STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

RE: 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 LINES EXTENDING APPROXIMATELY 2.3 MILES BETWEEN THE PROPOSED SUBSTATION AND THE EXISTING COS COB SUBSTATION, GREENWICH, CONNECTICUT, AND RELATED SUBSTATION IMPROVEMENTS.	**DOCKET NO. 461** **APRIL 11, 2016**

BRIEF OF THE
OFFICE OF CONSUMER COUNSEL

I. INTRODUCTION

The Office of Consumer Counsel ("OCC"), a party in the above-captioned proceeding ("Proceeding"), hereby respectfully submits its Brief in this matter to the Connecticut Siting Council ("Council").

A. Relevant Procedural & Factual History

The Council proceeding was initiated through an application for a Certificate of Environmental Compatibility and Public Need ("Certificate") 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 ("Application" or "App."), filed by The

Connecticut Light and Power Company, doing business as Eversource Energy ("Company" or "Eversource"). The Application concerns a proposed infrastructure project to be constructed in Greenwich ("Project"), at an estimated cost of $140 million. (App. at ES-11) The Project would only serve Company customers in Greenwich.

Key elements of the Project, as described by the Company, are:

- Construction of a new bulk substation, to be located at 290 Railroad Avenue in the downtown area of Greenwich ("Proposed Substation"), with a permissible load rating of 134 MVA and a short-term rating of 144 MVA (Response to OCC-83);
- Extensions of two existing 115 kV transmission lines that would be 2.3 miles long and extend through Greenwich via undergrounded, high-pressure, fluid-filled cables from Cos Cob Substation to the Proposed Substation;
- Expansion of the Cos Cob substation to accommodate equipment related to the two underground transmission lines (App. at ES-3);
- Gas insulated switchgear (GIS) in an indoor setting with a six-breaker ring that would be installed in preparation for a potential third transmission line extending from Stamford to the Proposed Substation. (Transcript ("Tr.") 10/06/15 at 196; Tr. 12/01/15 at 146) Construction of the third line is uncertain; no potential date was given for a construction application;
- Removal of four 27.6-to-13.2 kV transformers and transfer of load of about 55 MVA from the Prospect Substation to new 115-to-13.2 kV transformers at the Proposed Substation; and removal of two 27.6-to-13.2 kV transformers and transfer of load of about 25 kV from Byram Substation to the new 115-to-13.2 kV transformers at the Proposed Substation (Tr. 3/10/16 at 98; Responses to OCC-81 & OCC-83 attachment, p. 2); and
- Transfer of about half, or about 70 MVA, of Cos Cob's existing 115-to-27.6 kV transformer load to the Proposed Substation. (Response to OCC-80).

B. OCC's Position

OCC is the statutory advocate for consumer interests in all matters that may affect Connecticut utility ratepayers with respect to public service companies, per Connecticut General Statutes ("General Statutes") § 16-2a. Connecticut electric customers have an interest in the rates that they will be charged for the capital and operating costs of this proposed Project, and in

the reliability impacts of this Project, which interests are directly affected by the proceeding at hand.

In this Brief, OCC maintains that (1) there is insufficient evidence to conclude that load capacity at the transformers at Cos Cob cannot be increased; (2) the Company has not provided information on efforts to expand capacity at the Prospect Substation; (3) the Company's emergency plans at the 290 Railroad Avenue site are deficient; (4) the potential third transmission line is not needed; (5) non-transmission alternatives have not been adequately explored; (6) the Company's Forecast is limited by several factors; (7) the Project results in excess capacity; and (8) the record does not have sufficient information on route alternatives.

Based on the foregoing factors, which will be fully explored below, OCC contends that the Company has not proven a public need for the Project. General Statutes § 16-50p(a)(3)(A) provides that the Council shall not grant a certificate, either as proposed or as modified by the Council, unless it shall find and determine "a public need for the facility and the basis of the need[.]" As such, OCC respectfully advocates that the Council reject the Company's Application, and require that the Company file a revised Application that addresses the deficiencies.

