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. 470B Filed: May 30, 2019

POST-HEARING BRIEF OF THE SIERRA CLUB

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I. INTRODUCTION

Connecticut's electric sector stands at a crossroads. In December 2018, after more than three years modeling and analyzing data, the Governor's Council on Climate Change (GC3) released its final recommendations on Building a Lower Carbon Future for Connecticut, identifying zero-carbon electricity generation—along with clean transportation and clean, efficient, and resilient buildings—as its fundamental objectives.[1] At the same time, as the GC3 was developing its recommendations, two additional large gas combined cycle facilities, totaling nearly 15 percent of Connecticut's installed generating capacity, were added in in the State. The Siting Council is now confronted with a siting certificate application for a third combined cycle gas facility: Killingly Energy Center (KEC).

Since the Council's previous Decision & Order in Docket No. 470 denying KEC's siting certificate, the need for new gas-fired generation in New England has further decreased. System peak load is no longer rising and is projected to decline year-on-year over the next decade. New England is poised to add thousands of megawatts of offshore wind and other low-emitting generation that will displace older, dirtier power plants in the region. Based on these developments, and in light of Connecticut's energy sector goals, there is no need to lock in decades of additional fossil fuel generation at this time. Adding yet another gas-fired generator merely adds to New England ratepayers' exposure to volatile gas prices without resolving the fuel security issues that the Independent System Operator of New England (ISO-NE) is currently working to address. The Council should not grant a Certificate of Environmental Compatibility and Public Need (CECPN) for KEC at this time.

[1] Grouped Parties Admin. Notice Item #3 (Connecticut Governor's Council on Climate Change, Building a Low Carbon Future for Connecticut: Achieving a 45% GHG Reduction by 2030 (Final Report Dec. 18, 2018), at iii.

If the Council does grant a CECPN for the facility, consistent with NTE Connecticut LLC's (NTE's) representations at the hearing, the Council should condition the approval on incorporation of the facility's greenhouse gas reduction program into the CECPN. The Sierra Club appreciates NTE's commitment to limit and reduce its greenhouse gas (GHG) emissions despite the Department of Energy and Environmental Protection's unwillingness to incorporate those commitments into the facility's air permit.

II. PROCEDURAL HISTORY

On August 17, 2016, NTE submitted an application to the Council for the approval of the construction, maintenance, and operation of a dual-fuel combined cycle electric generating facility and associated electrical interconnection switchyard located in the town of Killingly, Connecticut. As originally proposed KEC would have generated approximately 550 megawatts (MW) of electricity utilizing primarily gas, with Ultra Low Sulfur Distillate (ULSD) as a limited use backup fuel.[2]

In February 2017, KEC participated in FCA 11 and failed to obtain a Capacity Supply Obligation (CSO). On May 16, 2017, the Council issued a final decision package denying NTE's application without prejudice. Citing KEC's failure to obtain a CSO in FCA 11, the Council determined that "ISO-NE has effectively determined that KEC is not required for resource adequacy, at least through the [Capacity Commitment Period] of 2020-2021."[3] Based on the lack of need finding, the Council declined to reach any finding regarding the balancing of need and environmental impacts.[4]

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[2] Council Admin. Notice Item #57 (Dkt. No. 470 Finding of Fact #163).
[3] Council Admin. Notice Item #57 (Dkt. No. 470 Opinion at 5 (May 11, 2017)).
[4] Council Admin. Notice Item #57 (Dkt. No. 470 Decision & Order at 1 (May 11, 2017)).

On January 19, 2018, NTE filed a motion to reopen and modify the Council's May 2017 decision. NTE's motion identified a change to the proposed turbine technology—replacing the previously proposed Siemens Model SGT6-8000H turbine with a Mitsubishi Model M501JAC turbine.[5] However, after KEC participated in FCA 12 and again failed to obtain a CSO, NTE withdrew its motion.[6]

On January 18, 2019, prior to the commencement of FCA 13, NTE filed a new motion to reopen and modify the Council's May 2017 decision. In support of its motion, NTE argued that the facility was needed regardless of the outcome of the Forward Capacity Auction, minimizing the relevance of the Auction in the Council's assessment of need.[7] The motion also identified an increase in the nameplate capacity of the proposed facility from 550 MW to 650 MW.[8]

On February 4, 2019, KEC participated in FCA 13 and obtained a CSO for the 2022-2023 Capacity Commitment Period. FCA 13 cleared 1,089 MW of "surplus capacity over the capacity requirement."[9] The 800 MW Vineyard Wind project was unable to participate as a Renewable Technology Resource, effectively precluding almost all of its capacity from being counted toward meeting New England's reliability needs despite the fact that the project will go forward and the resource will be able to participate in next year's auction.[10] As a consequence, the amount of surplus capacity for the 2022-2023 Capacity Commitment Period is even larger than the 1,089 MW identified by ISO-NE.

