CONNECTICUT SITING COUNCIL
DOCKET NO. 470

IN THE MATTER OF:

APPLICATION OF NTE CONNECTICUT, LLC FOR A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED FOR THE CONSTRUCTION, MAINTENANCE AND OPERATION OF AN ELECTRIC POWER GENERATING FACILITY OFF LAKE ROAD IN KILLINGLY, CONNECTICUT

APPLICANT'S POST-HEARING BRIEF

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EXECUTIVE SUMMARY

NTE Connecticut LLC has applied to the Siting Council for a Certificate of Environmental Compatibility and Public Need for a natural-gas fired combined cycle power plant in Killingly, Connecticut. The Siting Council should grant the Certificate, as the evidence in the record—in the application, filings, and through testimony—thoroughly demonstrates that NTE has satisfied the statutory criteria for issuance of the Certificate.

Specifically, NTE has demonstrated that the plant is needed, in accordance with Conn. Gen. Stat. § 16-50p(a)(3), and is necessary for the reliability of the electric power supply of the state, in accordance with Conn. Gen. Stat. § 16-50p(c)(3), because the facility will:

- Replace older, dirtier and less efficient power plants expected to retire in the near future, accounting for over 2,000 MW of electric generating capacity in Connecticut and nearly 6,000 MW of capacity in New England;
- Promote the development of renewable resources by providing a flexible, efficient and fast-responding resource to offset the intermittent nature of renewable resources;
- Provide ISO-NE with added winter reliability when natural gas supplies are in shorter supply, given the plant's firm gas supply contract and dual-fuel capability; and
- Reduce greenhouse gas emissions as it displaces older, less efficient and dirtier fossil-fuel power plants.

NTE has also demonstrated that the plant will help promote the development of a competitive market for electricity, in accordance with Conn. Gen. Stat. § 16-50p(c)(3), because:

- The plant will be using state-of-the-art combined cycle technology making it among the most efficient and least costly power generation facilities to operate;

- The plant will displace older, less efficient power plants that are more costly to operate; and
- The economic risk of construction of the plant will fall on the developer, as ratepayers will only incur costs if the plant secures a capacity supply obligation and successfully bids into the daily energy markets, meaning it will be among the lowest cost providers to electricity consumers.

NTE has worked extensively with local officials and the public to consider, and where possible, address neighborhood concerns, and develop a project that provides substantial public benefits, in accordance with Conn. Gen. Stat. § 16-50p(c)(1), by:

- Implementing substantial community outreach and environmental justice efforts, including holding numerous open houses, meetings with local officials and the community at large, and informational sessions, to inform the public about the project and receive public input;
- Making significant modifications to the plant design in response to comments from the public and governmental bodies; and
- Negotiating a tax agreement and Community Environmental Benefit Agreement to provide substantial ongoing revenue to the Town and additional benefits to the community, such as a property valuation guarantee to homeowners near the plant, a facility decommissioning plan, a conservation easement over an approximately 20-acre portion of the site, roadway improvements, upgrades to the water infrastructure, and up-front revenue to be used for environmentally-related projects.

Finally, NTE has demonstrated that the proposed plant will have minimal environmental impact, and that any such impacts are outweighed by the substantial need and public benefits of the project, in accordance with Conn. Gen. Stat. § 16-50p(a)(3).

For these reasons, the Siting Council should approve NTE's application and grant the project a Certificate.

I. INTRODUCTION

On August 17, 2016, NTE Connecticut, LLC ("NTE" or "Applicant") filed with the Connecticut Siting Council ("Council") an application (the "Application") for a certificate of environmental compatibility and public need ("Certificate"), pursuant to Sections 16-50g et seq. of the Connecticut General Statutes ("Conn. Gen. Stat."), for the construction, maintenance and operation of an electric generating station (the Killingly Energy Center, or "KEC") to be located off Lake Road in Killingly, Connecticut (the "Property"). KEC will enhance the reliability of the electric power supply in Connecticut and New England, promote a competitive market for electricity, increase the efficiency of and reduce the emissions from the region's electric generation fleet, and provide substantial benefits to Killingly and the surrounding communities in eastern Connecticut.