II. THERE IS INSUFFICIENT EVIDENCE TO CONCLUDE THAT LOAD CAPACITY AT COS COB CANNOT BE INCREASED

In this section, OCC contends that there is insufficient evidence to conclude that load capacity at Cos Cob cannot be increased. The Company states that based on its projections: the 115-to-27.6 kV transformers at Cos Cob will be beyond the permissible load rating in 2017 (App. at E-14, Table E-3); there is no way to expand the substation; and there is not enough

room to replace the current transformers with larger-capacity transformers (App. at E-15). The transformers at issue in Cos Cob are the three 115-to-27.6 kV transformers.

In OCC-56, OCC asked the Company about contacting transformer manufacturers to seek information about retrofitting the existing Cos Cob transformers, and about replacing the transformers with current generation, larger-capacity models. Simply looking into the feasibility of replacements with manufacturers was dismissed by the Company, which stated: "Eversource has already analyzed the installation of larger transformers and has determined that due to space limitations, the footprint of the existing transformer cannot be increased." (Response to OCC-56) OCC notes that its interrogatory concerned *larger capacity* units, and the Company response specifies *physically larger* transformers. The possibility that there are current-generation, larger capacity transformers that are physically smaller than the older transformers at Cos Cob, and that would fit in the available space, was not explored with manufacturers by the Company.

Regarding the alleged inability at Cos Cob to add transformers and feeders, the Company stated that the substation property is "fully utilized" and constrained by a "public road, [Connecticut Department of Transportation] property, an office building and new town park." (App. at E-15) In other words, there is no room for additional equipment. However, the Company also states that its Project requires expansion of Cos Cob to accommodate new Project equipment, such that: "[t]he Cos Cob fence will be partially extended approximately 140 feet to the south to accommodate the new equipment." (App. at ES-3) In addition, with regard to the expansion of the substation into the neighboring Cos Cob Park, the Company did not provide any detail on any research it did or offers it made, or any type of efforts it made regarding expansion into some piece of the Cos Cob Park land.

To summarize: (1) the Company declined to inquire of transformer manufacturers whether replacement of existing transformers with current-generation, larger-capacity transformers would be possible within the available space; (2) the Company describes Cos Cob as "fully utilized" and constrained in one part of its Application, yet, elsewhere in the Application, the Company talks about its own plan for expansion at Cos Cob; and (3) the Company has not provided information on possibly expanding into some piece of the neighboring Cos Cob Park.

Based on the record, OCC submits that there is insufficient evidence to conclude that load capacity at Cos Cob cannot be increased. This is one of a number of issues in the Proceeding for which the Company has not provided the information necessary to determine whether key elements of this $140 million Project are needed, and whether the Project is the best plan for service in Greenwich.

III. THE COMPANY HAS NOT PROVIDED INFORMATION ON EFFORTS TO EXPAND CAPACITY AT THE PROSPECT SUBSTATION

OCC also submits that the Company has not provided information on efforts to expand capacity at the Prospect Substation. The Company stated that based on its projections, the four 27.6-to-13.2 kV transformers at the Prospect Substation will be overloaded after 2017. (App. at E-14, Table E-3) The Company plans to remove the four transformers and transfer their load (51 MVA maximum short-term loading, per the Company's Response to OCC-83, Attachment, p. 1) to the Proposed Substation. (Response to OCC-81) The constraints the Company cites on the substation include the following: it was built in 1934; the property has an underground brook in a concrete culvert and a municipal sewer main; and it is partially located in a 500-year flood zone. (App. at E-15) The Company also mentions the age of the switchgear and limits on the

distribution ties. (App. at E-14) The Company states that the Prospect Substation will continue to serve Greenwich load after the transfer of a portion of its load to the Proposed Substation, and it must remain energized during and after construction of the new substation. (*Id.*)

