

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: April 24, 2017

**POST-HEARING BRIEF OF THE SIERRA CLUB**

John Bashaw, Esq., supervising attorney for  
Joshua Berman, Esq., *admitted pro hac vice*  
Sierra Club  
50 F St. NW, 8<sup>th</sup> Floor  
Washington, DC 20001  
Tel: (202) 650-6062  
Email: [Josh.Berman@sierraclub.org](mailto:Josh.Berman@sierraclub.org)

*Counsel for Sierra Club*

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## I. INTRODUCTION

The power sector in New England is rapidly changing. Energy efficiency, rooftop solar, and demand response, are becoming more prevalent, contributing to flat or declining load growth. Clean, renewable technologies and energy storage are decreasing in price and increasing in availability. Natural gas combined cycle technologies also continue to improve in efficiency. At the same time, Connecticut and the other New England states are striving to achieve aggressive greenhouse gas emission goals that will require transformative changes within the electric sector, precluding the construction of new fossil fuel generating facilities that fail to enforceably limit and progressively decrease their greenhouse gas emissions over time. Within this rapidly shifting context, NTE Connecticut LLC (NTE) seeks authorization to site a 550 MW natural gas combined cycle facility, the Killingly Energy Center (KEC), in the town of Killingly in northeastern Connecticut.

As confirmed by the results of the recent Forward Capacity Auction (FCA 11 or Auction) held by the Independent System Operator of New England (ISO-NE) on February 6, 2017, there is not a need for KEC at this time to ensure the reliability of the regional power system. KEC participated in the Auction and did not receive a capacity supply obligation despite the Auction clearing capacity well in excess of minimum reliability needs. The Auction results demonstrate that sufficient generation capacity is available to the New England system through 2021 even without KEC. Moreover, this surplus of capacity can be expected to continue for the foreseeable future as peak load forecasts continue to decline as a result of robust ongoing investments in energy efficiency and rooftop (distributed) solar, belying any longer-term need for KEC.

Further, KEC is not needed to maintain winter reliability. Ample generation already exists in New England in the winter. Winter reliability concerns are based on fuel availability

rather than total capacity, and the addition of KEC would not actually result in a net increase in non-gas capacity in New England. KEC is likewise not needed to integrate anticipated future renewable resource additions. The New England system already benefits from total levels of fast-ramping generation comparable to California, which has successfully integrated far higher levels of non-dispatchable renewables with these same resource levels. And the New England states continue to promote the development of additional energy storage and other resources that can provide the same renewable integration benefits.

Finally, the KEC facility is not in a position to benefit ratepayers by lowering capacity costs in the region. The most recent Forward Capacity Auction cleared at a price far lower than the previous two auctions in spite of KEC's unsuccessful participation. Instead, KEC would add to the region's already heavy reliance on natural gas and further subject Connecticut ratepayers to any future fluctuations in natural gas prices.

Given that there is not a public need or public benefit associated with KEC at this time, the Council should deny NTE's request for a Certificate of Environmental Compatibility and Public Need (CECPN). If, however, the Council ultimately grants a CECPN for KEC, it is important that the Council condition the CECPN on the Connecticut Department of Energy and Environmental Protection's (DEEP's) establishment of enforceable greenhouse gas emission limits for KEC.<sup>1</sup> The facility has the potential to single-handedly increase Connecticut's state-wide greenhouse gas emissions by nearly 5%, which could cripple the State's efforts to reduce total greenhouse gas emissions 80% from 2001 levels by 2050. In recognition of this concern, at the January 26<sup>th</sup> hearing, NTE stated that it was looking at committing to reduce the facility's greenhouse gas emissions 80 percent from the time the plant is operational to 2050 consistent

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<sup>1</sup> The Council may grant a CECPN "upon such terms, conditions, limitations or modifications of the construction or operation of the facility as the council may deem appropriate." Conn. Gen. Stat. § 16-50p(a)(1).

with Connecticut's Global Warming Solutions Act.<sup>2</sup> And subsequent to that hearing, NTE submitted to DEEP a proposed greenhouse gas reduction program that effectuates this commitment. If the Council grants a CECPN for KEC, it should condition the Certificate on DEEP's finalization of a greenhouse gas reduction program for the facility, as these greenhouse gas limits are integral to the facility's consistency with the goals of Connecticut's Global Warming Solutions Act.

## **II. ARGUMENT**

### **A. Legal Standard**

Under Section 16-50p of the Connecticut General Statutes, the Connecticut Siting Council may not grant a CECPN unless it finds and determines both a public need and public benefit for the proposed facility.<sup>3</sup> A public need exists only when a facility is "necessary for the reliability of the electric power supply of the state."<sup>4</sup> A "public benefit" exists when a facility "is necessary for the reliability of the electric power supply of the state or for the development of a competitive market for electricity."<sup>5</sup> In addition, in order to grant a CECPN, the Council must find and determine the "nature of the probable environmental impact of the facility alone and cumulatively with other existing facilities" that "impact on, and conflict with the policies of the state concerning the natural environment, ecological balance, public health and safety, scenic, historic and recreational values, forests and parks, air and water purity and fish, aquaculture and

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<sup>2</sup> Hr'g Tr. 1129:21-25 (Jan. 26, 2017) (Mirabito).

<sup>3</sup> Conn. Gen. Stat. § 16-50p(a)(3)(A) & (c)(1).

<sup>4</sup> Conn. Gen. Stat. § 16-50p(h), *see also* Conn. Gen. Stat. § 16-50p(c)(3).

<sup>5</sup> Conn. Gen. Stat. § 16-50p(c)(3).

wildlife” and determine why the adverse effects or conflicts “are not sufficient reason to deny the application.”<sup>6</sup>

Although two natural gas combined cycle facilities similar to the Killingly Energy Center—Bridgeport Harbor Station Unit 5 and CPV Towantic—have recently received requisite approvals from the Council, neither provides a precedent that bears on this case. For Bridgeport Harbor Station Unit 5, the Council determined that the facility did not require a CECPN because it was proposed for construction on the site of an existing generator.<sup>7</sup> And CPV Towantic sought a modification to an existing CECPN for an older and less efficient gas combined cycle design. Consequently, the Council’s analysis of public need focused on the incremental impacts of the project as modified relative to the project as approved in 1999.<sup>8</sup> The proposed modifications resulted in the project being cleaner and more efficient, rendering the net impacts largely positive; the full impacts of the project were not presented to the Council in its review and approval.<sup>9</sup>

**B. The Council Should Not Grant a CECPN for KEC Because There Is No Public Need for the Facility or Public Benefit for Ratepayers**

1. KEC is Not Needed for the Reliability of the Electric Power Supply of Connecticut or New England.

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<sup>6</sup> Conn. Gen. Stat. § 16-50p(a)(3)(B) & (C).

