



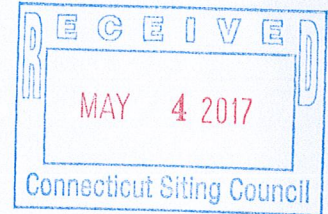
**SIERRA  
CLUB**

May 4, 2017

**VIA EMAIL AND FEDERAL EXPRESS**

Connecticut Siting Council  
Attn: Hon. Robin Stein, Chair  
10 Franklin Square  
New Britain, CT 06051

ORIGINAL



**RE: Docket No. 470: NTE Connecticut, LLC application for a Certificate of Environmental Compatibility and Public Need**

Dear Mr. Stein:

On behalf of the Sierra Club, please find enclosed an original and fifteen (15) copies of the Sierra Club Comments Regarding Draft Findings of Fact. Should you have any questions regarding the filing, please contact me.

Sincerely,

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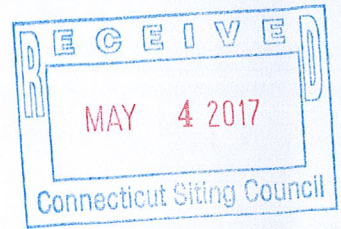
Encl.

BEFORE THE CONNECTICUT SITING COUNCIL

In re: NTE Connecticut, LLC application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a 550-megawatt dual-fuel combined cycle electric generating facility and associated electrical interconnection switchyard located at 180 and 189 Lake Road, Killingly, Connecticut

Docket No. 470

Filed: May 4, 2017



ORIGINAL

**SIERRA CLUB COMMENTS REGARDING DRAFT FINDINGS OF FACT**

The Sierra Club respectfully submits the following comments regarding the Council's Draft Findings of Fact dated April 21, 2017.

Council Draft Finding of Fact #61 states that: "Significant uncertainty exists as to whether demand resources (DR) can continue to participate in the ISO-NE wholesale electric markets, and this uncertainty could drive up costs and compromise reliability if it affects DR's participation in future capacity auctions. (Council Administrative Notice Item No. 48 – Docket No. 192B, Finding of Fact #65)."

Sierra Club comment: This is no longer true. According to ISO-NE, 3,211 MW of demand resources, including 640 MW of new demand resources cleared in Forward Capacity Auction 11 (FCA 11) held on February 6, 2017. (Grouped Parties Admin. Notice Item #27, at 1).

Council Draft Finding of Fact #67 states that: "On a regional or New England level, according to ISO-NE's 2014 Regional System Plan (2014 RSP), the New England region required 424 MW in 2019/2020 to meet the installed capacity requirement. This was expected to increase to a shortage of 1,155 MW by 2023/2024, taking into account load and energy efficiency forecasts and known retirements totaling approximately 3,200 MW. (Council Administrative Notice Item No. 19 – 2014 RSP, p. 49)."

Sierra Club comment: As implicitly recognized by Draft Finding of Fact #70, ISO-NE's 2014 Regional System Plan (RSP) is not the most current Regional System Plan in the record, nor is it the most current source of ISO-NE's load forecasts. According to RSP 2015, "Assuming all FCA #9 existing and new resources remain in service in 2018 and beyond, the region would have sufficient resources through 2023, according to RSP15 resource adequacy study results." (Council Admin. Notice Item #20, at 5). Moreover, ISO-NE's load forecasts have declined since 2015, and there have been two subsequent Forward Capacity Auctions. Most recently, ISO-NE reduced its capacity target for FCA

11 by 720 MW reflecting demand reductions from ISO-NE's forecast of behind-the-meter solar PV growth. (Grouped Parties Admin. Notice Item #27, at 1).

Council Draft Finding of Fact #69 states: "The 2014 IRP states that, 'New resources cleared in FCA #9, including a 725 MW combined-cycle plant located in Connecticut, will help the reliability needs for 2018. The 2014 IRP projects that resources within Connecticut are expected to be sufficient to meet Connecticut's Local Sourcing Requirement through 2024, although Connecticut generation prices will be affected by regional supply/demand conditions. If the resources cleared in FCA #9 do not come online by the 2018 timeframe, the region will experience a capacity shortfall, which will increase prices for all ratepayers in the region, including Connecticut.' (Council Administrative Notice Item No. 69 – 2014 IRP, p. 76)."