The OCC notes that while the Company indicates issues with the Prospect site, the Company intends to continue operations there in the future, stating: "Prospect substation would continue to be a critical distribution tie station for the existing 27.6 kV system, including customers directly supplied at 27.6 kV and the secondary network." (App. at E-18) OCC also notes that when necessary, a portion of load normally served from Prospect can be switched to be served through North Greenwich. North Greenwich transformers have additional available capacity. (Response to OCC-57) The Company stated that a block of customers normally fed from Prospect was fed through North Greenwich in the 2014 – 2015 time period. (Late-Filed Exhibit ("LF")-12; Tr. 02/23/16 at 172-73)

The Company did not provide information on any alternatives to retirement and removal of the four transformers at Prospect, such as replacing or adding transformers and switchgear at Prospect, improving distribution ties, or transferring some of the Prospect load to a different substation. This is another issue on which the Company has not provided sufficient information on Project alternatives in order to determine whether this key element of the Project is the only plan for reliable service in Greenwich.

IV. THE COMPANY'S EMERGENCY PLANS AT THE 290 RAILROAD AVENUE SITE ARE DEFICIENT

For the reasons explained more fully below in this section, OCC submits that the Company's emergency plans at the 290 Railroad Avenue site are deficient. Specifically, the

Company has not demonstrated that it is prepared to respond quickly and effectively to an emergency, such as a substation fire, at the 290 Railroad Avenue site.

The Company states that the area needs a new bulk substation close to the area of growth in western Greenwich. It has chosen 290 Railroad Avenue as the site, and it stated that it is "compatible with existing adjacent commercial land uses." (App. at I-18) The site fronts on a heavily trafficked road, and it is bounded by commercial buildings and a railroad. The Greenwich Director of Planning and Zoning testified that the area of the Proposed Substation is within the downtown area. "It's where the Greenwich Train Station is located. It's where access is to I-95. It's right around the corner from [the] town hall or the downtown business district. Greenwich Avenue is -- is in that vicinity. There's a lot of converging activity." (Tr. 2/23/16 at 147)

The Airgas, Inc. ("Airgas") building abuts the site. (Tr. 3/10/16 at 33-34) The record contains photographs of canisters at Airgas labeled as oxygen and a posted sign that reads: "DANGER, No smoking or open flame in this area." (Field Point Estate Townhouses, 3/01/16 Motion for Administrative Notice, Photographs 1 & 2; Motion Granted 3/10/16)

Speakers at the September 1, 2015 Public Comment Session stated: (1) that the Proposed Substation "[i]s adjacent to a company that supplies flammable compressed gas, including among others, oxygen, propane, and acetylene" (Tr. 9/01/15 Public Comment Session at 50), and (2) that the Proposed Substation is "[r]ight next to a gas propane company." (*Id.* at 29) In addition, the Director of Planning and Zoning for Greenwich testified that there is a propane filling station next door to the Proposed Substation site. (Tr. 2/23/16 at 145)

In addition, speakers at the Public Comment Session stated that there was a recent fire at the Cos Cob Substation. (Tr. 9/01/15, Public Comment Session, Fred Canillo at 24, and Thila

Agthe at 49) The Company stated that the fire burned for three hours. (Response to Pantry-02, Q-002)

The Company instructs firefighters that, in case of a substation fire, they are to wait for access to the substation to be provided by the responding Company employee. (Tr. 10/06/15 at 22-23) The Company testified that Glenbrook in Stamford is the work center from which a Company responder would be dispatched to Greenwich (Tr. 10/06/15 at 21). The Company also represented that the responder would be based out of a Stamford or Norwalk area work center, and for after-hours events the Company "generally requires the responder to be within 30 minutes of the area work center location." (Response to OCC-68) Regarding a response to the Cos Cob fire, the Company stated that there were no responders from the Stamford work center available at the time and the responder who came to Cos Cob was actually dispatched to Greenwich from ***Milford***. (Tr. 10/06/15 at 25) Regarding emergencies, the Company testified that it had not conducted a study on how Town emergency services would be impacted in case of an emergency, such as a fire, at any potential new substation sites (Response to Pantry-01, Q-013); it does not know what is kept on-site at Airgas; and its substation fire plans would be the same for any abutting property (Tr. 3/10/16 at 33-34).