<sup>7</sup> Council Admin. Notice Item #55 (Conn. Siting Council, Petition No. 1218 - PSEG Power Connecticut LLC petition for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the construction, maintenance, and operation of a new 485 megawatt (MW) dual fuel combined-cycle electric generating facility at the existing Bridgeport Harbor Station located at 1 Atlantic Street, Bridgeport, Connecticut. Record and Final Decision).

<sup>8</sup> Council Admin. Notice Item #48 (Conn. Siting Council, Dkt. No. 192B - CPV Towantic, LLC Motion to Reopen and Modify the June 23, 1999 Certificate of Environmental Compatibility and Public Need based on changed conditions pursuant to Connecticut General Statutes §4-181a(b) for the construction, maintenance and operation of a 785 MW dual-fuel combined cycle electric generating facility located north of the Prokop Road and Towantic Hill Road intersection in the Town of Oxford, Connecticut. Record and Final Decision).

<sup>9</sup> *Id.*

There is no public need for the KEC facility now or in the foreseeable future. Although NTE's definition of "need" has broadened during the course of the proceeding,<sup>10</sup> NTE's central contention throughout this proceeding has been that the capacity from KEC is needed both for Connecticut and for New England regionally because ISO-NE's Forward Capacity Auction is determinative of need and NTE's modeling indicated that the facility would clear in FCA 11. Over the course of the proceeding, NTE has supplemented this primary contention by arguing that KEC is also needed in order to: (1) mitigate the impact of future generator retirements; (2) maintain reliability of the electricity system during winter peak demand conditions; (3) support the integration of renewables; (4) contribute to carbon dioxide (CO<sub>2</sub>) emissions reductions<sup>11</sup>; (5) support the Connecticut 2014 Integrated Resource Plan (2014 IRP)<sup>12</sup>; and (6) to reduce the cost of electricity for ratepayers.<sup>13</sup>

As the testimony of Robert Fagan explained, and as the results of FCA 11 concretely demonstrated, all of NTE's need arguments are misplaced. ISO-NE's recent Forward Capacity Auction cleared 1,760 MW of excess capacity without KEC obtaining a capacity supply obligation,<sup>14</sup> highlighting the lack of capacity need for the facility. Moreover, the auction results also demonstrate that NTE's modeling, which projected that the auction would clear at a much

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<sup>10</sup> In its initial application, NTE asserted that the ISO-NE FCA was determinative of need and based its assertion of need solely on its projection that KEC would clear FCA 11. NTE Exhibit #1 (Application), Appendix B-2 at 12 ("[FCA 11] will determine the capacity that is needed for reliability in ISO-NE during the 2020/2021 DY"). In response to subsequent Council interrogatories, NTE maintained that it would still construct the facility even in the event it did not clear FCA 11 because it "analysis indicates that a need exists for KEC in terms of electric system reliability for the State of Connecticut and ISO-NE electric systems." NTE Exhibit #14 (NTE's Responses to Council Interrogatories, Set II, Question 81), at 8. NTE added, as a basis for the need for KEC, that that facility would: (1) "support[] future power generation retirements," (2) "support[] the growth of renewable forms of power generation," (3) "maintain[] the reliability of the electricity system during peak winter conditions," and (4) "contribute[] to CO<sub>2</sub> emissions reductions." *Id.* at 12. NTE later supplemented its response to Council Interrogatory 84 by adding KEC's purported consistency with Connecticut's 2014 Integrated Resource Plan as an element of need. NTE Exhibit #20 (Supplemental Responses to Council Interrogatories 83 and 84), at 7.

<sup>11</sup> NTE Exhibit #14, at 12.

<sup>12</sup> NTE Exhibit #20 at 7.

<sup>13</sup> Hr'g Tr. 470:10-22 (Nov. 15, 2016) (Paterno).

<sup>14</sup> Grouped Parties Admin Notice Item #27 (ISO-New England, Inc., Press Release: Auction Acquires Power System Resources Needed for 2020-2021 at a Lower Price, Feb. 9, 2017), at 1.



higher price and that KEC would obtain a capacity supply obligation, was flawed, while simultaneously affirming that Mr. Fagan's critiques of NTE's needs analysis were well-founded. Indeed, precisely as Mr. Fagan described, a lower ISO-NE load forecast, coupled with newly cleared energy efficiency and demand response resources, and the lack of price-based retirements, obviated the need for any new generation resources (including KEC) in the auction.

Without a capacity need for KEC, NTE's remaining public need arguments fail to support issuance of a CECPN. As ISO-NE and others have recognized, winter reliability concerns in New England are based on fuel availability limitations and not a lack of generation capacity, and NTE has acknowledged that KEC would simply have displaced one of the at-risk (non-gas) generators in New England, resulting in no net increase in non-gas generation in the region.

KEC is also not needed to integrate future renewable resource additions; the system already has ample fast-ramping capacity as demonstrated by comparison to the much more renewable-heavy California system. And given NTE's acknowledgment that the efficiency of gas combined cycle technology is continuing to improve, if, at some point in the future, additional natural gas units were to become necessary for renewable balancing—a proposition that is becoming increasingly unlikely as states pursue energy storage and other resources that can fill this role<sup>15</sup>—those gas units should be built using the state-of-the-art technology at that time, not today's technology.<sup>16</sup>

NTE is also not needed as part of a greenhouse gas (GHG) reduction strategy for Connecticut. The Sierra Club appreciates and supports NTE's Proposed Greenhouse Gas

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<sup>15</sup> Grouped Parties Admin. Notice Item #15 (Mass. Dept. of Energy & Env'tl. Affairs Energy Storage Initiative, State of Charge Study).

<sup>16</sup> NTE describes the natural gas combined cycle technology being used for KEC as "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).

Reduction Program (filed with the Connecticut Department of Energy and Environmental Protection on February 3, 2017) and believes that, subject to the requirements of that Program and comments filed by Sierra Club regarding that Program, the facility's GHG emission levels are compliant with Connecticut's Global Warming Solutions Act (GWSA). However, the marginal near-term GHG system benefits that NTE has postulated for KEC do not establish a need for the facility or any other new natural gas generation as part of Connecticut's strategy for achieving its GWSA goals. Far more effective tools exist—in the form of energy efficiency and zero carbon renewables—to reduce the carbon intensity of generation in Connecticut and the region.

Finally, the facility is not required to reduce the cost of electricity to Connecticut or New England ratepayers. Without a capacity supply obligation, the facility has lost its ability to affect wholesale capacity prices, but if constructed would still add to New England's already heavy reliance on natural gas, rendering ratepayers more vulnerable to increases in natural gas prices.

- a. There is Adequate Capacity in Both Connecticut and New England Without the KEC Facility in Both the Short- and Longer-Term

- i. There Is No Short-term Capacity Need for KEC*

There is no near-term reliability need for the capacity from the KEC facility that would support issuance of a CECPN. While NTE's witnesses and Mr. Fagan disagree about the appropriate yardstick to measure capacity need—namely, the Net Installed Capacity Requirement or the level of resources that ISO-NE clears in its annual Forward Capacity Auction—by either measure, there is no need for KEC. FCA 11, held on February 6, 2017, for the 2020-2021 capacity commitment period, cleared capacity well in excess of the Net Installed Capacity Requirement without KEC obtaining a capacity supply obligation in the auction. This

demonstrates that KEC is not needed to ensure resource adequacy in New England through 2021 under either measure of need.