This Post-Hearing Brief is filed on behalf of the Applicant pursuant to Section 16-50j-31 of the Regulations of Connecticut State Agencies ("R.C.S.A."). The Brief evaluates the Application in light of the Council's review criteria, as set forth in Conn. Gen. Stat. § 16-50p and addresses other issues raised throughout the course of this proceeding.

II. PROCEDURAL BACKGROUND

Consistent with the requirements of Conn. Gen. Stat. § 16-50l(e), on May 4, 2016 NTE submitted the KEC Technical Report to the towns of Killingly, Putnam and Pomfret and engaged in continued consultations with municipal officials. Following receipt of the Application on August 17, 2016, the Council conducted an evening public hearing on October 20, 2016 at Killingly High School in Killingly, Connecticut. The Council held additional evidentiary hearings on November 3, November 15, and December 15, 2016, and January 10, January 26, and March 23, 2017 at the Council offices in New Britain, Connecticut. Prior to the public hearing on October

20, 2016, at 3:30 p.m., the Council conducted a site visit at the Property. Between the hours of approximately 8:00 a.m. and 6:00 p.m. on October 20, 2016, NTE caused a red balloon to be flown to simulate the height of the proposed KEC stack, as prescribed by the Council. (Transcript ("Tr."), pp. 178-180).

III. FACTUAL BACKGROUND

A. Facility Description

The Killingly Energy Center will be a 550-megawatt (MW) combined cycle electric generating facility. The Property on which KEC will be located is proximate to the Killingly Industrial Park, and consists of a 63-acre parcel at 189 Lake Road (on the north and west side of Lake Road), referred to as the Generating Facility Site, and a 10-acre parcel at 180 Lake Road (on the south and east side of Lake Road), referred to as the Switchyard Site. (NTE 1, p. 114, NTE 14, p. 1). The Generating Facility Site is within an area designated in the Town of Killingly's Plan of Conservation and Development 2010-2020 for future industrial development. (NTE 1, p. ES-1; NTE 29, p. 5).

KEC will be fueled primarily by natural gas, with ultra-low sulfur distillate ("ULSD") available as a backup fuel. (NTE 1, p. ES-1). The primary equipment at the plant will include a Siemens H-class combustion turbine generator ("CTG"), a heat recovery steam generator ("HRSG"), a steam turbine generator ("STG"), and an air-cooled condenser ("ACC"), all located on the Generating Facility Site. (NTE 1, p. 28). KEC will be connected to a utility switchyard on the Switchyard Site. The switchyard will ultimately be owned by Eversource. The KEC electric output will flow from its on-site switchyard to the Eversource switchyard and then to Eversource's transmission lines, which run immediately east of the Switchyard Site. (NTE 1, p. 22).

Natural gas will be provided to KEC by the Yankee Gas Services Company via a 2.8 mile natural gas pipeline lateral connected to the existing Algonquin Gas Transmission ("AGT") pipeline. (NTE 1, pp. 16-17). Connecticut Water Company has confirmed its ability to supply KEC's water needs via a water line extension from existing service in Plainfield. (NTE 1, p. 46; NTE 1, App. H-1; NTE 28). Suez, operator of the Killingly wastewater collection and treatment facility, has confirmed that the facility has adequate capacity to accommodate KEC's wastewater discharges. (NTE 1, App. H-2).

B. Community Outreach and Environmental Justice Plan

Since the project's inception, NTE has worked diligently and continuously to engage with Town officials and the community. In the pre-application phase of the project, NTE created mail and email lists to facilitate and encourage communication and public involvement and to disseminate information to interested members of the community. NTE notified abutting property owners of submittal of the Application, and also provided additional communications to the community at large, including monthly project newsletters. (NTE 29, pp. 10-11).

Furthermore, because Killingly is on the list of distressed municipalities as set forth in Conn. Gen. Stat. § 32-9p, KEC is subject to the state Environmental Justice ("EJ") program administered by the Connecticut Department of Energy and Environmental Protection ("DEEP"). Simultaneously with other community outreach efforts, NTE developed an Environmental Justice Plan ("EJ Plan") to 1) provide opportunities for early and meaningful public involvement, 2) actively seek public participation throughout the project, and 3) encourage stakeholders to participate at the earliest opportunity in the review of KEC so their input could be considered. The EJ Plan was submitted to the Administrator of the DEEP EJ Program on March 31, 2016, was updated on April 14, 2016 and was approved on April 19, 2016. (NTE 29, pp. 5-6).