[5] Council Admin. Notice Item #57 (Dkt. No. 470A Mot. to Reopen at 6 (Jan. 19, 2018)).
[6] Council Admin. Notice Item #57 (Dkt. No. 470A Withdrawal Ltr. (Feb. 8, 2018)).
[7] NTE Exhibit #1, Attach. B (Pre-filed Testimony of Paul J. Hibbard) at 31:1-7.
[8] NTE Exhibit #1 (Motion to Reopen) at 7.
[9] NTE Exhibit #2 Attach. (ISONE Press Release) at 1.
[10] Grouped Parties Exhibit #1 (Synapse Testimony) at 13:7-14:5.

III. 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.[11] A public need exists only when a facility is "necessary for the reliability of the electric power supply of the state."[12] 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."[13] 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 wildlife" and determine why the adverse effects or conflicts "are not sufficient reason to deny the application."[14]

Although two gas combined cycle facilities similar to KEC—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.[15] And CPV Towantic sought a modification to an existing

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[11] Conn. Gen. Stat. § 16-50p(a)(3)(A) & (c)(1).
[12] Conn. Gen. Stat. § 16-50p(h), *see also* Conn. Gen. Stat. §16-50p(c)(3).
[13] Conn. Gen. Stat. § 16-50p(c)(3).
[14] Conn. Gen. Stat. § 16-50p(a)(3)(B) & (C).
[15] Council Admin. Notice Item #57 (Dkt. 470 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)).

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.[16] 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.[17]

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.

a. KEC is Not Needed for Resource Adequacy

There is no resource adequacy need for additional gas-fired generation in Connecticut at this time. As noted above, the context of NTE's CECPN application has changed significantly since when it was originally filed in 2017. Whereas in 2017, ISO-NE was projecting increasing peak load over the coming decade,[18] that trend has reversed and ISO-NE now projects that summer peak load will decline at a compound annual growth rate (CAGR) of 0.4 percent from 2018 to 2027, and winter peak load will decline at an even greater CAGR of 0.7 percent during that period.[19] In the 2019 draft CELT, 2022 summer peak load is projected to be 2,720 MW

[16] Council Admin. Notice Item #55 (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).
[17] *Id.*
[18] Council Admin. Notice Item #57 (Dkt. No. 470 Grouped Parties Exhibit #8 (Redacted Testimony of Robert Fagan, Nov. 15, 2016), at 45, Fig. 6)).
[19] Council Admin. Notice Item #26 (ISO-NE, CELT Report: 2018-2027 Forecast Report of Capacity, Energy, Loads, and Transmission (May 1, 2018, rev'd May 9, 2018)), at Tab 1.5.1.

(10.1 percent) lower than ISO-NE had projected in its 2016 CELT.[20] In other words, in just three years' time, revisions to load forecasts have eliminated the need for more than four KECs.

The consequence of declining peak load is that the region is no longer building to meet new load; it is merely building to replace generation as it retires. With thousands of additional megawatts of new renewable generation resources coming online as a result of renewable portfolio standards and state resource procurements,[21] it makes little sense to be adding new fossil fuel generation, particularly in light of the GC3 recommendations' focus on zero-carbon generation and the fact that the State already added 1,400 MW of combined cycle gas in the past two years alone.[22]

The Synapse Testimony confirms that, even based only on known resource additions and conservatively assuming that all "at-risk" generation retires, there is no capacity need for KEC in the foreseeable future. Reserve margins indicate capacity at levels well above the Net Installed Capacity Requirement (NICR)—the quantity of capacity resources that ISO-NE has determined are need to meet the level of system reliability established by the North American Electric Reliability Corporation[23]—both with and without KEC.[24] And even under a scenario that assumes only known clean energy resources come online in New England and all "at-risk" resources retire in the next seven years, reserve margins over the coming decade still indicate capacity at levels above NICR.[25] At the same time, given rapid declines in renewable energy costs[26] and increasingly robust renewable portfolio standards,[27] it is likely that far more