OCC considers a bulk substation fire to be a serious matter, even more so if the substation is in a busy commercial area, and especially if it is next to a business with canisters of oxygen, propane, and acetylene on-site. The following Company responses raise concern: (1) the Company states that "generally" it requires the responder to be within 30 minutes of the location; (2) the Cos Cob fire responder came to Greenwich from Milford; (3) the Company stated that it does not know what is kept on-site at Airgas; and (4) the Cos Cob fire burned for three hours. Specifically, the Company does not spell out a clear operational standard for how

near a responder must be in case of an emergency in Greenwich; it states that "generally" it requires a responder to be within 30 minutes of the location. Once the responder arrives at the location, he or she still has to take additional time to de-energize the station and make it ready for access by the firefighters (Tr. 10/06/15 at 21-23), which of course adds to the time the fire burns and to the time before firefighters can access the substation. Again, the Cos Cob fire burned for three hours.

The Company's responses that it does not know what is kept at the abutting site of Airgas, that it would have the same fire plans for any abutting property, and that it has not studied how Town emergency services would be impacted by an emergency at the substation, collectively indicate insufficient emergency planning by the Company. A substation fire that burns for hours next to a business with propane, acetylene, and oxygen canisters, plus the Company's lack of any special plans for this contingency, is a dangerous combination, in OCC's view.

Given the heavily trafficked area of the Proposed Substation, the Company's handling of the Cos Cob fire, and its responses concerning emergency planning in this Proceeding, the Company has not demonstrated that it is prepared to respond quickly and effectively to an emergency, such as a substation fire, at the 290 Railroad Avenue site.

V. THE POTENTIAL THIRD TRANSMISSION LINE IS NOT NEEDED

Based on the Company testimony, OCC submits that there is no need at this time to include in the Project the equipment proposed for a possible third line at the Proposed Substation. The Cos Cob Substation serves as the primary electric source for the town of Greenwich and also serves as back-up for two other substations in town. (App. at E-12) Cos Cob is supplied by two 115 kV transmission lines. (App. at ES-1)

The Company is installing interconnection equipment (Tr. 12/01/15 at 146) and GIS to accommodate a possible third transmission line that may be constructed at some unspecified time in the future. The Company testified: "Future plans, nothing on the drawing board today, but again, thinking 30 or 40 years out it's a viable thing to plan for. Putting it inside the building, it's an urban area." (Tr. 10/06/15 at 143) According to the Company testimony, the third line is not a definite plan, but something that the Company believes it might want to construct at some unspecified time in the future. The Company states it is "[p]lanning for the future with a sixth-breaker ring. That dictates us going to a GIS technology. And the reason six-breaker ring [*sic*], is for the third transmission line that might ultimately come here." (*Id.*)

The Company has not established a need at this time to include in the Project the equipment proposed for a possible third line at the Proposed Substation. Indeed, installing some of the equipment now could mean it would be obsolete when, or if, construction of the line might be commenced in the future. In addition, installing infrastructure for which there is no "used and useful" date in the foreseeable future could lead to limitations on cost sharing with regional ratepayers, whose representatives may object at the Federal Energy Regulatory Commission ("FERC"). At the October 6, 2015 hearing, OCC asked the Company what percentages of the non-pooled transmission facility charges would be paid by Public Service of New Hampshire ("PSNH") and Western Massachusetts Electric Company ("WMECO"), both affiliates of the Company. The Company stated that PSNH would pay 21 percent, and WMECO would pay 9 percent.[1] (Tr. 10/06/15 at 163)

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[1] The Company was asked whether PSNH and WMECO could file an objection with ISO-NE or the FERC concerning aspects of the Proposed Project, such as the extensive undergrounding, the indoor substation, and possibly have their contributions lowered or eliminated. The Company did not answer

The OCC therefore recommends that the third transmission line infrastructure should not be approved for installation at this time. If, in the future, the Company has some definite construction plan with a specified "used and useful" date, then the issue can be considered at that time.