As part of the community outreach and EJ efforts, NTE has convened numerous community meetings, both with specific stakeholders and the community at large. Specifically, the following timeline sets forth the significant community outreach and EJ meetings and related milestones:

- March 22, 2016 — NTE held a Public Open House.
- March 31, 2016 — NTE submitted the EJ Plan for approval.
- April 14, 2016 — NTE submitted an updated EJ Plan with a revised date for the Informal Public Meeting.
- April 19, 2016 — DEEP approved the EJ Plan.
- May 4, 2016 — NTE held Public Meeting #1. NTE also submitted the KEC Technical Report to the Towns of Killingly, Putnam and Pomfret.
- May 12, 2016 — The Administrator of the DEEP EJ Program requested a further public meeting.
- July 11, 2016 — NTE held Public Meeting #2.
- July 19, 2016 – NTE participated in the Special Joint Meeting of the Town of Killingly Inland Wetlands & Watercourses Commission ("IWWC") and Planning & Zoning Commission ("PZC").
- July 28, 2016 — The Administrator of the DEEP EJ Program confirmed that NTE met the EJ public meeting requirement.
- August 17, 2016 – NTE submitted the CSC Application.
- September 8, 2016 – The Town of Killingly provided NTE with its Third Party Document Review prepared by TRC Environmental Corporation ("TRC").
- September 22, 2016 – PZC held a Special Meeting to finalize its Orders of Regulations and Restrictions ("R&R Orders").
- September 27, 2016 – IWWC held a Special Meeting to finalize its R&R Orders.
- September 29, 2016 — The Administrator of the DEEP EJ Program provided supplemental questions from the community to NTE.

- October 11, 2016 — NTE presented the Proposed Community Financial Benefits at the regular monthly meeting of the Killingly Town Council, including the potential benefits related to the Community Environmental Benefit Agreement ("CEBA").

- October 19, 2016 — NTE held Public Meeting #3 to address the community supplemental questions received from the DEEP.

(NTE 1.a; NTE 5, p. 2-3; NTE 29, pp. 6, 17; Town 2).

NTE also developed and maintains a robust public website to share the Application and related documents as well as a project schedule, presentations, and periodic news items and announcements. These documents are also maintained in hard copy at the Killingly Public Library and Killingly Town Hall. (NTE 29, pp. 13-18). Finally, NTE committed to reimburse the Town for its costs in retaining an independent consultant (TRC) to review the Application and the air permit application and to assist the town in the preparation of its R&R Orders (discussed in the following section).

C. Municipal R&R Orders

On October 12, 2016, the PZC and IWWC each issued R&R Orders (collectively "Municipal Orders"). While NTE believes that the KEC facility satisfied all of the Council's criteria as originally proposed, NTE has made substantial efforts and design modifications to address concerns raised in the Municipal Orders. In making these changes, NTE has considered neighborhood concerns to ensure that impacts to the environment will be minimized. A more complete discussion of the changes made to the Application in response to the Municipal Orders is found in section IV.C.2 below. In those few instances where the Municipal Orders could not be incorporated into the KEC plan, NTE appealed those orders (in whole or in part) to the Council. (NTE 15, pp. 2-3).

IV. THE APPLICATION SATISFIES THE CRITERIA OF CONN. GEN. STAT. § 16-50p FOR ISSUANCE OF A CERTIFICATE OF ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED

Section 16-50p of the Public Utility Environmental Standards Act ("PUESA"), Conn. Gen. Stat. § 16-50g *et seq.*, sets forth the criteria for Council decisions in Certificate proceedings and states, in pertinent part:

> In a certification proceeding, the council shall render a decision upon the record either granting or denying the application as filed, or granting it upon such terms, conditions, limitations or modifications of the construction or operation of the facility as the council may deem appropriate . . . . The council shall file, with its order, an opinion stating in full its reasons for the decision. The council shall not grant a certificate, either as proposed or as modified by the council, unless it shall find and determine:
>
> (A) *Except as provided in subsection (b) or (c) of this section,* a public need for the facility and the basis of the need;
>
> (B) The nature of the probable environmental impact . . . including a specification of every significant adverse effect . . . whether alone or cumulatively with other effects, 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 . . . and wildlife;
>
> (C) Why the adverse effects or conflicts referred to in subparagraph (B) of this subdivision are not sufficient reason to deny the application . . . .