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[20] Grouped Parties Exhibit #1 (Synapse Testimony) at 12:7-8.
[21] *See id.* at 13:1-15:2.
[22] *See* Apr. 18, 2019 Hr'g Tr. at 259:5-18 (confirming that these recently-added units, like KEC, both have dual-fuel capability, which will help address winter energy security challenges, and both will also support integration of variable renewable generation.).
[23] Council Admin. Notice Item #57 (Dkt. No. 470 Hr'g Tr. at 471:6-21 (Nov. 15, 2016)).
[24] Grouped Parties Exhibit #1 (Synapse Testimony) at 19, Fig. 1.
[25] *Id.* at 21, Fig. 2.
[26] *Id.* at 12:11-13.

renewable generation will be added to the New England system than the projects already identified and contracted for today resulting in more robust reserve margins.

Moreover, even if there were a conceivable longer-term need for capacity that would not be met by the significant anticipated 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[28] and emissions profiles of new technologies continue to get better.[29] 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.

The lack of need for KEC is not altered by the recently-obtained CSO for the facility. Mr. Hibbard in his testimony filed shortly before ISO-NE held FCA 13 opined that "a strict focus on [Forward Capacity Market] outcomes in Certificate determinations of 'need' in Connecticut (or in other competitive market states) would unnecessarily constrain the Council's decision-making authority, and diminish the reliability and competitiveness of the New England power system."[30] While Mr. Hibbard observes that a CSO through the Forward Capacity Market is "an important indicator of a resource's contribution to meeting the market's resource adequacy objective (peak summer demand) in a single year," he explains that "resting a decision on whether a resource is necessary for reliability (of the state/region), contributes to market competition, and/or provides public benefits requires a far more expansive review of a resource's role in the regional reliability and market context than pinning the decision only on the outcome of a single market

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[27] *See, e.g.*, Conn. Pub. Act 18-50 (extending and increasing Connecticut's renewable portfolio standard from 20 percent by 2020 to 40 percent by 2030); 2018 Mass. Acts Ch. 227 (doubling the rate at which the Massachusetts renewable energy portfolio standard increases for the years 2020 to 2030).
[28] Apr. 18, 2019 Hr'g Tr. at 56:22-24 (Eves) ("looking at my past years I could say machines are going to definitely be more efficient 20 years from now than they are today").
[29] *Id.* at 56:25-57:3 (Eves).
[30] NTE Exhibit #1, Attach. B (Hibbard Testimony) at 30:7-10.

for a single supply year."[31] Mr. Hibbard notes that Connecticut has recognized that "it is often appropriate to view the question of 'need' through" a "broader lens."[32]

Although NTE's position on the relevance of CSOs to need determinations modulated rapidly after KEC obtained a CSO in FCA 13,[33] the Sierra Club agrees with Mr. Hibbard's initial observation that the Council should not let ISONE usurp the Council's role in evaluating resource adequacy. As Synapse explained, "an unbuilt plant holding a CSO in no way indicates reliability need for such a proposed plant."[34] This is borne out by the proposed Invenergy combined cycle gas facility in Burrillville, Rhode Island, which obtained and subsequently lost its CSO without apparent harm to the reliability of the New England system.[35] The repeated downward revisions of forecasted peak load[36] counsel against the "need" for the full amount of resources that clear in FCA 13, even beyond the fact that the auction cleared capacity well in excess of NICR.

Ultimately, what a CSO demonstrates is the ability for a developer to build a gas plant profitably in light of capacity prices in a single year. However, the ability for a company to make money building a gas plant does not equate to a need for that facility. As discussed above, all of the fundamentals—declining peak load, anticipated renewable additions (including the 800 MW