VI. NON-TRANSMISSION ALTERNATIVES HAVE NOT BEEN ADEQUATELY EXPLORED

Non-transmission alternatives have not been adequately explored in this docket. First, with regard to the North Greenwich and Cedar Heights substations, the Company has not adequately explored less costly alternatives to this element of the Project. Second, in general the Company did not consider expert views other than its own when considering the feasibility of non-transmissions alternatives. While OCC recognizes that the Company is currently not under a statutory obligation[2] to consider views other than its own on the feasibility of non-transmission alternatives, the record is nevertheless left incomplete regarding whether non-transmission alternatives are feasible.

First, with regard to North Greenwich and Cedar Heights, the Company forecasts a shortfall for Cos Cob of .8 MVA in 2017, increasing to a shortfall of 9.2 MVA in 2023. (App. at

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directly, but rather stated that the companies, as customers, had rights under a FERC tariff. (Response to OCC-44) The Company was also asked if it has any intention to make a filing with FERC to exempt PSNH or WMECO from any cost sharing on the Project and, if not, whether the Company will commit that it will not make such a filing. The Company responded that, at this time, it does not intend to submit a filing at FERC to propose recovery from a different set of customers. (Response to OCC-44)

[2] Connecticut General Statutes § 16a-7c was effectively repealed on June 6, 2014. This statute directed the former Connecticut Energy Advisory Board to issue a request for proposal to seek alternative solutions to the need that will be addressed by a proposed facility in a relevant application to the Siting Council.

E-5) The Company states that the Cedar Heights Substation ("Cedar Heights") in Stamford currently has 15 MW that it could share with North Greenwich. (LF-011) North Greenwich is fed by Cos Cob. (App. at E-14)

The Company was asked about a distribution alternative whereby North Greenwich would be fed by Cedar Heights in order to provide load relief for Cos Cob. (Tr. 1/12/16 at 116-17) In response, the Company provided a description of a project that has a cost estimate of $202 million, which includes: undergrounded distribution lines for $137 million; two 60 MVA transformers; expansion of Cedar Heights by cutting into a hill and building retaining walls; replacing existing HPFF cable for 4.9 miles of two underground transmission lines to increase the emergency rating; and installation of additional infrastructure. (LF-011) The outsized magnitude and cost of the Project in the Company response-- including the undergrounded distribution lines instead of the customary and less costly overhead lines as well as the 60 MVA transformers, instead of working with the 15 MW that the Company stated Cedar Heights could share with Cos Cob-- combined with the Company's failure to contact transformer manufacturers about possible replacements for Cos Cob and declining to provide information about expansion of Cos Cob, indicate that the Company has not seriously explored less costly alternatives to the North Greenwich and Cedar Heights elements of the Project.

In contrast, a company's efforts in a neighboring jurisdiction highlight an appropriate exploration of non-transmission alternatives. Pursuant to OCC's Motion for Administrative Notice, on October 1, 2015, the Council took Administrative Notice of the New York Public Service Commission's *Order Establishing the Brooklyn/Queens Demand Management Program*, dated December 12, 2014, in Case 14-E-0302 ("New York Order"). The New York Order addresses a summer peak overload condition at a Consolidated Edison Company of New York,

Inc. ("Con Ed") substation through a combination of traditional utility-side, non-traditional utility and customer-side solutions with a view to cost savings compared to using only traditional utility-side measures. Examples of the solutions include voltage reduction, demand management, energy efficiency measures tailor-made to customers, and battery storage. Con Ed issued requests for information and requests for proposals ("RFP"), and is working with third-party consultants on the project.