Sierra Club comment: The Connecticut 2014 IRP is not the most current source of ISO-NE's load forecasts. Most recently, ISO-NE held FCA 11. Whereas FCA 9 produced a capacity surplus of 1,274 MW (Grouped Parties Exhibit #8, at 20, Tbl. 5), FCA 11 produced a substantially larger capacity surplus of 1,760 MW (Grouped Parties Admin. Notice #27, at 1).

Council Draft Finding of Fact #92 states that: "FCA 11 was held on February 6, 2017 and had six rounds of competitive bidding. (Grouped Party Administrative Notice Item No. 27 – ISO-NE FCA #11 Memo dated February 9, 2017, p. 1; Tr. 8, p. 1154)."

Sierra Club comment: According to the auction results filed by ISO-NE with FERC, the auction was five rounds. (Grouped Parties Admin. Notice Item #28, at 2 of 7 ("The auction . . . concluded for the SENE, NNE and Rest-of-Pool Capacity Zones after five rounds.")).

Council Draft Finding of Fact #93 states that: "NTE participated in five round of bidding. NTE's minimum allowed bid was substantially below the level where round five ended. At the end of round five, NTE was not absolutely certain that all necessary permits could be obtained in order to build the facility and have a start date to meet the obligations that NTE would be taking under ISO-NE. NTE then withdrew from FCA #11 before it was concluded and did not receive a CSO. NTE withdrew because of concerns about cost and schedule uncertainties regarding its ongoing permitting efforts. (Tr. 8, pp. 1155-1156; NTE 31, Supplemental Testimony of Seth Shortlidge, p. 2)."

Sierra Club comment: As noted above regarding Draft Finding of Fact #92, FCA 11 was five, not six rounds.

Council Draft Finding of Fact #104 states that: "NTE believes that KEC would have cleared FCA 11 if NTE had remained in the auction. (Tr. 8, p. 1165)."

Sierra Club comment: KEC did not clear FCA 11. (Grouped Parties Admin. Notice Item #28 (ISO-New England, Inc. FCA Results Filing in FERC Docket No. ER17-1073-000, February 28, 2017), Attachment A (ID 38663).) NTE's belief regarding what would have

occurred had NTE participated in a different manner in FCA 11 is not a relevant fact in this proceeding.

Council Draft Finding of Fact #111 states that: “Connecticut’s Renewable Portfolio Standards call for 20 percent of Connecticut’s electricity usage to come from Class I renewable resources by 2020, which is higher than Class I targets in Massachusetts and Rhode Island.”

Sierra Club comment: Connecticut’s Renewable Portfolio Standard (RPS) is only higher than Rhode Island and Massachusetts in the short term. The RPS targets in these other states continue to increase beyond 2020, while Connecticut’s RPS does not. *Compare* Conn. Gen. Stat. § 16-245a with R.I. H.B. 7413 (amending R.I. Gen. Laws 39-26-4); 225 Code of Mass. Regs. § 14.00 *et seq.* The Rhode Island and Massachusetts renewable requirements surpass Connecticut’s in 2023 and 2026 respectively.

Council Draft Finding of Fact #113 states that: “On November 3, 2016, Commissioner Katie Dykes of PURA stated that, ‘Today, in New England, gas and renewables are tied together. Their destiny is linked in the grid that we have today...Our economy is built on an expectation of 24/7/365 reliable electric power, and that means that the integration of these renewable resources depends, at least in the near term, on having a reliable gas system to back it up.’ (NTE 20, supplemental response 84, p. 12).”

Sierra Club comment: This quotation lacks any context regarding time frame or any quantification of need. As noted in Sierra Club’s post-hearing brief, it is not possible to determine from this quotation in isolation what, if anything, Ms. Dykes is suggesting with regard to the need for new natural gas facilities. As Sierra Club explained in its post-hearing brief, California currently supports far higher levels of renewable generation than New England with a smaller fleet of fast-ramping generation resources. *See* Sierra Club proposed findings of fact ## 35-37; *see also* Sierra Club proposed findings of fact ## 38-39 (highlighting 2,600 MW of potential new flexible resources that may be available in the next 8 years).