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[31] *Id.* at 31:1-7.
[32] *Id.* at 32:12-13 & n.51.
[33] At hearing, Mr. Hibbard took the position that a CSO demonstrates a "need" and that the claims regarding winter fuel security—which were salient in his pre-filed testimony—are merely "other reliability benefits." *See* Apr. 18, 2019 Hr'g Tr. at 133:2-6 (Hibbard) ("I do want to be clear that when I say, need, it's related to their acquisition of capacity supply obligation through the forward capacity market."); 131:2-14 (characterizing reliability benefits).
[34] Grouped Parties Exhibit #1 (Synapse Testimony) at 8:11-12.
[35] *Id.* at 8 n.6. Indeed, as NTE's witnesses explained, if NTE was not operational as of the date of its capacity supply obligation, it could still honor that obligation by participating in subsequent annual auctions to replace the capacity that it otherwise would provide. Apr. 18, 2019 Hr'g Tr. at 135:11-15; *see also id.* at 135:20-136:11.
[36] Forecasted 10-year compound annual growth rate for net summer peak demand went from 1.61% in the 2010 CELT, to 1.30% 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. Council Admin. Notice Item #57 (Dkt. No. 470 Grouped Parties Exhibit #8 at 45 Fig. 6)). In the 2018 CELT, the CAGR was at -0.4%. Council Admin. Notice Item #26 (ISO-NE 2018 CELT Report), at Tab 1.5.1.

Vineyard Wind project the bulk of whose capacity was excluded from participation in FCA 13)—establish a lack of current resource adequacy need for KEC.

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.[37] Concerns about reliability during the winter instead stem from limitations on seasonal fuel availability.[38] 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 competitive generation—the region's non-gas (oil and coal) units.[39] 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. And clean energy solutions—on both the supply and demand (energy efficiency) side—can produce the same winter reliability benefits without the adverse GHG impacts of increasing gas and oil burning.

As Synapse explained, "[w]inter fuel security does not require new fossil generation capacity; it requires assurance of energy availability during winter cold snaps, which can be obtained absent [KEC]."[40] This is fully consistent with prior conclusions produced by Mr. Hibbard. Mr. Hibbard extensively analyzed the issue of winter reliability under growing gas

[37] According to the 2018 CELT, for the 2022-2023 Capacity Commitment Period, the winter seasonal claimed capability is 33,896 MW, as compared to a net projected winter peak load of 19,642 MW, indicating a 72 percent effective reserve margin. Council Admin. Notice Item #26 (ISONE 2018 CELT Report) at Tab 1.2. The ISO-NE system requires only a 15 percent winter reserve margin. Council Admin. Notice Item #57 (Dkt. No. 470 Grouped Parties Exhibit #8 at 9:16-17).

[38] NTE Exhibit #1, Attach B. (Hibbard Testimony) at 31:9-11.

[39] As Mr. Shortlidge confirmed during the 2017 hearings, had KEC cleared FCA 11 it would have replaced on a megawatt for megawatt basis one of the non-gas generators in New England. Council Admin Notice Item #57 (Dkt. No. 470 Hr'g Tr. at 1170:10-14 (Mar. 23, 2017) (Shortlidge); *see also* Hr'g Tr. at 1195:12-1196:21 (Mar. 23, 2017) (Shortlidge)).

[40] Grouped Parties Exhibit #1 (Synapse Testimony) at 8:14-15.

dependence in a report he co-authored for the Massachusetts Attorney General in 2015.[41] The 2015 report analyzed whether the New England region could experience power system deficiencies during peak winter demand and then considered "the full suite of practical options for maintaining power system reliability," focusing on the winter months.[42] To evaluate these options, the report looked at the costs to electric ratepayers associated with these options and the extent to which the options helped achieve or impeded New England states' GHG goals and obligations.[43]

Several points regarding Mr. Hibbard's report are pertinent. First, power system reliability deficiencies only emerge under stressed sensitivities, and only beginning in the winter of 2024/2025.[44] Second, adding new gas plants like KEC was not considered as an independent solution among "the full suite of practical options for maintaining power system reliability."[45] Third, although adding dual-fuel capability at existing facilities, contracting for liquefied natural gas (LNG), and adding new gas pipeline capacity were among the solution sets considered, they all "fail to offer outcomes consistent with the climate change programs and goals of the New England states."[46] Fourth and finally, a combination of energy efficiency and demand response "represents the best solution from the perspective of ratepayer costs"—saving ratepayers a