ISO-NE is charged with preserving the reliability of the New England power grid. To help ensure that sufficient resources will be available to meet peak system loads in the future (with a substantial margin of safety), ISO-NE holds an annual auction through which resource can obtain capacity supply obligations three years in the future.<sup>17</sup> ISO-NE calculates a Net Installed Capacity Requirement (NICR), which is calibrated to the level of system reliability established by the North American Electric Reliability Corporation (NERC).<sup>18</sup> ISO-NE then develops a downward sloping demand curve that is calibrated to ensure that, on average, the ISO procures sufficient resources to meet NERC's reliability standards.<sup>19</sup> The downward sloping demand curve enables ISO-NE to procure capacity in excess of the NICR if the excess capacity is available at a price it deems acceptable, although it does not alter the level of the NICR.<sup>20</sup>

On February 6, 2017, ISO-NE conducted its eleventh Forward Capacity Auction for the capacity commitment period that runs from June 1, 2020 through May 31, 2021. Over 40,000 MW of resources participated in the auction to provide a capacity target of 34,075 MW.<sup>21</sup> The auction closed at a system-wide clearing price of \$5.30/kW-month, procuring 35,835 MW to be available in 2020-2021, with 1,760 MW of surplus capacity—i.e., capacity in excess of the NICR.<sup>22</sup> “Forecasted demand reductions from the ISO’s forecast of behind-the-meter solar PV

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<sup>17</sup> See NTE Exhibit #1, Appendix B-2 at 12.

<sup>18</sup> Hr’g Tr. 471:6-21 (Nov. 15, 2016) (Paterno).

<sup>19</sup> NTE Exhibit #24 (Redacted Rebuttal Testimony of Ethan Paterno), at 5:13-19.

<sup>20</sup> See Grouped Parties Exhibit #11 (Surrebuttal Testimony of Robert Fagan Synapse Energy Economics, Dec. 22, 2016) at 2:1-3 (“The recent changes to the shape of the demand curve do not alter the underlying calculation of NICR or the shape of the supply curve; they merely alter the amount of capacity that ISO NE elects to clear in a given auction based on economic preferences.”).

<sup>21</sup> Grouped Parties Admin. Notice Item #27, at 1.

<sup>22</sup> *Id.* at 1-2.

growth reduced the capacity target by 720 MW.”<sup>23</sup> In addition, “[n]o major generators retired in FCA #11 and no large new generators cleared in the auction, but 640 megawatts (MW) of new energy-efficiency and demand-reduction measures—the equivalent of a large power plant—cleared and will be available in 2020-2021.”<sup>24</sup> KEC did not obtain a capacity supply obligation.<sup>25</sup>

As NTE explained in its application to the Council, “[t]he need for KEC in the state of Connecticut and the overall New England market was based on PA’s modeling of [FCA] 11.”<sup>26</sup> “Clearing its capacity in FCA 11 will demonstrate that KEC is needed for the reliability of the electricity market in Connecticut and the wider New England market,”<sup>27</sup> as FCA 11 “will determine the capacity that is needed for reliability in ISO-NE in the 2020/2021 [deliverability year].”<sup>28</sup> NTE’s failure to clear KEC in FCA 11, coupled with the fact that the auction successfully cleared 1,760 MW of resource in excess of minimum capacity needs, demonstrates that KEC’s capacity is not needed for reliability in New England through 2021.

*ii. There is No Longer-term Capacity Need for KEC*

There is likewise no longer-term need for capacity from KEC that would support issuance of a CECPN at this time. This conclusion is borne out by trends and developments on both the demand side and the supply side. On the demand side, the results of ISO-NE’s recent FCA 11 strongly reinforce the testimony of Mr. Fagan regarding declining demand and its drivers. Consistent with Mr. Fagan’s analysis, ISO-NE’s peak load forecast for FCA 11 was reduced substantially as a result of increased behind-the-meter solar PV, thereby significantly

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<sup>23</sup> *Id.* at 1.

<sup>24</sup> *Id.*

<sup>25</sup> 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).

<sup>26</sup> NTE Exhibit #1 at Appendix B-2 at 3.

<sup>27</sup> *Id.*

<sup>28</sup> *Id.* at 12.

lowering ISO-NE's capacity procurement target in the Auction.<sup>29</sup> On the supply side, energy efficiency and demand resources outlasted KEC in the Auction and were responsible for all new resource additions—"the equivalent of a large power plant."<sup>30</sup> At the same time, so-called "at risk" generators in New England declined to retire despite the significantly lower clearing price in FCA 11 as compared to the two prior forward capacity auctions.<sup>31</sup> And recent developments such as the Massachusetts clean energy procurement legislation,<sup>32</sup> are likely to bring online substantial additional capacity resources that will further eroding any longer-term need for KEC.

Declining load trends in New England counsel against a longer-term need for the capacity from KEC. Actual net summer peak load and net energy for load are no longer increasing and have begun to decline.<sup>33</sup> Likewise forecasts of future load and peak demand have flattened or begun to decline.<sup>34</sup> 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.<sup>35</sup> 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).<sup>36</sup> But even these very modest growth projections could easily turn into projected declines based on trends in the ISO-NE forecast over the past seven years. Forecasted 10-year compound annual growth rate for net summer peak demand went from 1.61% in the 2010 CELT, to 1.30%

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<sup>29</sup> Grouped Parties Admin Notice Item #27, at 1.

<sup>30</sup> *Id.*

<sup>31</sup> *Id.*

<sup>32</sup> 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); Grouped Parties Admin. Notice Item #20 (Massachusetts Dept. of Energy Resources, Ltr. Requesting Input in the Development of a Request for Proposals for Clean Energy Pursuant to Section 83D of An Act to Promote Energy Diversity, December 16, 2016).

<sup>33</sup> Grouped Parties Exhibit #8 (Redacted Testimony of Robert Fagan, Nov. 15, 2016), at 34, Fig. 2 & 3.

<sup>34</sup> *Id.* at 37, Tbl. 5 & 6.

<sup>35</sup> *Id.* at 37, Tbl. 5.

<sup>36</sup> *Id.* at 37, Tbl. 6.

in the 2011 CELT, to 0.79% in the 2012 CELT, to 0.88% in the 2013 CELT, to 0.67% in the 2014 CELT, to 0.54% in the 2015 CELT and to 0.17% in the 2016 CELT.<sup>37</sup> If ISO-NE's load forecasting trend continues, both net energy load and peak demand growth rates will be negative over the coming decade.

