contingency simulations showed overloads on the feeders at loads much lower than the 2013 peak. Overloads on one or more of the feeders were seen at loads as low as approximately 82 MVA, or approximately 63% of the 130.5 MVA peak in 2013. (Eversource 1, Vol. 1, PFT, p. 5)

- C) Add Eversource's PFOF #54, after DFOF #54:

Because the four feeders from Cos Cob to Prospect Substation are not all of the same length and, therefore, have different impedances, in many conditions the capability of the feeders left in service was insufficient to accept flow from one or more feeders lost from service, without overloading. (Eversource 1, Vol. 1, PFT, p. 5)

- D) Add Eversource's PFOF #55, after DFOF #54:

Prospect Substation was not designed such that if any one of the four feeders between Prospect and Cos Cob Substation goes down, the remaining feeders have sufficient capacity to serve the load. As soon as one feeder is lost, overloads occur. This is because there are other loads served besides Prospect Substation, which include the underground network and the Byram load. As currently configured, substation load, customer load and network load are served on the same feeders. Though this design would not be replicated by Eversource today, it was done out of necessity to defer investments in the Town over the last 40 years. (Tr. 3, pp. 30 – 37)

Comment for B-D above: These findings provide specific information about the design of the four feeders from Cos Cob Substation to Prospect Substation that supports the conclusion of DFOF #56 that the feeders do not represent "a good design".

- E) Add Eversource's PFOF #75, after DFOF #132:

In response to information and requests from Parker Stacy regarding Tesla's products for battery storage systems, Eversource determined that to achieve 5 MW of energy storage, a total of 2,667 Powerwall system units would need to be installed in Greenwich. The total cost for installation of 2,667 units is in the range of \$18 - \$22 million. This cost does not include the replacement of the batteries at the end of their useful life, which would require a similar investment every 10 years, and installation of infrastructure to ensure correct operation of the batteries. Additionally, installation of a Powerwall system would not eliminate the need to invest an additional \$184 million in non-transmission alternatives for solar PV (50% output at peak - \$105 million); fuel cells (\$78 million), and demand response (\$1 million) to meet the Town's need with non-transmission alternatives. (Eversource 13, response Stacy 2; Eversource 9, response Stacy 1)

Comment: This finding reflects Eversource's analysis of Mr. Stacy's request.

- F) Add the second sentence of Eversource's PFOF #168 to **DFOF #247**: The southern portion of the site is 10 feet from the edge of a designated 500-year flood zone associated with Horseneck Brook.

Add to the **Citation:** (Council Administrative Notice 43, FOF # 422)

Comment: This addition was requested by Dr. Klemens for accuracy and completeness.

- G) Add Eversource's PFOF #156, after DFOF #42:

All proposed modifications to Prospect Substation are internal to the existing confines of the facility, and would not create any new disturbances beyond its footprint. As a result, no substantial adverse environmental effect would occur. (Eversource 1, Vol. 1, Ex. A, p. B-1)

Comment: This finding provides a more complete picture of the proposed modifications at Prospect Substation.

- H) Add Eversource's PFOF #197, after DFOF #281:

Heritage's report was provided to the SHPO on March 13, 2017. The SHPO responded in writing on April 25, 2017, and concurred with the Heritage findings that "no historic properties will be affected by this Project. No further review is requested." (Eversource 1, Vol. 1, Ex. B, p. C-11)

Comment: This finding reflects evidence as to SHPO's concurrence with Heritage's findings.

## II. Clarifications

The following comments respond to questions raised by Council members during their review of the DFOF on October 26, 2017:

- A) Dr. Klemens requested that **DFOF #116** concerning the Town's energy efficiency results from tear downs reflect a more balanced perspective. The Council's Findings ##46 and 47 in Docket 461 provide such a perspective, as follows:

46. *In Eversource's service territory, Greenwich residential customers use more than two times the electricity of the average Connecticut residential customer. (Eversource 9, p. 31)*

47. *As of March 2016, Eversource was processing 115 applications for new or upgraded service in Greenwich. A majority of the service requests are related to reconstruction of existing residential homes where the new electric service request is on par with what would be considered a medium sized commercial building in other areas of the State. (Tr. 3, p. 77; Tr. 4, pp. 47-49; Tr. 7, p. 52)*

(Council Administrative Notice 43, FOF ##46, 47)

- B) On October 27, 2017, Council members requested more clarity on the Project costs and that the DFOF concerning choices among alternatives for the Council to decide should reflect the cost and allocation. Eversource offers the following summary of Eversource's Preferred Solution with the new substation at 290 Railroad Avenue, use of cofferdam and pipe jacking techniques, along with the cost increases/decreases for variations with cost allocation references from the Record, to avoid any inconsistency with the Council's final findings of fact.