[41] Grouped Parties Admin. Notice Item #32 (Hibbard and Aubuchon, Power System Reliability in New England: Meeting Electric Resource Needs in an Era of Growing Dependence on Natural Gas (Nov. 2015)).
[42] *Id.* at i.
[43] *Id.*
[44] *Id.* at 14-15 & Tbl. 1.
[45] At hearing, Mr. Hibbard claimed that gas-fired generation with firm transportation like KEC was not excluded from the analysis. Apr. 18, 2019 Hr'g Tr. at 224:20-23. But he acknowledged that new gas-fired generation was added in all scenarios to meet growth and demand, so it is clear that adding new gas facilities with firm gas like KEC was not considered an independent practical option for addressing winter reliability. Apr. 18, 2019 Hr'g Tr. at 225:22-226:11.
[46] *Id.* at iv. KEC's firm gas contract does not result in incremental gas capacity into New England, unlike LNG facilities. Apr. 18, 2019 Hr'g Tr. at 285:5-10 (Hibbard) ("I certainly do believe that the existence of LNG facilities at the eastern end of the New England pipeline system -- and when they're injecting gas it's very helpful to the fuel security reliability challenges in New England.").

projected $146 million[47]—and incremental energy efficiency "combined with firm imports of distant low-carbon resources on new or existing transmission lines provides the greatest benefits from the standpoint of GHG emissions."[48]

Ultimately, adding more gas plants is not the solution to New England's overreliance on gas in the winter. Rather, as Mr. Hibbard himself previously found, the best solutions to the region's overreliance on gas involve energy efficiency, demand response, and additional low-carbon resources.

2. The Addition of KEC Would Increase Ratepayers' Exposure to Volatile Gas Prices

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 price in New England.[49] "Consequently, availability of natural gas for power generation has a profound impact on grid reliability and production costs in New England."[50] 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.[51] And Mr. Hibbard previously observed that "[i]n years when there are frequent constraints with high utilization on interstate pipelines, prices within the region for

[47] *Id.* at 31, Tbl. 3.
[48] *Id.* at v. Energy efficiency and firm imports via an existing transmission line achieve this beneficial greenhouse gas impact at a cost savings to ratepayers of $98 million. *Id.* at 31, Tbl. 3.
[49] Council Admin. Notice Item #57 (Dkt. No. 470 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.")).
[50] *Id.*; *see also* Council Admin. Notice Item #70 (Connecticut 2014 Integrated Resources Plan), at 52 ("Natural gas prices are the biggest driver of generation prices in New England.").
[51] Council Admin. Notice Item #57 (Dkt. No. 470 Hr'g Tr. at 682:3-10 (Dec. 15, 2016)); *see also* Apr. 18, 2019 Hr'g Tr. at 179:14-21 (Eves) (agreeing that there's no insurance for the people of Connecticut against swings in gas prices over the 30 to 50-year line of this project).

spot purchases of natural gas often spike, leading to cost increases for electricity consumers."[52] NTE's firm gas contract does not establish a fixed price for natural gas for the duration of the contract.[53] Rather it uses a market index price for the gas commodity.[54] If natural gas prices rise in the coming years, and it is projected that they will at least to some degree,[55] 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.[56] 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 Should Incorporate KEC's GHG Reduction Program as an Enforceable Condition, Which Is Necessary to Ensure KEC's Consistency with the Connecticut Global Warming Solutions Act

Through its Global Warming Solutions Act, Connecticut has committed to reducing statewide GHG emissions 80 percent from a 2001 baseline by 2050.[57] 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, the Governor's Council on Climate Change recently concluded that "we will need to continue to decarbonize the electric grid – achieving 84 percent carbon-free electric generation by 2050."[58]

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[52] Grouped Parties Admin. Notice Item #32 (Hibbard and Aubuchon, Power System Reliability in New England: Meeting Electric Resource Needs in an Era of Growing Dependence on Natural Gas (Nov. 2015)), at i.
[53] Apr. 18, 2019 Hr'g Tr. at 179:11-13.
[54] Apr. 4, 2019 Hr'g Tr. at 84:21-23.
[55] Council Admin. Notice Item #70 (Connecticut 2014 Integrated Resources Plan), 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).
[56] Council Admin. Notice Item #57 (Dkt. No. 470 Hr'g Tr. at 465:24-466:5 (Nov. 15, 2016)).
[57] Conn. Gen. Stat. § 22a-200a(a)(2).
[58] Grouped Parties Admin. Notice Item #3 (Governor's Council on Climate Change Final Report) at 13.