The declining load trends have significant implications for the long-term need for new capacity resources. With regard to FCA 11, ISO-NE noted that “[f]orecasted demand reductions from the ISO’s forecast of behind-the-meter solar PV growth reduced the capacity target by 720 MW,”<sup>38</sup> which offset the need for a power plant even larger than the proposed Killingly facility. As behind-the-meter solar continues to grow in New England, it will offset the need for new resources even if older existing resources retire.

Several developments on the supply side also mitigate the need for new resources such as KEC. First, energy efficiency and demand resources proved themselves to be the lowest cost resources in FCA 11, outcompeting both combined cycle facilities that entered the auction.<sup>39</sup> Second, existing generators did not retire even as capacity cleared at a much lower price than NTE forecasted.<sup>40</sup> FCA 11 cleared 1,760 MW of “surplus capacity” (i.e., capacity above and beyond minimum reliability requirements).<sup>41</sup> Consequently, even in the unlikely event that a large fraction of the so-called “at risk” generation did elect to suddenly retire in next year’s Auction, there is a substantial capacity cushion to absorb these retirements. Moreover, as the Connecticut 2014 IRP observed, “widespread retirements are unlikely because they would

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<sup>37</sup> *Id.* at 45, Fig. 6.

<sup>38</sup> Grouped Parties Admin Notice Item #27, at 1.

<sup>39</sup> *Id.* at 1.

<sup>40</sup> *See id.* (whereas NTE projected that FCA 11 would clear at \$6.19/kW-month, the actual clearing price was \$5.297/kW-month).

<sup>41</sup> *Id.*

trigger capacity shortages and very high capacity prices that would incent retention.”<sup>42</sup> Finally, there are other resources besides Killingly that are likely to become available to the New England system in the near future that further erode the need for new gas generation. As Mr. Fagan noted, “Massachusetts, Connecticut and Rhode Island are seeking additional renewable resource installations, and Massachusetts has specific timeframes in place to secure 1,600 MW (nameplate) of offshore wind resources before the end the 2020s decade.”<sup>43</sup> Massachusetts has already taken steps to commence its procurement processes under its Act to Promote Energy Diversity, which would bring thousands of MW of capacity into the New England system.<sup>44</sup>

Finally, even if there were a possible longer-term need for capacity that would not be met by the significant renewable generation additions, it would not serve the public interest to approve a CECPN for KEC at this time. As NTE’s witnesses testified, gas turbine efficiency continues to improve<sup>45</sup> and the technology for the Killingly facility is already “light years” ahead of the technology used less than 15 years ago just down Lake Road at the Lake Road Generating Station.<sup>46</sup> The Council should wait to see if a need materializes in the future and, should that occur, act on any siting applications before the Council at that time.

*iii. The Results of FCA 11 Call into Question the Reliability of NTE’s Modeling Analysis While Strongly Supporting Mr. Fagan’s Analysis*

As the results of FCA 11 demonstrate, NTE’s modeling analysis was mistaken in critical regards. The inaccurate conclusions, coupled with a flawed methodology, undermine the credibility of the analysis. By contrast, the FCA 11 auction results provide significant support for

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<sup>42</sup> Council Admin. Notice Item #69 (State of Conn., Dept. of Energy & Env’tl. Protection, 2014 Integrated Resource Plan for Connecticut, March 17, 2015), at 39.

<sup>43</sup> Grouped Parties Exhibit #8, at 27:17-20.

<sup>44</sup> Grouped Parties Admin. Notice Item #20.

<sup>45</sup> Hr’g Tr. 293:18-19 (Nov. 3, 2016) (Bradley) (“We know that gas turbines will increase in efficien[c]y.”) (Nov. 3, 2016); *see also* Hr’g Tr. 318:15-17 (Nov. 3, 2016) (Bradley); Hr’g Tr. 735:21-736:2 (Nov. 15, 2016) (Paterno).

<sup>46</sup> Hr’g Tr. 1103:14-16 (Jan. 26, 2017) (Paterno); *see also* Hr’g Tr. 1107:11-16 (Jan. 26, 2017).

the analysis of Mr. Fagan, who correctly identified the trends that led to the lower clearing price and lack of generator retirements in this auction.

Contrary to NTE's assertion that KEC would clear in the auction, and in doing so, would lower capacity prices in New England, the plant participated in the auction but failed to receive a capacity supply obligation.<sup>47</sup> Although NTE's consultant stated prior to the Auction that it "projects KEC to clear approximately 500 MW"<sup>48</sup> in FCA 11, in the end "no large new generators cleared in the auction."<sup>49</sup> Moreover, the clearing price for capacity was far lower than NTE had forecast. While NTE's consultant projected that "KEC will clear FCA 11 at a price of \$6.19/kW-mo,"<sup>50</sup> ISO-NE FCA11 closed at \$5.297/kW-mo.,<sup>51</sup> nearly 17% (\$0.893/kW-mo.) lower than NTE projected even with the assumed clearing of KEC. Mr. Fagan, by contrast, identified the trends that led to lower clearing price in FCA 11. In his testimony he emphasized declining load forecasts by ISO-NE<sup>52</sup> driven by increase in energy efficiency and behind the meter solar,<sup>53</sup> which, as explained by ISO-NE, was precisely what drove the results of FCA 11.<sup>54</sup>

The inaccuracy of NTE's modeling is not surprising in light of the flaws in the methodology. In particular, NTE conducted no sensitivity tests,<sup>55</sup> a methodological limitation that Mr. Fagan highlighted as problematic.<sup>56</sup> Instead, NTE's modeling relied on a single set of assumptions about many inputs including resource additions, retirements, fuel prices, and load.<sup>57</sup> Because the underlying assumptions were not robust and no alternative assumptions were

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<sup>47</sup> Grouped Parties Admin Notice Item #28, Attachment A (ID 38663).

<sup>48</sup> NTE Exhibit #1, Appendix B-2 at 3.

<sup>49</sup> Grouped Parties Admin Notice Item #27, at 1.

<sup>50</sup> NTE Exhibit #1, Appendix B-2 at 14.

<sup>51</sup> Grouped Parties Admin. Notice Item #28, at 4.

<sup>52</sup> Grouped Parties Exhibit #8, at 22-23.

<sup>53</sup> *Id.* at 39.

<sup>54</sup> Grouped Parties Admin. Notice Item #27, at 1.

<sup>55</sup> Hr'g Tr. 765:16-18 (Dec. 15, 2017) (Paterno).

<sup>56</sup> Hr'g Tr. 816:12-24 (Dec. 15, 2017) (Fagan); Grouped Parties Exhibit #8 at 79:14-17.