Conn. Gen. Stat. § 16-50p(a)(3) (emphasis added). Subsection (c), applicable to electric power generating facilities, states that the Council must determine there is a public benefit for the facility, while considering "neighborhood concerns" related to environmental and public safety factors previously listed. Conn. Gen. Stat. § 16-50p(c)(1).

First, the Applicant must demonstrate a public benefit, which "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." Conn. Gen. Stat. § 16-50p(c)(3). Second, the Applicant must identify "the nature of the probable environmental impact" of the proposed facility through review of the numerous elements specified in Conn. Gen. Stat. § 16-50p(a)(3)(B), while

considering neighborhood concerns (Conn. Gen. Stat. §16-50p(c)(1)), and then demonstrate that these impacts "are not sufficient reason to deny the application." Conn. Gen. Stat. § 16-50p(a)(3)(C). The evidence in the record for this docket establishes that the above criteria have been satisfied and that the Applicant is entitled to a Certificate.

A. The KEC Facility Is Necessary For The Reliability Of The Electric Power Supply Of The State And ISO-New England

1. The reliability of the electric power supply in Connecticut is inextricably tied to the reliability of the electric power supply in ISO-NE

ISO-New England ("ISO-NE") is the regional transmission organization that manages the electric supply for nearly all of New England, including all of Connecticut. ISO-NE's responsibilities include power system planning, operating the electricity grid, and administering the markets where electricity is bought and sold. Power plants and electric customers throughout New England are linked and physically interconnected through a series of transmission lines. (NTE 20, pp. 1-2). Connecticut's electric supply is inextricably tied to the regional system managed by ISO-NE. The demand for and supply of electricity that flows over the transmission lines is blind to state geographic boundaries. Thus, while the Council must consider whether KEC is necessary for the reliability of the electric power supply of Connecticut, it cannot do so without considering the reliability of the entire regional power supply managed by ISO-NE.

In simple terms, ISO-NE forecasts regional demand for electricity and ensures that there will be adequate electric supply to meet that demand. On a yearly basis, ISO-NE prepares the Capacity, Energy, Loads and Transmission ("CELT") report, which includes electricity demand projections for the next ten (10) years. (Council Adm. Notice 22). Of critical importance for

capacity planning are the summer peak load and summer net peak load projections,[1] because ISO-NE must ensure that it has sufficient electric supply to meet electricity needs during the summer when electricity demand is highest. ISO-NE's most recent projections are found in Table 1.1 of the 2016 CELT report. (Council Adm. Notice 22, p. 1.1.1). ISO-NE projected increases in summer peak load, from 28,966 MW in 2016 to 31,794 MW in 2025. (Council Adm. Notice 22, Table 1.1). ISO-NE calculates net summer peak load projections by subtracting projected electricity savings attributable to energy efficiency and behind-the-meter solar projects. Net summer peak load projections are flat or slightly increasing, from 26,704 MW in 2016 to 27,122 MW in 2025. (Tr. pp. 954-957; Council Adm. Notice 22, Table 1.1).

Following publication of the yearly CELT report, ISO-NE publishes a report which includes the installed capacity requirement ("ICR"). (Council Adm. Notice 30; Tr. p. 976). The ICR, calculated using a probabilistic model, is the minimum level of generating capacity required to ensure that ISO-NE can satisfy the projected electricity demand set forth in the CELT report. (Council Adm. Notice 30, p. 15). ISO-NE then conducts the forward capacity auction ("FCA") to procure sufficient electric supply to ensure system reliability. Successful bidders into the auction (those who "clear the auction") receive capacity supply obligations ("CSO") for the capacity commitment period, meaning ISO-NE is relying on their capacity to meet projected future electricity needs. Anyone with a CSO is required to bid its capacity into the daily energy markets during the capacity commitment period in order to maintain reliability across ISO-NE. (NTE 20, p. 3).

[1] The summer peak load projection is the highest amount of electricity expected to be consumed during the summer. The net summer peak load projection is how much of that electricity must come from the regional grid, as opposed to savings from energy efficiency programs or behind-the-meter solar projects. (Tr. pp. 952-955).