On February 3, 2017, NTE submitted to the Connecticut Department of Energy and Environmental Protection a document entitled "NTE Proposed GHG Reduction Program for Killingly Energy Center" (GHG Reduction Program),[59] through which NTE committed to reduce the GHG emissions from KEC by 80 percent between the date the facility commenced commercial operation and 2050. The GHG Reduction Program identified annual numerical GHG caps for each year between 2020 and 2050, established several permissible offset mechanisms, and included a commitment to achieve zero net GHG emissions beginning in 2050. The Sierra Club has reviewed the GHG Reduction Program and appreciates NTE's commitment. Sierra Club believes that, subject to the requirements of that GHG Reduction Program,[60] the facility's GHG emission levels are compliant with Connecticut's GWSA.

Should the Council grant a CECPN for KEC, consistent with NTE's commitment at the hearing,[61] the Sierra Club urges that the Council condition[62] the CECPN on incorporation of the specific language of the GHG Reduction Program, as these emission limits and offset requirements are integral to the facility's consistency with the goals of Connecticut's Global Warming Solutions Act.

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[59] A copy of the GHG Reduction Program and NTE's accompanying cover letter are appended to this brief as Attachment 1.

[60] In comments filed by Sierra Club with the Department of Energy and Environmental Protection regarding the GHG Reduction Program on April 19, 2017, Sierra Club recommended elimination of sponsored energy storage offsets (¶ 1.c.(iv)C) because energy storage facilities do not actually displace generation, but instead simply shift load. At the time, NTE acquiesced to that approach. Whether or not that paragraph is retained or deleted, it is critical that the specific language of the GHG Reduction Program be incorporated as an enforceable requirement of any CECPN to ensure that the annual emission limits are effective and the offset mechanisms function as designed.

[61] Apr. 18, 2019 Hr'g Tr. at 115:18-116:1; 160:4-9 (indicated that NTE was prepared to request that the GHG Reduction Program be incorporated as an enforceable condition of the CECPN). Notably, NTE has already obtained its air permits from the Department of Energy and Environmental Protection, without incorporation of the GHG Reduction Program, Apr. 18, 2019 Hr'g Tr. at 114:20-23, as the Department indicated that this is "not the kind of program that they would include in the air permit," Apr. 18, 2019 Hr'g Tr. at 115:2-3, so it is appropriate that it be incorporated as a condition of the CECPN.

[62] 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).

IV. CONCLUSION

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 incorporation of the terms of NTE's GHG Reduction Program.

Respectfully submitted this 30th day of May, 2019,

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February 3, 2017

Jaimeson Sinclair
Assistant Division Director – Permitting
Engineering & Enforcement Division, Bureau of Air Management
Connecticut Department of Energy and Environmental Protection
79 Elm Street
Hartford CT 06106

RE: Application of NTE Connecticut, LLC for Permit to Construct and Operate 180/189 Lake Road, Killingly, CT

Dear Jamieson,

This is to follow up on my letter of January 31, 2017 regarding the above-referenced facility ("Facility"). More specifically, this will further clarify NTE Connecticut, LLC's vision for the basis and timing of its commitments under a voluntary additional GHG reduction program developed by NTE for future inclusion in a Permit to Construct and Operate ("Permit") for the Facility.

As noted previously, NTE's GHG reduction program will consist of annual GHG reductions each year beginning in 2031, with the reductions growing year by year and culminating in 2050 with either the shut-down of the Facility or further operation subject to net-zero GHG emissions. The draft program is attached. This schedule supports the mandate in the Global Warming Solutions Act of 2008, CGS § 22a-200a, to reduce GHG levels to at least 80% below 2001 levels by 2050.

The additional GHG reductions from the program will supplement the existing BACT-based standards for the Facility (as proposed in the Facility's case, 816 lb/MW-hr new and clean, with 7,273 Btu/kW-hr on a rolling 12-month basis). Our vision contemplates that the addition of these reductions not only provides substantial public benefit, but also is consistent with numerous

existing air permits that both establish stringent LAER or BACT limitations and provide additional operational conditions or special requirements that further reduce potential impact. (For example, LAER and BACT for KEC's auxiliary boiler has been determined to be 0.0085 lb/MMBtu for NO_X based on the technology, use and precedent, but an additional limitation on the annual fuel throughput has been reflected in the modeling impact assessment and is proposed to be specified in the Permit.) Compliance with the additional GHG reductions can be demonstrated with annual CO_2e recordkeeping and reporting in accordance with 40 CFR Part 98, as anticipated to be required in the Permit. NTE believes that its GHG commitment can and should be similarly captured in a Title V operating permit for the Facility.