Council Draft Finding of Fact #114 states that: “In the State of the Grid 2017 Presentation (SOTG 2017), Gordon Van Welie, President & CEO of ISO-NE, notes that, “To assure reliability, the region needs fast-responding, flexible capacity resources that are not constrained in their operation.” (Council Administrative Notice Item No. 36 – SOTG 2017, p. 33).”

Sierra Club comment: Same comment as for Draft Finding of Fact #113.

Council Draft Finding of Fact #128 states that: “NTE considered renewable energy technologies as an alternative. However, solar and wind are intermittent resources, as opposed to flexible, baseload technologies. (NTE 1, Vol. 1, p. 178).”

Sierra Club comment: Wind is a variable, not an intermittent resource. “Baseload” units are not all flexible.

Council Draft Finding of Fact #131 states that: “ISO-NE estimates that the average solar PV capacity factor in Connecticut (assuming fixed panels) is approximately 16 percent based on alternating current (AC) output. (NTE 14, response 73).”

Sierra Club comment: This is a misleading comparison. Fixed panel solar may have a capacity factor of 16%, but its coincidence with peak is far higher. Based on actual historical operating data, ISO-NE estimates solar PV’s aggregate performance under summer peak load conditions to be 40% of AC nameplate capacity. (Grouped Parties Admin. Notice Item #23, at Slide 67).

Council Draft Finding of Fact #135 states that: “Energy storage systems do not yet allow for reliable power generation across the potential demand spectrum. (NTE 1, Vol. 1, p. 178).”

Sierra Club comment: It is unclear what this draft finding of fact is intended to imply. However, as noted by the Sierra Club in its Proposed Finding of Fact #38, Massachusetts intends to have 600 MW of advanced energy storage online by 2025. (Grouped Parties Admin. Notice Item #15 (Mass. Dept. of Energy & Env’tl. Affairs Energy Storage Initiative, State of Charge Study).) And Energy storage can help to integrate variable renewable resources into the system. (Hr’g Tr. 502:17-22 (Nov. 15, 2017) (Bradley).)

The Sierra Club also recommends that the following facts, which Sierra Club included in its Proposed Findings of Fact, be included in the Council’s final Findings of Fact:

- Sierra Club Proposed Finding of Fact #19: Natural gas combined cycle technologies continue to improve in efficiency. (Hr’g Tr. 293:18-19 (Nov. 3, 2016) (Bradley); *see also* Hr’g Tr. 318:15-17 (Nov. 3, 2016) (Bradley); Hr’g Tr. 735:21-736:2 (Nov. 15, 2016) (Paterno).)
- Sierra Club Proposed Finding of Fact #18: The natural gas combined cycle technology proposed for KEC is already “light years ahead in terms of flexibility and efficiency” compared to the Lake Road Generating Station, a natural gas combined cycle facility constructed less than 15 years ago down the road from the site of the proposed KEC facility. (Hr’g Tr. 1103:14-16 (Jan. 26, 2017) (Paterno).)
- Sierra Club Proposed Finding of Fact #15: KEC’s air permit will not authorize the Facility to burn ULSD on an economic basis. (Hr’g Tr. 465:24-466:5 (Nov. 15, 2016) (Gresock).)
- Sierra Club Proposed Finding of Fact #17: KEC is designed for a service life of at least 30 years. (NTE Exhibit #1, at 39.) However, the Facility could be in service for up to 50 years. (Hr’g Tr. 409:25-410:2 (Nov. 15, 2016) (Eves); *see also* Hr’g Tr. 522:14-523:7 (Nov. 15, 2016) (Paterno/Eves))
- Sierra Club Proposed Finding of Fact #27: Actual net summer peak load and net energy for load are no longer increasing and have begun to decline. (Grouped Parties Exhibit #8 (Redacted Testimony of Robert Fagan, Nov. 15, 2016), at 34, Fig. 2 & 3.) In ISO-NE’s

2016 Capacity, Energy, Loads & Transmission (CELT) Report, net annual energy load in both Connecticut and New England is expected to decline by 0.22% and 0.25% per year through 2025. (*Id.* at 37, Tbl. 5.) New England peak summer demand is projected to increase by 0.17%/year (a total of 418 MW over 10 years) and Connecticut peak summer demand is projected to be essentially flat (adding only 35 MW between 2016 and 2025). (*Id.* at 37, Tbl. 6.) ISO-NE credits energy efficiency and behind-the-meter solar for flattening annual energy use and slowing peak demand growth. (Council Admin. Notice Item #29 (ISO-New England, 2017 Regional Electricity Outlook, January 2017), at 18.)