2. ISO-NE, and thus Connecticut, needs additional generating capacity to offset the likely retirement of as much as 6,000 MW of existing capacity beginning as early as 2021

ISO-NE recognizes that additional generating capacity is needed in New England to offset the retirement of older, less efficient, and more costly power plants. As recently as November, 2016, ISO-NE stated that over 5,500 MW of capacity remains at risk for retiring, including over 2,000 MW of capacity in Connecticut. (Council Adm. Notice 28, p. 11; NAPP 9, p. 26, Table 4).[2] This is in addition to 4,200 MW of capacity that retired or announced retirements since 2012. (Council Adm. Notice 28, p. 11). This combination of facilities that have retired, announced that they are retiring, and are at risk of retiring represents 25% of the generating fleet operating in 2012. (Council Adm. Notice 34, p. 3). The November 2016 ISO-NE information provides necessary context for information found in DEEP's 2014 Integrated Resources Plan for Connecticut ("IRP"). (Council Adm. Notice 69). In the IRP, DEEP discussed the adequacy of electric resources in Connecticut, finding that "local electric supply should be adequate *barring the unexpected loss of approximately 2,000 MW of supply.*" (Council Adm. Notice 69, pp. 13-14 (emphasis added)). Clearly, the retirement of 2,000 MW of capacity or more, over 25% of electric generating capacity in Connecticut, would have a significant negative impact on the reliability of the electric power supply in the state. (Tr. pp. 412-413). Any new capacity expected to come on line in Connecticut is not sufficient to offset these likely retirements.[3] (Tr. p. 1123).

[2] Table 4 of NAPP 9 shows 7,047 MW remaining "at risk fossil" units, including Brayton Point (1,473 MW) which has already announced it is retiring in 2017. The Connecticut at risk capacity includes units in Bridgeport, Middletown, Montville and New Haven, totaling 2,041 MW. Bridgeport 3 (383 MW) is contractually obligated to retire in 2021. (Tr. p. 972).

[3] Significant lead time is needed to bring additional capacity on-line to offset the impact of retirements. This lead time can be as much as five (5) years to account for the time needed to identify locations, engage in community outreach and environmental justice efforts, prepare and process applications for the necessary permits and approvals, participate in forward capacity auctions, negotiate contracts, and construct and test the plant. (NTE 20, pp. 4-5).

On November 17, 2016, ISO-NE Chief Executive Officer Gordon van Welie stated that "New England will need sufficient resources to replace retiring resources and these must be able to perform under adverse weather conditions." (Council Adm. Notice 34, p. 6). Furthermore, as demonstrated by the results of FCA 11, capacity prices continue to decline. (NAPP Adm. Notice 27). Lower energy and capacity prices could expedite the retirement of the at-risk capacity resources discussed above. (NTE 20, p. 16; Tr. pp. 274, 770). The clearing price in FCA 11 was $5.297 per kw-month. Had the price gone any lower, at least one older power plant would have been forced to retire, as the price would have been below its dynamic delist number. (Tr. pp. 1195-1196). While NTE elected to withdraw from FCA 11 prior to the final round due to permitting and schedule uncertainties that existed at the time of the auction, had NTE stayed in, the clearing price would have dropped below $5.297, at least one existing older power plant would have retired, and KEC would have cleared the auction.[4] The combination of flat or slightly increasing net summer peak demand, significant at-risk retirements, declining energy and capacity prices, not enough new capacity to offset the retirements, and financial challenges associated with sustaining gains in efficiency and renewable resources, make the need for KEC apparent. Nonetheless, NTE has stated it would accept a condition of approval requiring it to obtain a CSO prior to starting construction of the plant, which should allay any concerns about the need for the plant.[5] (Tr. pp. 1179-1180).

[4] "The dynamic delist number is the number [clearing price] at which an older unit is required to retire, and then it's replaced by a cheaper, more efficient unit. So at that marginal level, had we [KEC] bid below that, we would have cleaned one of those older units out." (Tr. p. 1196).

[5] In response to a question from the Chairman about this condition given NTE's prior testimony that NTE would proceed with construction regardless of ISO's determination, NTE President Seth Shortlidge testified as follows: "I would be excited to move forward with this project without this condition. However, if it is necessary to address concerns from this Council associated with whether or not there is a requirement by the ISO that this plant be built, we would be willing to accept that condition." (Tr. pp. 1179-1180).