Because all details of the GHG reduction program are not yet finalized, NTE is not in a position to seek to have it incorporated at this time into the Permit addressed by the pending NTE application that CT DEEP has been reviewing for the past several months. NTE does, however, anticipate submitting the program in a permit modification application after a Permit has been issued, and concurrent with a Title V application for the Facility.

We look forward to working with you and your staff at that time on the further GHG reduction program. We believe that it will provide significant benefits for the industry, Connecticut residents, and Connecticut's leadership in clean energy development and GHG control.

Thank you for your consideration of this matter.

Very truly yours,

Earl W. Phillips, Jr.

Attachment

cc: Gary Rose, CT DEEP
Seth Shortlidge, NTE
Mark Mirabito, NTE
Lynn Gresock, TetraTech

DRAFT

2/3/17 2:45pm

NTE PROPOSED GHG REDUCTION PROGRAM FOR KILLINGLY ENERGY CENTER

To make clear NTE's commitment to sustainable and environmentally responsible energy, NTE has developed the following greenhouse gas (GHG) reduction program for the Killingly Energy Center facility ("Facility"). NTE has developed this program in order to support the State of Connecticut's compliance with the mandate in the Global Warming Solutions Act of 2008 ("GWSA"), CGS §22a-200a, to reduce GHG emissions to least 80% below 2001 levels by 2050 ("GWSA 2050 mandate").

1. Annual GHG Reductions

a. CO_2e Cap. Subject to the following provisions, the actual annual Facility-wide emissions of CO_2e ("Actual CO_2e Emissions"), from the date of commencement of commercial operation of the Facility through the end of calendar year 2030, shall not exceed 2,014,355 tons per calendar year ("tpy"), and, thereafter, shall be reduced as follows:

Year	CO_2e Cap (tpy)	Year	CO_2e Cap (tpy)	Year	CO_2e Cap (tpy)
2020	2,014,355	2030	2,014,355	2040	1,208,613
2021	2,014,355	2031	1,933,781	2041	1,128,039
2022	2,014,355	2032	1,853,207	2042	1,047,465
2023	2,014,355	2033	1,772,632	2043	966,890
2024	2,014,355	2034	1,692,058	2044	886,316
2025	2,014,355	2035	1,611,484	2045	805,742
2026	2,014,355	2036	1,530,910	2046	725,168
2027	2,014,355	2037	1,450,336	2047	644,594
2028	2,014,355	2038	1,369,761	2048	564,019
2029	2,014,355	2039	1,289,187	2049	483,445

The annual CO_2e emissions limits provided in the above table shall collectively be referred to as the "CO_2e Cap," and shall each apply on a calendar year basis.

b. Demonstration of Compliance. In order to demonstrate compliance with the CO_2e Cap in each year, the Facility may achieve the CO_2e Cap by:

(i) controlling operations at the Facility to limit Actual CO_2e Emissions to a level at or below the emission limit in the CO_2e Cap for the applicable year, and/or

(ii) in the event that Actual CO_2e Emissions in any year exceed the emission limit in the CO_2e Cap for such year, the Facility may demonstrate compliance by using or retiring Offsets, as set forth in

section 1.c below, to offset the amount by which the Actual CO_2e Emissions exceed the emission limit in the CO_2e Cap for such year.

c. Offsets. Offsets that may be used for purposes of demonstrating compliance with the CO_2e Cap as set forth in Section 1.b(ii) above ("Offsets") shall consist of any one or more of the following:

(i) Future CO_2e Operating Offsets: In any year in which the Facility's Actual CO_2e Emissions exceed the emission limit in the CO_2e Cap for such year, the Facility may demonstrate compliance by using a portion of the emission limit for a future year, provided that such use shall reduce the emission limit for such future year by 110% of the portion used where the future year is the year after the exceedance year, 120% of the portion used where the future year is two years after the exceedance year, 130% of the portion used where the future year is three years after the exceedance year, and so on.

(ii) RGGI Offsets: Actual Regional Greenhouse Gas Initiative ("RGGI") (or any similar mandatory program applicable to the Facility that replaces or supplements RGGI) CO_2 or CO_2e credits or allowances ("Actual RGGI Allowances"), calculated as follows:

> Offset = Actual RGGI Allowance x (price paid per ton/ $30 (as annually adjusted based on any increase in the Consumer Price Index commencing in 2017)), but at no greater than a ton-for-ton basis;

provided, however, that any Actual RGGI Allowances so used shall be in addition to any RGGI allowances used by the Facility for purposes of compliance with requirements of the RGGI program.