<sup>57</sup> Hr'g Tr. 765:19-766:9 (Dec. 15, 2017) (Paterno).



considered, NTE's modeling failed to foresee the difficulty KEC would face in clearing the Auction.

b. KEC is Not Needed to Maintain Winter Reliability in New England

The New England region has ample capacity in the winter, far in excess of winter reliability requirements. Concerns about reliability during the winter instead stem from limitations on seasonal fuel availability. Constructing a brand new gas plant on a greenfield site to address these concerns makes little sense given that existing gas-only facilities can—and because of impending ISO-NE Pay for Performance requirements will—provide the same winter reliability function by securing firm gas or adding dual-fuel capability to meet their existing capacity supply obligations. Moreover, securing firm gas or adding dual-fuel capability to an existing facility improves winter reliability without directly leading to retirement of existing non-gas generators. Indeed, as Mr. Shortlidge confirmed, had KEC cleared FCA 11 it would have replaced on a megawatt for megawatt basis one of the non-gas generators,<sup>58</sup> thus resulting in no net increase in non-gas generation in New England in the winter.

*i. There is Ample Excess Capacity in New England in the Winter; Winter Reliability Concerns Are Based in Concerns Regarding Fuel Availability*

As the testimony of Mr. Fagan illustrates, the New England region has significant excess capacity in the winter.<sup>59</sup> New England's winter reserve margins, based on seasonal claimed capability, range from 60 to 70 percent up until the year 2024<sup>60</sup> for a system that only requires a 15% winter reserve margin.<sup>61</sup> Recently, 35,835 MW of capacity cleared FCA 11 for the

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<sup>58</sup> Hr'g Tr. 1170:10-14 (Mar. 23, 2017) (Shortlidge); *see also* Hr'g Tr. 1195:12-1196:21 (Mar. 23, 2017) (Shortlidge).

<sup>59</sup> Grouped Parties Exhibit #8, at 52.

<sup>60</sup> *Id.* at 54, Table 8. When based on capacity supply obligations instead of seasonal claimed capabilities, winter reserve margins uniformly exceed 49 percent.

<sup>61</sup> *Id.* at 9.

2020/2021 capacity commitment period.<sup>62</sup> By comparison, the winter net peak load forecast for 2020/21 is only 21,029 MW.<sup>63</sup> Therefore, the reserve margin for the 2020/2021 period based on FCA 11 capacity supply obligations—14,806 MW—exceeds 70 percent. In light of the enormous excess of winter reserve capacity for the entire next decade, it is clear that ensuring winter reliability is not a capacity issue.

ISO-NE's winter reliability concern is *fuel availability*. Because of this, NTE's reliance on statements by ISO-NE and in the 2014 Connecticut Integrated Resource Plan to justify a winter reliability need for KEC is misplaced. As ISO-NE CEO Gordon van Welie explained "wintertime access to natural gas has grown tight over recent years because the *regional fuel transportation network* has not kept up with demand from both generation and heating sectors."<sup>64</sup> Similarly, ISO-NE Vice President of Operations Peter Brandien stated that "New England has *limited natural gas pipeline infrastructure* serving the region, and these pipes have reached their maximum capacity, especially during the winter months when demand for natural gas to heat homes is at its highest."<sup>65</sup> This conclusion is echoed in the Connecticut 2014 IRP, which concludes that the inadequate natural gas delivery infrastructure is threatening the reliability and affordability of New England's gas-dependent electric system during peak winter periods.<sup>66</sup>

ii. *Constructing New Generation is Not the Solution to New England's Winter Reliability Concerns*

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<sup>62</sup> Grouped Parties Admin. Notice Item #27, at 1.

<sup>63</sup> Grouped Parties Exhibit #8, at 54, Table 8.

<sup>64</sup> Council Admin. Notice Item #28 (ISO-New England, Inc., 2016 Regional Electricity Outlook, January 2016), at 3 (emphasis added)

<sup>65</sup> Grouped Parties Exhibit #8, Attachment 13 (ISO NE Remarks to FERC, Winter Reliability, October 2016), at 1 (emphasis added); *see also* Council Admin. Notice Item #19 (ISO-New England, Inc. 2014 Regional System Plan, November 6, 2014), at 5 (noting that in 2013 and 2014 "the region's heavy dependence on natural-gas-fired generation to meet its electricity needs resulted in system operating problems similar to those experienced during past extreme weather events").

<sup>66</sup> Council Admin. Notice Item #69, at ii.

Because the winter reliability concern in New England is driven by fuel availability rather than capacity, the solution sets that ISO-NE, Connecticut DEEP, and other entities have recommended to address winter reliability do not include construction of new generating facilities. Indeed, adding new generation to address winter reliability concerns achieves no practical gains, as, unlike securing firm gas or adding dual-fuel capability at existing units, it puts additional retirement pressure on New England's non-gas fleet.

ISO-NE has promoted a series of recommendations to address New England's vulnerability to natural gas shortages, which underlie winter reliability concerns. These are limited, however, to investments in fuel infrastructure<sup>67</sup> and the addition of dual-fuel capability at existing gas-only generators,<sup>68</sup> and do not include construction of additional generation. Specifically, ISO-NE has recommended, in addition to longer-term strategies to increase gas pipeline and LNG storage capacity, "maximiz[ing] use of already permitted dual-fuel generating capacity and promot[ing] expansion of new dual-fuel capability at gas-only power plants"<sup>69</sup> as well as "firm[ing]-up gas and transportation arrangements or develop[ing] dual-fuel capability" at existing gas-fired generators,<sup>70</sup> which are effective given the New England region's significant potential for adding dual fuel capability at existing gas-only units.<sup>71</sup>

Connecticut DEEP likewise eschews any recommendation of constructing new generation to address winter reliability concerns. Instead, the solutions considered in Connecticut's 2014 IRP are limited to incremental gas pipeline capacity and electric transmission

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<sup>67</sup> NTE Admin. Notice Item #5 (ISO-New England - State of the Grid: Managing a System in Transition, January 21, 2015), at Slide 35 (recommending "additional investments in fuel infrastructure (gas pipelines, fuel storage, more transmission to bring in energy)").

<sup>68</sup> Council Admin. Notice Item #28, at 3.

<sup>69</sup> Council Admin. Notice Item #16 (ISO-New England, Inc. Power Generation and Fuel Diversity in New England, August 25, 2005), at 3.

<sup>70</sup> *Id.* at 4.

<sup>71</sup> 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 iii ("New England has significant potential new dual-fuel capability at *existing* gas-only resources...") (emphasis added).

facilities, Class I renewable resources balanced by hydropower, and contracts for liquefied natural gas (LNG) and active demand response for short-term “right size” solutions, supplemented by conservation and combined heat and power.<sup>72</sup>

Finally, the Analysis Group, which comprehensively analyzed the winter reliability issue for the Massachusetts Attorney General’s Office, declined to even consider construction of new generation as part of its wide range of solution sets.<sup>73</sup> Rather, the Analysis Group evaluated increased energy efficiency, demand response, new transmission for Canadian hydropower, dual fuel capability at existing facilities, incremental pipeline capacity, and increased LNG usage.<sup>74</sup> The Analysis Group estimates that 2,400 MW of dual fuel capability, when added to existing facilities from 2022 to 2026, can sufficiently satisfy reliability concerns.<sup>75</sup> And the Analysis Group determined that the best method of addressing reliability while reducing ratepayer costs and greenhouse gas emissions is the solution set which utilizes energy efficiency and demand response.<sup>76</sup> In fact, it estimates that the energy efficiency/demand response solution set would save ratepayers \$146 million per year, relative to the dual-fuel solution.<sup>77</sup>

It is unsurprising that ISO-NE, Connecticut DEEP, and the Analysis Group do not consider constructing new, primarily gas-fired generation as a solution to winter reliability issues in New England. Adding new generation, even generation with firm gas supply and dual-fuel capability like KEC, would do little to improve winter reliability. This is because new generation puts retirement pressure on the least economically

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<sup>72</sup> Council Admin. Notice Item #69, at 104.