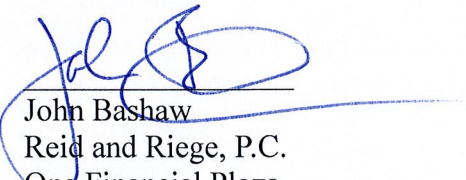
- Sierra Club Proposed Finding of Fact #28: In New England, ISO-NE's forecasted 10-year compound annual growth rate for net summer peak demand declined from 1.61% in the 2010 CELT to 0.17% in the most recent 2016 CELT. (Grouped Parties Exhibit #8, at 45, Fig. 6.) The forecasted 10-year compound annual growth rate for net summer peak was 1.61% in the 2010 CELT, 1.30% in the 2011 CELT, 0.79% in the 2012 CELT, 0.88% in the 2013 CELT, 0.67% in the 2014 CELT, 0.54% in the 2015 CELT and 0.17% in the 2016 CELT. (*Id.*)
- Sierra Club Proposed Finding of Fact #29: New England's winter reserve margins, based on seasonal claimed capability, range from 60 to 70 percent up until year 2024. (Grouped Parties Exhibit #8, at 54, Table 8.) When based on capacity supply obligations instead of seasonal claimed capabilities, winter reserve margins through 2024 uniformly exceed 49 percent. (*Id.*) ISO-NE's required reserve margin is 15 percent. (*Id.* at 9.)
- Sierra Club Proposed Finding of Fact #30: FCA 11 cleared 35,835 MW of capacity. (Grouped Parties Admin. Notice Item #27, at 1.) The winter net peak load forecast for 2020/21 is 21,029 MW. (Grouped Parties Exhibit #8, at 54, Table 8.) This results in a reserve margin for the 2020/2021 period of more than 70 percent.
- Sierra Club Proposed Finding of Fact #31: Had KEC cleared its capacity in FCA 11, it would have replaced an equal number of MW of capacity from an existing at-risk (non-gas) generator, which would not have cleared. (Hr'g Tr. 1170:10-14 (Mar. 23, 2017) (Shortlidge); *see also* Hr'g Tr. 1195:12-1196:5 (Mar. 23, 2017) (Shortlidge).) Consequently, adding KEC would not have resulted in a net gain in non-gas capacity in New England.
- Sierra Club Proposed Finding of Fact #33: ISO-NE has determined that adding dual-fuel capability is the most economic option available to existing gas-only generators under the Pay for Performance rules. (Council Admin. Notice Item #28, at 3.)
- Sierra Club Proposed Finding of Fact #34: Facilities—including gas-only generators—that have accepted capacity supply obligations in FCA 9, 10 and 11 will be subject to Pay for Performance requirements. (*See* Council Admin. Notice Item #20, at 138.)
- Sierra Club Proposed Finding of Fact #35: During the summer of 2016, there were 16,711 MW of dispatchable, flexible resources available in New England. (Grouped Parties Exhibit #11, at 7 n.21; *see also* Grouped Parties Admin. Notice Item #10, Tab

1.3.) In 2025, New England will have about 20,000 MW of flexible generation. (Grouped Parties Admin. Notice Item #10, Tab 1.3.)