The Company states that it analyzed a number of alternatives including distribution, energy and demand-side management and decided that "[w]hile some of the alternatives might reduce customer demand in Greenwich by small increments, none of the alternatives would achieve the reliability and power source of supply diversity of the electric distribution system that the Project would achieve." (App. at F-1) In contrast to Con Ed, the Company did not issue RFPs from third parties regarding non-transmission alternatives. (Tr. 10/06/15 at 211). Over the long planning process for this Project, there was ample time for the Company to contact third-party experts and issue RFPs. Nevertheless, the Company stated that issuing RFPs would not be a "prudent exercise." (Response to OCC-35)

In OCC's view, expert opinion other than the Company's is vital to have serious consideration of non-transmission alternatives. Given the dearth of non-transmission alternatives analyzed by third-parties, OCC submits that non-transmission alternatives to the Company's proposed $140 million Project have not been adequately considered in this docket.

VII. THE COMPANY'S ENERGY FORECAST IS LIMITED

For the reasons explained below in this section, OCC contends that the Company's forecast is limited in several factors, which leads to a likely bias to the high side in terms of

energy use. Moreover, key aspects of the Forecast are not customized to Greenwich, the only area served by the Project.

The Company did not apply weather normalization customized for the Greenwich area in its forecasting. (Tr. 1/12/16 at 103-05) The peak load is called the Summer Peak. (*See* App. Table E-1, at E-5) Summer weather has been a major determining factor in the peak. The Company's forecast for Greenwich substation's peak summer loads is derived using the 2013 peak MVA and applying a compounded annual growth rate ("CAGR") of one percent into the future. The Company stated: "Eversource utilized the 2013 actual peak loads for each substation and applied 1% load growth for the subsequent years. The 1% load growth reflects the average load growth experienced at the Cos Cob Substation transformers and other substations in Greenwich and its surrounding area." (Response to CSC-12) Applying this method of using the actual 2013 peak MVA, and a forecast that increases it consistently from 2014 to 2023 yields the following results for the 27.6 kV transformers at Cos Cob:

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total MVA	130.5	131.8	133.1	134.5	135.8	137.2	138.5	139.9	141.3	142.7	144.2

(Excerpt from App. Table E-1 at E-5)

The Company represented: "The year 2013 was chosen as the basis for the projections because it represents the highest peak demand of the last past five years." (Response to OCC-31a) The Company provided 12 years of Cos Cob actuals (Response to OCC-22a), and OCC notes that 2013 is the highest peak MVA in the twelve years from 2004 through 2015, the longest historical data period provided by the Company. The two years after 2013 saw

significant drops from the 2013 peak of 130.5; the 2014 peak was 107.7, and the 2015 peak was 114.8.

OCC asked whether the Company's forecast bears any relation to any analysis or estimate of increases or decreases in numbers of customers. The Company replied that its forecast is not directly related to the numbers of customers. (Response to OCC-22c) In addition, when asked whether the Company takes future increases in energy efficiency measures into account in its forecast, the Company stated that it does not take that into account. (Tr. 2/23/16 at 181)

OCC's considered opinion of the Company's forecasting is that starting from the highest peak in twelve years, *i.e.*, the 2013 peak, then combining that with annual increases, predetermines that forecast results will likely be on the high side. The Company forecasted a peak MVA of 133.1 in 2015, which is 17 percent higher than the actual peak of 114.8. The Company forecasted a peak of 131.8 for 2014, which is 22 percent higher than the actual peak of 107.7.