<sup>73</sup> Grouped Parties Exhibit #8, Attachment 7, at 18-22.

<sup>74</sup> *Id.*

<sup>75</sup> *Id.* at 19 (“Dual-fuel capability is added at existing units, with annual increases of 500 MW in 2022; 1,500 MW in 2024; and 400 MW in 2026 (for a total of 2,400 MW).”).

<sup>76</sup> *Id.* at 34.

<sup>77</sup> *Id.* at 32 (“The EE/DR . . . solution set provides the lowest total cost solution accounting for changes in both energy and implementation costs and would save ratepayers approximately \$146 million per year, relative to the dual-fuel option.”).

competitive generation—the region’s non-gas (oil and coal) units. Indeed, as Mr. Shortlidge confirmed, had KEC cleared in FCA 11, it would have replaced on a megawatt for megawatt basis one of the non-gas so-called “at risk” units.<sup>78</sup> Consequently, adding KEC would have resulted in no net gain in non-gas capacity in New England. By contrast, adding dual fuel capability to existing gas facilities would not put the same retirement pressure on such facilities, while still addressing winter reliability concerns.

*iii. ISO-NE Already Has Incentives in Place that Will Ensure Winter Reliability Using the Existing Fleet of Generating Resources*

ISO-NE has taken a number of steps to address the region’s winter reliability issues stemming from the region’s overreliance on natural gas. Most importantly, through its Pay for Performance program, ISO-NE will dramatically strengthen the financial incentives for generators to perform when called upon by ISO-NE to do so to maintain system reliability. Facilities that participated in FCA 9, 10, and 11 have already obtained capacity supply obligations that will apply when the Pay for Performance program commences in June of 2018. Under the program, facilities that perform well when scarcity conditions exist will be rewarded, whereas those that do not will pay penalties for each hour they fail to respond.<sup>79</sup> The risk of nonperformance is placed on those who have accepted capacity obligations.<sup>80</sup> Consequently, as NTE acknowledges, gas-only facilities that chose to obtain capacity supply obligations in recent Forward Capacity Auctions are prepared to operate under the Pay for Performance rules.<sup>81</sup> Resource owners will be incentivized to take certain measures to ensure performance during periods of system stress in order to avoid facing financial penalties. Such measures are likely to

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<sup>78</sup> Hr’g Tr. 1170:10-14 (Mar. 23, 2017) (Shortlidge); *see also* Hr’g Tr. 1195:12-1196:5 (Mar. 23, 2017) (Shortlidge).

<sup>79</sup> Council Admin. Notice Item #20 (ISO-New England, 2015 Regional System Plan, November 5, 2015), at 138-39.

<sup>80</sup> *Id.*

<sup>81</sup> Hr’g Tr. 494:20-495:1 (Nov. 15, 2016) (Paterno). Based on the dates of the relevant capacity commitment periods, resources that cleared in FCA 9, 10, or 11 will be subject to ISO-NE’s Pay for Performance rules.

include the addition of dual fuel capacity to existing facilities, as ISO-NE has determined that this is “most economic option available” to gas-only generators.<sup>82</sup>

Rather than approve a new facility that concededly will not increase total non-gas capacity in New England and is not part of ISO-NE’s solution set for addressing winter reliability, the Council should defer to the mechanisms ISO-NE has put in place to ensure winter reliability.

c. KEC is Not Needed to Balance Existing or Anticipated Renewable Generation in Any Relevant Time Frame

There is also no need to approve the siting of KEC at this time to address any current or hypothetical future need for balancing renewable generation. With approximately 20,000 MW of flexible combined-cycle, combustion turbine, and hydro-pump storage resources projected to be on the grid in 2025,<sup>83</sup> the New England system benefits from high levels of responsive generation. Indeed, California, which is far ahead of New England in its development of renewable resources, has successfully integrated much larger amounts of renewable generation relying on levels of flexible generation comparable to those present in New England. Moreover, New England states continue to promote the development of additional energy storage and other resources that can provide the same renewable integration benefits, making it unlikely that additional gas generation will be needed for balancing renewables in the foreseeable future. If, ultimately, additional gas units were to become needed at some point, those units should be built using the state-of-the-art technology at that time, not today’s technology. The Council should not approve the siting of KEC at this time for the purpose of addressing a theoretical future need for balancing renewables that have not been developed.

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<sup>82</sup> Council Admin. Notice Item #28, at 3.

<sup>83</sup> Grouped Parties Admin. Notice Item #10 (ISO-New England, Inc., 2016-2025 Forecast Report of Capacity, Energy, Loads & Transmission (CELT), May 1, 2016), Tab 1.3.

*i. The Existing System Has Adequate Resources to Balance Existing and Anticipated Future Renewable Generation*

The New England region already has more than sufficient fast-ramping resources to balance current and anticipated levels of variable renewable generation. As Mr. Fagan's notes, new fossil-fired resources are not the only source for contributing to the flexibility needs of the system.<sup>84</sup> System flexibility can also be provided by existing resources, in addition to new storage and import (hydro) resources,<sup>85</sup> which are likely to be available within the next decade when more renewable generation is on the system.

With its current and anticipated supply of flexible resources, the New England system can support far more variable renewables than it currently does, and far more than it will be required to support in the short- and medium-term future. In the summer of 2016, there were 16,711 MW of dispatchable, flexible resources available.<sup>86</sup> In 2025, New England will have about 20,000 MW of flexible generation.<sup>87</sup> New England's high 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.<sup>88</sup> However, unlike the New England system, the California ISO system supports roughly 15,000 MW of renewable resources—significantly more than the New England region is required to support.<sup>89</sup> Because the New England system can currently support a considerably greater of proportion of renewables than will be on the grid in the foreseeable

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<sup>84</sup> Grouped Parties Exhibit #8, at 61.

<sup>85</sup> *Id.*; see also Grouped Parties Exhibit #11, at 6.

<sup>86</sup> The 16,711 MW includes hydro pondage, hydro pumped storage, gas and gas/oil combined cycle, and gas and gas/oil and oil combustion turbine, yet excludes any capacity still currently available from oil, gas or coal steam units, and New England's 4,000 MW of interconnections and multiple hundreds of MW of dispatchable demand response. Grouped Parties Exhibit #11, at 7 n.21; see also Grouped Parties Admin. Notice Item #10, Tab 1.3.