(iii) Certain Connecticut Class I REC Offsets: Connecticut Class I Renewable Energy Certificates (RECs) not previously used or retired, from one or more of the types of renewable energy sources specified below, and calculated as follows:

> 1 Connecticut Class I REC = Offset equivalent to the marginal CO_2 emission rate for 1 megawatt-hour (MWh) for all units in New England as reported in the ISO-New England Electric Generator Air Emissions Report (or any future successor to such report) for emissions in the year in which the REC was purchased.

Connecticut Class I RECs from the following types of renewable energy sources shall qualify as Offsets: solar, wind, geothermal,

ocean thermal, wave, or tidal (any individually, "Qualifying Renewable Energy Source"; collectively, "Qualifying Renewable Energy Sources").

(iv) Incentivized Sponsored Offsets, consisting of any one or more of the following. Incentivized Sponsored Offsets may be used to demonstrate compliance with the CO_2e Cap in any year:

A. Electricity generation from a renewable generation project in Connecticut or elsewhere in New England that NTE (directly or through an affiliate) has sponsored, and that

(1) is a Qualifying Renewable Energy Source; and

(2) is eligible under the Renewable Portfolio Standards ("RPS") program at CGS §16-245a, as may be amended from time to time, or any similar mandatory program that replaces or supplements the RPS program,

and with associated Offsets calculated as follows:

1 MWh = Offset equivalent to the marginal CO_2 emission rate for 1 MWh for all units in New England as reported in the ISO-New England Electric Generator Air Emissions Report (or any future successor to such report) for emissions in the year in which any such renewable energy project first begins generating energy.

B. Reductions in energy use through energy efficiency (EE) and/or demand response (DR) programs in Connecticut that NTE (directly or through an affiliate) has sponsored, and with associated Offsets calculated as follows:

1 MWh = Offset equivalent to the marginal CO_2 emission rate for 1 MWh for all units in New England as reported in the ISO-New England Electric Generator Air Emissions Report (or any future successor to such report) for emissions in the year in which the EE and/or DD program first begins reducing energy use.

C. Energy storage facility(s) in Connecticut or elsewhere in New England that NTE (directly or through an affiliate) has developed, and with associated Offsets calculated as follows:

1 MWh = Offset equivalent to the marginal CO_2 emission rate for 1 MWh for all units in New England as reported in the ISO-New England Electric Generator Air Emissions Report (or any future successor to such report) for emissions in the year in which any such energy storage facility first begins commercial operation.

d. Monitoring and Reporting Requirements: By each March 31 following a calendar year covered under this GHG reduction program, NTE shall provide the Connecticut Department of Energy & Environmental Protection ("CT DEEP") with documentation demonstrating compliance with the CO_2e Cap in the immediately preceding calendar year. Documentation of Facility-wide emissions may be in the form of reports as provided in the federal Mandatory Greenhouse Gas Reporting regulations at 40 CFR Part 98 or as accepted by CT DEEP or EPA in compliance with Title V of the federal Clean Air Act. Separate documentation shall be provided to the extent that compliance is achieved through the use of Offsets.

e. Nothing in this GHG reduction program shall be construed to interfere with the enforceability of any emission limitations or other terms in any permit to construct and operate issued by CT DEEP for the Facility pursuant to RCSA §22a-174-3a.

2. Final shut-down

The Facility shall cease commercial operations no later than January 1, 2050 and shall be fully decommissioned within two calendar years after such cessation, unless

a. otherwise required by law; or

b. the Facility has zero net CO_2e emissions in any calendar year including or after such date by (i) retiring unused Incentivized Sponsored Offsets to offset all of the Facility's Actual CO_2e Emissions in such calendar year, and/or (ii) using carbon capture and sequestration and/or other technology to prevent CO_2e emissions from the Facility.

3. Expiration of Conditions

The provisions of Paragraph 1 above shall have no further force or effect in the event that either CT DEEP or the Federal government adopts and implements regulations that establish declining annual aggregate GHG emissions limits consistent with the GWSA 2050 mandate, provided that such regulations limit the GHG emissions of each gas-fired combined cycle electric generation facility of 100 MW or greater in Connecticut or other of the forty-eight contiguous states of the United States, regardless of construction date or other factors, until the end of its operational life.