Generally, the Company's forecasting does not consider Greenwich specifically. It lacks weather normalization using Greenwich weather history and trends in its forecast of future peaks, which means that a major determinant of the peak, namely the summer weather in Greenwich, is not accounted for in the forecast. The forecast does not take into account an estimate of future energy efficiency measures in Greenwich, and it does not consider estimates of increases or decreases in numbers of customers in Greenwich. In summary, OCC contends that the forecast is likely biased to the high side and in key aspects it is not customized to Greenwich, the only area served by the Project.

VIII. THE PROJECT RESULTS IN EXCESS CAPACITY

A. The Proposed New Substation & Load Rating

The below analysis will demonstrate that the Project results in excess capacity at both the New Substation and Cos Cob. The Company has not provided any substantiation for a level of growth in Greenwich that would require such a large amount of excess capacity.

Based on the Company Response to OCC-83, the Proposed New Substation will have a short-term load rating of 144 MVA, consisting of two transformers with short-term ratings of 72 MVA each and the third transformer counted as out-of-service. (App. at E-18) The Application at E-18 shows Cos Cob's 27.6 kV load in 2018, the in-service date for the Project, as 66.7 MVA. (App. at E-18). The Company refers to the Cos Cob 2018 load as "about half" the load currently served out of Cos Cob on its 115-to-27.6 kV transformers. (App. at ES-2) Cos Cob would retain its transformers and its short-term load rating of 135 MVA (Response to OCC-81), but serve about half the existing load.

The Company plans to remove the transformers that served the retired loads at Prospect and at Byram substations. (Response to OCC-81) The actual 2013 peaks at Prospect and Byram were 51.2 MVA (App. at E-8) and 15.9 MVA (App. at E-14), respectively. These two 2013 loads total 67.1 MVA. Applying the Company forecast of one percent compounded annual growth ("CAG") to the 2013 load of 67.1 yields 70.5 MVA in 2018, the in-service date for the Project. The result, a load of 70.5 MVA in 2018, agrees with the Company Response to OCC-60.

The Company's peak load forecast for Prospect in 2024 is 57.1 MVA. (App. at E-8) Calculating the peak load for Byram, starting with the 2013 actual and using the Company forecast of one percent annual growth, yields 17.7 MVA in 2024. The two 2024 forecast loads

total 74.8 MVA. The New Substation has a peak load rating of 144 MVA. (Response to OCC-83) Subtracting a forecasted load of 74.8 leaves it with excess capacity of 69.8 MVA in 2024. The table below illustrates the above data:

	Short-Term Peak Load Forecasts For 2024
Prospect Transfer	**57.1 MVA** (OCC-83 attachment, p. 1)
Byram Transfer	**17.7 MVA** (OCC-83 attachment, p. 1)
Total Transferred Load	**74.8 MVA** (57.1+17.7 MVA)
	New Substation Short-Term Rating
New Substation	**144 MVA** (2 out of 3 transformers at 72 MVA each = 144MVA) (OCC-83 attachment, p. 1)
	New Substation Rating vs. Peak Load For 2024
Difference: New Substation Rating Vs. Peak Load	**69.2 MVA** (144 MVA – 74.8 MVA = 69.2 MVA excess)

In summary, the Company has not provided any substantiation for why it must retire and remove the six transformers at Prospect and Byram. The substations would still be operational after the Project would be in service. The Company proposal would have Prospect continuing to serve load, and Byram serving a voltage regulation function. The Project would yield 69 MVA excess capacity in 2024 at the New Substation, and leave Cos Cob with significant excess capacity on its three 115-to-27.6kV transformers. The Project results in excess capacity at both the New Substation and Cos Cob. The Company has not provided any substantiation for a level of growth in Greenwich that would require such a large amount of excess capacity.

B. Retirement of Existing 27.6 kV Service

As mentioned above, one element of the Project is the retirement of six 27.6-to-13.2 kV transformers -- two in Byram and four in Prospect. The load served by these retired transformers

would be transferred to the New Substation and served via 115-to-13.2 kV transformers. The Company does not say it directly, but indicates that 27.6 kV transformation is obsolete. (Tr. 10/06/15 at 192-93) However, the Project's plans do not eliminate 27.6-to-13.2 kV transformation in Greenwich.