<sup>87</sup> This includes approximately 14,500 MW of combined-cycle generation, 3,500 MW of combustion turbine generation capacity, and approximately 2,000 MW of hydro-pump storage in 2025. Grouped Parties Admin. Notice Item #10, Tab 1.3.

<sup>88</sup> Grouped Parties Exhibit #11, at 6.

<sup>89</sup> *Id.* at 6-7.

future, there is no need, and certainly no urgent need, for the construction of new natural gas facilities to integrate renewables.

ii. *NTE's Suggestion that the KEC Facility is Needed to Integrate Renewables is Based upon a Misreading of Statements by ISO-NE and Others*

NTE has not conducted an analysis on how much flexible capacity would be required in order to balance renewables in New England.<sup>90</sup> Rather, it points to statements from Gordon van Welie of ISO-NE and Katie Dykes, now of the Public Utility Regulatory Authority, to suggest a need for new facilities like KEC to integrate renewables.<sup>91</sup> However, the statements relied upon by NTE are generic discussions about balancing renewables that lack any detail regarding time frame or quantification of need. Importantly, they do not state that the current supply of fast-ramping capacity is insufficient or specifically recommend the addition of new combined cycle gas facilities to address the long-term increase in renewables in the region.<sup>92</sup>

Moreover, NTE's reliance on gas developments in Colorado and California to justify a need for using gas to integrate renewables in New England is misplaced. NTE fails to establish the degree to which the grid composition in these states (in terms of renewable penetration and level of flexible generation) is comparable to that in New England.<sup>93</sup> Without such analysis, the mere fact that these states may be considering the addition of some natural gas generation has no bearing on the need determination in this proceeding. Moreover, as discussed above, Mr. Fagan did conduct such an analysis for the California ISO region, and determined that the grid in California relies successfully upon even less flexible generation than New England to support far

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<sup>90</sup> Hr'g Tr. 496:16-24 (Nov. 15, 2016) (Paterno).

<sup>91</sup> NTE Admin. Notice Item #20, at 12.

<sup>92</sup> See *id.*; see also Grouped Parties Exhibit #8, at 61-62. ("ISO NE summarizes its needs in Section, 'Integration of Variable Energy Resources,' of its 2015 Regional System Plan [yet] does not identify any need for new resources to address the integration issues..."). Grouped Parties Exhibit #11, at 5-7. ("ISO NE does make recommendations for addressing the anticipated increase in renewable generation resources, but these do not include constructing new resources at this time.").

<sup>93</sup> NTE Exhibit #20, at 13.



more renewables. Without any analysis on how much flexible generation is required to integrate renewables, nor any analysis on when such flexible generation is required, NTE cannot claim that KEC is presently needed for this purpose.

In addition, as discussed above, anticipated resource additions with dispatchable, fast-ramping, load following capability will further obviate the need for new gas plants. These resources include energy storage, which Massachusetts is actively promoting with specific MW goals,<sup>94</sup> and transmission-connected Canadian hydroelectric power, which is one major target of recent Massachusetts procurement legislation.<sup>95</sup> Together with the existing fleet of fast-ramping resources, these anticipated resource additions preclude the need for additional natural gas generators at this time. Moreover, even in the unlikely event there were to become a resource need in future that could only be filled with a gas plant, this would still not support approving the siting of a gas plant today. Rather, as discussed in Section II.B.1.a.ii above, any such future need should be met using then state-of-the-art technology, rather than today's less efficient technology.

## 2. KEC is Not Needed to Achieve Reductions in Greenhouse Gas Emissions

Connecticut has established aggressive goals for reducing its GHG emissions through the Global Warming Solutions Act. Pursuant to the GWSA, Connecticut “shall reduce the level of emissions of greenhouse gas . . . [n]ot later than January 1, 2050, to a level at least eighty per cent below the level emitted in 2001.”<sup>96</sup> Achieving these reductions will require transformative changes in the electric sector, as well as other sectors of the economy.<sup>97</sup> Although in the near

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<sup>94</sup> Grouped Parties Admin. Notice Item #15 (Massachusetts Dept. of Energy and Env'tl. Affairs, Energy Storage Initiative's State of Charge Study).

<sup>95</sup> Grouped Parties Admin. Notice #16.

<sup>96</sup> Conn. Gen. Stat. § 22a-200a(a)(2).

<sup>97</sup> See Grouped Parties Exhibit #8, Attachment 17 (CT DEEP, GC3 Analysis, Data, and Metrics Meeting, July 26, 2016, Presentation), Slides 11-30.

term, KEC's GHG emission rate will be below the marginal emission rate at least some of the time it operates, this does not establish a need for KEC to achieve Connecticut's climate goals. As Mr. Fagan explained in his testimony, KEC is actually a relatively ineffective GHG mitigation tool.<sup>98</sup> This is because other cleaner resources reduce GHG emissions much more substantially when they operate.<sup>99</sup> If Connecticut wants to pursue a serious approach to achieving its 80% by 2050 GSWA obligations, it makes little sense to add new natural gas facilities at this time.

### 3. KEC is Not Needed to Reduce Electric Costs to Ratepayers

In its CECPN application, NTE projected significant ratepayer benefits from KEC's participation in the most recent ISO-NE Forward Capacity Auction. NTE stated that: "With the participation of KEC in . . . FCA 11, PA projects capacity prices for Connecticut to be approximately 10% lower than if KEC did not enter the market."<sup>100</sup> As discussed above, however, this projection proved incorrect. Not only did KEC fail to obtain a capacity supply obligation in FCA 11, but the Auction cleared at a much lower price than NTE predicted and a much lower price than the past several auctions. As a result, ratepayers did benefit from lower capacity prices, but not because of the participation of KEC in the Auction.

Rather than saving ratepayers money on capacity costs, the addition of KEC would exacerbate ISO-NE's already concerning reliance on natural gas, subjecting Connecticut ratepayers even more heavily to natural gas price volatility. Gas frequently sets the marginal

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<sup>98</sup> Grouped Parties Exhibit #8, at 64.

<sup>99</sup> Mr. Fagan's testimony quantifies the relative effectiveness of energy efficiency and carbon-free renewable energy resources for reducing carbon dioxide on a per MWh basis as compared to KEC. *See id.* at 65 (the exact figure is confidential).

<sup>100</sup> NTE Exhibit #1, Appendix B-2 at 7.

price in New England.<sup>101</sup> “Consequently, availability of natural gas for power generation has a profound impact on grid reliability and production costs in New England.”<sup>102</sup> NTE agreed that 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.<sup>103</sup> NTE’s firm gas contract does not establish a fixed price for natural gas for the duration of the contract.<sup>104</sup> Rather it uses a daily index price.<sup>105</sup> If natural gas prices rise in the coming years, and it is projected that they will at least to some degree,<sup>106</sup> this increase will be passed along to ratepayers in their electricity bills. Although KEC is a dual-fuel unit, the plant does not have the option to switch to its backup fuel because natural gas may be more expensive.<sup>107</sup> Consequently, adding KEC to the grid simply increases ratepayers’ exposure to fluctuations in natural gas prices.