<b>PROJECT CAPITAL COSTS</b>		
Cos Cob Substation improvements	\$	12,669,170
Prospect Substation removal of equipment	\$	952,837
Greenwich Substation at 290 Railroad Avenue (Pet Pantry) with wall enclosure	\$	28,136,749
Underground Transmission Line from Cos Cob Substation to 290 Railroad Ave (Pet Pantry) with cofferdam crossing of Indian Harbor and pipe jacking across I-95	\$	53,115,678
Distribution feeder costs associated with 290 Railroad Ave (Pet Pantry) location	\$	2,890,743
<b>Total (Eversource Preferred Solution)</b>	<b>\$</b>	<b>97,765,177</b>
<u>Note:</u> Cost allocation and classifications of each of the above components are correctly summarized in DFOF ## 329-334.		
<b>VARIATIONS</b>		Cost Allocation
Substitute Indian Field Road bridge attachment for jack & bore to cross I-95 (if CDOT permits)	-\$	1,500,000
Substitute pedestrian bridge for open cut with cofferdam across Indian Harbor	+\$	1,800,000
Substitute architectural enclosure for wall enclosure (at 290 Railroad Avenue)	+\$	1,400,000
		Transmission Line – See DFOF #331
		Transmission Line – See DFOF #331
		Distribution Cost – See DFOF #332

**(Eversource 14, response 69; Eversource 11, response 61-RV-01)**

In addition, Eversource suggests the addition of the relevant information in Eversource’s PFOF # 72 that summarizes the cost of the key variations:

- All-indoor substation with architectural enclosure. The incremental cost of the substation design preferred by the Town, as compared with the AIS enclosed by a masonry wall, is \$1.4 million. This cost is included in the estimated cost of the AMP.
- Pedestrian bridge attachment. Utilizing a pedestrian bridge to cross Indian Harbor is estimated to cost approximately \$1.8 million more than using an open trench with a cofferdam and approximately \$850 thousand more than utilizing Horizontal Directional Drilling (“HDD”). This cost is included in the estimated cost of the AMP.
- I-95 bridge attachment: The Town condition to attach the transmission lines to the Indian Field Road overpass is the least cost alternative to I-95. However, ConnDOT has stated that it is “heavily opposed” to attaching the cable to the underside of the Indian Field Road overpass as it poses and safety and maintenance concerns. If the cable cannot be attached to the overpass, a jack and bore would be utilized to cross under I-95, at a cost of \$1.5 million more than

attaching to the Indian Field Road overpass. The estimated cost of the AMP assumes that the cables would be attached to the bridge.

(Eversource 11, response 61-RV-01)

- C) Dr. Klemens also requested clarification as to **DFOF #333**. Eversource suggests the following correction and clarification:

333. Distribution costs for 281 Railroad Avenue site are **slightly** higher than 290 Railroad Avenue site (approx.. \$1.7 million) since the feeder connections **is slightly** are longer (approx. **250–760** feet) **and two additional manholes are required** (*Tr. 2, p. 125, 178-179; Eversource 9, response 70*)

Eversource 9, response 70 depicts the feeder lengths for 290 Railroad Avenue as 630 feet and 160 feet for a total of 790 feet and 281 Railroad Avenue as 490 feet and 1,060 feet for a total of 1,550 feet. The difference is 760 feet. In addition, locating the new substation at 281 Railroad Avenue would likely not avoid the cost of demolishing the building at 290 Railroad Avenue, since the demolition would be done in any case because the 290 Railroad Avenue site would be used as a staging, laydown, and construction management site. (Eversource 1, Vol. 1, Ex. A, p. F-2, Table F-1; Tr. 2, p. 141)


- D) Chairman Stein questioned the inclusion of DFOF ##287, 288, 289, 294 within the “Statutory Facilities” heading. Eversource suggests that those findings be moved to a new heading entitled “Vegetation”.

- III. Corrections: See the attached Exhibit A, Draft Findings of Fact with Eversource’s Suggested Edits in Track Changes.



Respectfully submitted,

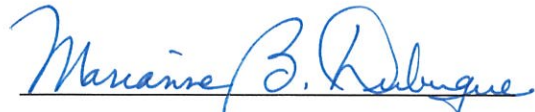
**THE CONNECTICUT LIGHT AND  
POWER DOING BUSINESS AS  
EVERSOURCE ENERGY**

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**NOTICE OF SERVICE**

I hereby affirm that a copy of these Comments of The Connecticut Light and Power Company doing business as Eversource Energy Regarding the Draft Findings of Fact Dated October 20, 2017 of the Connecticut Siting Council was sent to each Party on the service list dated July 11, 2017, with method of service to each party listed via e-mail on November 2, 2017.

Dated: November 2, 2017

  
Marianne Barbino Dubuque, Esq.