Greenwich will still have a mix of transformation. Cos Cob will still have three 115-to-27.6kV transformers, and will continue to feed the Prospect 27.6 kV load, the Greenwich secondary network, and Greenwich Hospital. (Response to OCC-75) North Greenwich will continue to be fed by Cos Cob at the 27.6 level, and Prospect will still serve 27.6 kV load. Operation of 27.6 -to-13.2kV transformers at North Greenwich will continue after the Project is in service. Between 2010 and 2012, the Company spent $22.4 million on improvements for North Greenwich. The improvements include $14 million for replacing three distribution transformers. (App. at E-16) Pursuant to the Project plans, North Greenwich will continue to be fed by Cos Cob at the 27.6kV level.

Prospect will also continue to serve 27.6 kV load. The Company stated: "Prospect substation would continue to be a critical distribution tie station for the existing 27.6 kV system, including customers directly supplied at 27.6 kV and the secondary network." (App. at E-18) The Project does not change the fact that 27.6 kV service will continue to play a significant role in Greenwich.

IX. THE RECORD DOES NOT HAVE SUFFICIENT INFORMATION ON ROUTE ALTERNATIVES

OCC is not in favor of the Project as proposed, neither the Preferred Route nor the Company alternates. However, should the Council approve the Project, then OCC would be opposed to the Preferred Route for many reasons including the negative environmental impacts

and HPFF line risks in Bruce Park as well as the high cost of $140 million. In addition, as will be explained more fully below, the record has insufficient information regarding route alternatives.

The record has established that there are negative environmental impacts to the Preferred Route. Key elements of the Company's Preferred Route in its Application include horizontal directional drilling under the Metro-North Railroad ("M-NRR") and I-95, and HPFF lines or open trenching running through Greenwich's ("Town") Bruce Park and its water bodies. (App. at ES-1 & ES-4) Bruce Park is a well-used town recreation area, including playing fields, treed sections and a museum. (Town Response to CSC-11) The Town provided information on negative environmental impacts of the Preferred Route on Bruce Park and the risks of having the HPFF lines running through the Park. (*Id.* & Tr. 2/23/16 at 26-28) In LF-3, the Company provided several alternate routes, including one (LF-3, alternate Segment 4B variation) that mitigates the impact on Bruce Park and features an overhead transmission line segment next to the Metro-North Railroad. The Company stated that this route would cost an estimated $22 million less than the Preferred Route.

The Proceeding record contains very little information on the alternates. For example, for alternate Segment 4B variation, there is no detailed cost estimate, and the Company acknowledges that the challenges of working alongside an active railroad have the potential to significantly increase project cost. For alternate routes next to the railroad, the Company list of challenges includes: "[v]ery restricted work hours, flaggers, and other safety measures, obtaining approval for track outages to perform work and potential cancellations of scheduled work times [the Connecticut Department of Transportation Office of Rails reported difficulties with obtaining railroad outages for its work], and costs impacts due to the need to maintain adequate

railroad parking. These challenges have the potential to significantly increase the project cost and schedule." (LF-3, p. 2)

Overall, there is no detailed information on exactly how the Company construction would accommodate the impediments identified for each alternative. At this time, OCC contends that there is insufficient information on which to base any decision on the alternate routes.

X. CONCLUSION

For all the reasons detailed in this Brief, OCC respectfully requests that the Council reject the Company's Application, and require that the Company file a revised Application that addresses the deficiencies.

Respectfully submitted,

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I hereby certify that a copy of the foregoing has been mailed, electronically sent and/or hand-delivered to all known parties and intervenors of record this 11th day of April, 2016.

_____
Lauren Henault Bidra
Commissioner of the Superior Court