**C. If the Council Grants a CECPN for KEC, It Must Be Conditioned On DEEP’s Establishment of a GHG Reduction Program for KEC, Which Is Necessary to Ensure KEC’s Consistency with the Connecticut Global Warming Solutions Act**

As discussed above, through its Global Warming Solutions Act, Connecticut has committed to reducing statewide GHG emissions 80 percent from a 2001 baseline by 2050.<sup>108</sup> It will not be possible for Connecticut to achieve this commitment if the state continues to add fossil fuel generators that lack enforceable, declining limitations on their GHG emissions.

Indeed, modeling by the Connecticut Governor’s Council on Climate Change of a range of

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<sup>101</sup> Grouped Parties Exhibit #8, Attachment 13 (Brandien Testimony to FERC), at 1 (noting that “Because so much of the region’s electricity is sourced by natural gas, the price of this fuel sets the price for wholesale electricity about 70% of the time.”).

<sup>102</sup> *Id.*; see also Council Admin. Notice Item #69, at 52 (“Natural gas prices are the biggest driver of generation prices in New England.”).

<sup>103</sup> Hr’g Tr. 682:3-10 (Dec. 15, 2016) (Paterno).

<sup>104</sup> Hr’g Tr. 682:11-18 (Dec. 15, 2016) (Paterno/Bradley).

<sup>105</sup> *Id.*

<sup>106</sup> 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).

<sup>107</sup> Hr’g Tr. 465:24-466:5 (Nov. 15, 2016) (Gresock).

<sup>108</sup> Conn. Gen. Stat. § 22a-200a(a)(2).

scenarios that would meet the 80% by 2050 commitment uniformly found that power generation from natural gas generation must decline to a small fraction of current levels in order for GHG emissions to decline sufficiently.<sup>109</sup>

At the hearing on January 26, 2017, NTE outlined a commitment to reduce the GHG emissions from KEC by 80 percent between the date that the facility becomes operational and 2050 so as to make the facility's emissions consistent with the GWSA.<sup>110</sup> Subsequent to that hearing, NTE has submitted a Proposed Greenhouse Gas Reduction Program to DEEP. This proposed Program establishes a declining set of GHG emission caps for the facility between 2020 and 2050 with limited opportunities to obtain emission offsets, as well as a commitment for the facility to achieve carbon neutrality starting in 2050 if it elects to operate beyond that year. The Sierra Club has reviewed the proposed Program and appreciates and supports NTE's GHG commitment. Sierra Club believes that, subject to the requirements of that Program and comments filed by Sierra Club regarding that Program, the facility's GHG emission levels are compliant with Connecticut's GWSA.

Should the Council grant a CECPN for KEC, the Sierra Club urges that the Council condition<sup>111</sup> the CECPN on DEEP's finalization and incorporation into KEC's air operating permit of the Greenhouse Gas Reduction Program, as these limits are integral to the facility's consistency with the goals of Connecticut's Global Warming Solutions Act.

### III. CONCLUSION

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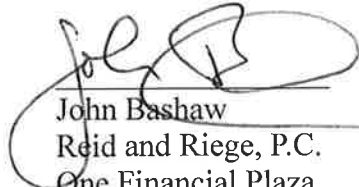
<sup>109</sup> Grouped Parties Exhibit #8, Attachment 17, Slides 11-30.

<sup>110</sup> Hr'g Tr. 1129:21-25 (Jan. 26, 2017) (Mirabito).

<sup>111</sup> As noted above, the Council may grant a CECPN "upon such terms, conditions, limitations or modifications of the construction or operation of the facility as the council may deem appropriate." Conn. Gen. Stat. § 16-50p(a)(1).

For the foregoing reasons, the Council should not grant a CECPN for KEC at this time. If, however, the Council does grant a CECPN, the Council should condition that grant on DEEP's finalization and incorporation into KEC's air operating permit of NTE's greenhouse gas reduction program.

Respectfully submitted this 24<sup>th</sup> of April, 2017,



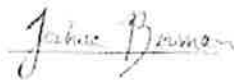
John Bashaw  
Reid and Riege, P.C.  
One Financial Plaza  
Hartford, CT 06103  
(860) 240-1053  
jbashaw@rrlawpc.com

Supervising attorney for  
Joshua Berman, admitted pro hac vice  
Staff Attorney  
Sierra Club  
50 F St. NW, 8th Floor  
Washington, DC 20001  
(202) 650-6062  
Josh.berman@sierraclub.org

I HEREBY CERTIFY that a copy of the foregoing document was electronically mailed to the following service list on April 24, 2017:

Kenneth C. Baldwin, Esq. Earl W. Phillips, Jr., Esq. Robinson & Cole LLP 280 Trumbull Street Hartford, CT 06103-3597 <a href="mailto:kbaldwin@rc.com">kbaldwin@rc.com</a> <a href="mailto:ephillips@rc.com">ephillips@rc.com</a>	John Bashaw, Esq. Mary Intel Miller, Esq. Reid and Riege, P.C. One Financial Plaza, 21st Floor Hartford, CT 06103 <a href="mailto:jbashaw@rrlawpc.com">jbashaw@rrlawpc.com</a> <a href="mailto:mmiller@rrlawpc.com">mmiller@rrlawpc.com</a>
Mark Mirabito, Vice President NTE Connecticut, LLC 24 Cathedral Place, Ste. 300 St. Augustine, FL 32804 <a href="mailto:mmirabito@nteenergy.com">mmirabito@nteenergy.com</a> <a href="mailto:kec.notices@nteenergy.com">kec.notices@nteenergy.com</a>	Sean Hendricks Town Manager Town of Killingly 172 Main Street Killingly, CT 06239 <a href="mailto:shendricks@killinglyct.org">shendricks@killinglyct.org</a>
Chris Rega, Senior Vice President Engineering & Construction NTE Energy, LLC 800 South Street, Ste. 620 Waltham, MA 02453 <a href="mailto:crega@nteenergy.com">crega@nteenergy.com</a>	John Looney, Esq. Roger Reynolds, Esq. Connecticut Fund for the Environment 900 Chapel St., Upper Mezzanine New Haven, CT 06510 <a href="mailto:jlooney@ctenvironment.org">jlooney@ctenvironment.org</a> <a href="mailto:rreynolds@ctenvironment.org">rreynolds@ctenvironment.org</a>

This 24<sup>th</sup> day of April, 2017.



Joshua Berman, admitted *pro hac vice*  
Staff Attorney  
Sierra Club  
50 F St. NW, 8th Floor  
Washington, DC 20001  
(202) 650-6062  
[Josh.berman@sierraclub.org](mailto:Josh.berman@sierraclub.org)