- Sierra Club Proposed Finding of Fact #36: New England's levels of fast-ramping resources exceed those in the California ISO region, which has 10,000 to 15,000 MW of flexible dispatchable capacity for 2017. (Grouped Parties Exhibit #11, at 6.)
- Sierra Club Proposed Finding of Fact #37: The California ISO system supports roughly 15,000 MW of renewable resources. (Grouped Parties Exhibit #11, at 6-7.)
- Sierra Club Proposed Finding of Fact #39: Two large transmission import resources from Quebec are seeking to be connected to the New England grid. (Grouped Parties Exhibit #8, at 27.) If successful, these lines would provide on the order of 2,000 MW of new capacity resources to New England. (*Id.*) At a 75% annual average capacity factor, the two transmission lines would carry over 13 million MWh per year, or 10% of New England's net annual energy needs. (*Id.* at 27-28.)
- Sierra Club Proposed Finding of Fact #40: Massachusetts recently enacted legislation that requires the Commonwealth's distribution companies to jointly and competitively solicit proposals for clean energy generation (including firm service hydroelectric generation from hydroelectric generation alone or new Class I renewable portfolio standard eligible resources that are firm up with firm service hydroelectric generation). (Grouped Parties Admin. Notice Item #16 (The 189<sup>th</sup> General Court of the Commonwealth of Massachusetts, Massachusetts Bill H. 4568: An Act to Promote Energy Diversity, filed on July 31, 2016).) Provide that reasonable proposals have been received, the distribution companies are required to enter into cost-effective long-term contracts for clean energy generation for an annual amount of electricity equal to approximately 9.45 million megawatts-hours. (*Id.*)
- Sierra Club Proposed Finding of Fact #41: The New England region currently relies on natural gas to produce 44 percent of its net electricity needs and its total generating capacity. (Grouped Parties Exhibit #8, Attachment 7 (Analysis Group, Power System Reliability in New England: Meeting Electric Resource Needs in an Era of Growing Dependence on Natural Gas, November 2014), at i.) This figure could exceed 50 percent by 2024. (*Id.*)
- Sierra Club Proposed Finding of Fact #42: The Connecticut 2014 Integrated Resource Plan identified a "growing concern over New England's increasing dependence on natural gas as an electric generation fuel, and the implications resulting from such dependence in terms of reliability and cost." (Council Admin. Notice Item #69 (State of Conn., Dept. of Energy & Env'tl. Protection, 2014 Integrated Resource Plan for Connecticut, March 17, 2015), at 23.)
- Sierra Club Proposed Finding of Fact #43: Gas sets the price for wholesale electricity about 70 percent of the time in New England. (Grouped Parties Exhibit #8, Attachment 13 (Brandien Testimony to FERC), at 1.)

- Sierra Club Proposed Finding of Fact #44: In a grid that is dominated by generation powered by a single fuel type, which sets the marginal price the large majority of the time, ratepayers bear the risk of that fuel type increasing in price. (Hr’g Tr. 682:3-10 (Dec. 15, 2016) (Paterno).)
- Sierra Club Proposed Finding of Fact #45: NTE’s firm gas contract does not establish a fixed price for natural gas for the duration of the contract. (Hr’g Tr. 682:11-18 (Dec. 15, 2016) (Paterno/Bradley).) Instead, it uses a daily index price. (*Id.*)
- Sierra Club Proposed Finding of Fact #46: Natural gas prices are projected to increase at least to some degree. (Council Admin. Notice Item #69, at 51 (“The expected increase in energy prices over the 2014–2024 timeframe is mostly due to a moderate increase in natural gas prices.”); *see also id.* at 52 (projecting increase in natural gas prices from \$3.94/MMBtu to \$6.22/MMBtu in nominal dollars between 2014 and 2024).) If natural gas prices rise in the coming years, this increase will be passed along to ratepayers in their electricity bills.
- Sierra Club Proposed Finding of Fact #47: Connecticut’s annual economy-wide greenhouse gas emissions in 2013 were 40.9 million metric tons of carbon dioxide equivalents when measured on a generation basis, and 43.0 million metric tons when measured on a consumption basis. (Grouped Parties Admin. Notice Item #6 (Conn. Dept. of Energy and Env’tl. Protection, Office of Climate Change, Technology and Research, 2013 Connecticut Greenhouse Gas Emissions Inventory, 2013), at 3.)
- Sierra Club Proposed Finding of Fact #49: The potential emissions of KEC are equal to approximately 4.6 to 4.9% of the State’s total greenhouse gas emissions depending upon whether the calculation is made on a consumption or a generation basis.

Respectfully submitted this 4<sup>th</sup> of May, 2017,



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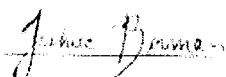


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I HEREBY CERTIFY that a copy of the foregoing document was electronically mailed to the following service list on May 4, 2017:

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This 4<sup>th</sup> day of May, 2017.



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