3. KEC will help with, not deter, integration of renewable resources

NTE acknowledges and supports the goals of increasing energy efficiency savings and growing the amount of renewable resources supporting the grid. Plants like KEC will not deter integration of renewables—in fact they are necessary to achieve greater levels of renewables. Wind and solar are intermittent resources, meaning their generation is variable in nature and not under direct control of the facility operator due to an outside factor (i.e. they are dependent on the wind blowing and sun shining). As such, they cannot change their output quickly to respond to changing demand, and they cannot always be depended upon given variable weather conditions. ISO-NE recognizes this, which is why, in the 2016 Regional Energy Outlook, ISO-NE states that "[t]he ability of many natural-gas-fired plants to change output quickly helps to balance an increasing amount of generation from intermittent power resources that rely on the wind and sun." (Council Adm. Notice 28, p. 10). Similarly, CEO van Welie stated on September 28, 2016 that "[g]rowing levels of renewable generation will require a fleet of flexible resources, with an equally flexible fuel system, to reliably balance the variability of renewable resources." (NTE Adm. Notice 2, p. 16). He also stated, on November 17, 2016, that "[t]o assure reliability, the region needs fast-responding, flexible capacity resources that are not constrained in their operation." (Council Adm. Notice 34, p. 6). KEC, with its dual-fuel, 6500 Btu/kWh full load heat rate and 29 MW per minute turbine ramp rate is the type of flexible, efficient and fast-responding capacity resource needed to support a more diverse future resource mix. (NTE 14, pp. 6-7; NTE 20, pp. 11-13; NTE 24, p. 10; NTE 26, p. 7; Tr. pp. 727-728).

4. KEC is a dual-fuel plant with a firm gas supply contract, providing additional winter reliability protection against natural gas curtailments

KEC will also not be constrained in its operation, and thus can help ISO-NE address its concerns about winter reliability of the region's power supply. In periods of extreme cold

weather, natural gas supplies are first used for residential heating and other high priority uses. ISO-NE has said that "very little pipeline gas is available to support gas generators under these [extreme cold] conditions." CEO van Welie further stated that ISO-NE's "operating situation is ***precarious*** during the winter time and we are concerned that beyond 2019 it may become ***unsustainable*** during extreme cold conditions." (NTE Adm. Notice 2, p. 5 (emphasis in original)).

Based on these concerns, KEC should be viewed as an essential part of the reliability solution for at least two reasons. First, KEC will have a firm gas supply and transportation contract, meaning it will not rely on future expansions of the gas pipeline and will have a higher priority for pipeline gas than those facilities with interruptible gas service. Second, KEC will have dual-fuel capability, meaning that in the unlikely event of a gas curtailment affecting KEC, the plant can operate on ULSD to continue producing electricity. (NTE 26, p. 4; Tr. 184-185, 476-477). There is limited dual-fuel capacity that can support winter reliability in New England. (NTE 26, p. 5-6). The reliability and flexibility of KEC's fuel supply means ISO-NE can expect KEC to produce electricity even during the coldest periods.

5. KEC will make a substantial contribution to the reduction of greenhouse gases in Connecticut and New England

KEC's entry into the market will result in lower greenhouse gas emissions, as KEC will displace older, less efficient and higher emitting generating facilities. The reduction in emissions is driven by KEC's higher operating efficiency. It will take less fuel to generate the same amount of electricity than nearly all the other fossil fuel-fired facilities in New England. KEC will therefore be less costly to operate, meaning it will be dispatched by ISO-NE ahead of these other facilities. This means, in turn, that the older, higher emitting facilities will operate less

frequently, thereby reducing greenhouse gas emissions. (NTE 1, pp. 45-46; NTE 1, App. B-2, pp. 9-10; NTE 14, p. 14; Tr. pp. 736-738).

Operation of the KEC plant is projected to result in a decrease of carbon dioxide emissions of over 1.5 million tons, while also reducing nitrogen oxide and sulfur dioxide emissions by 3,500 tons and 1,900 tons, respectively, in its first five years of operation. The carbon dioxide reductions alone are the equivalent of planting 35 million trees. (NTE 1, pp. 12-13). Finally, in addition to the displacement benefits described above, NTE has voluntarily committed to reducing its greenhouse gas emissions by 80 percent by 2050. (Tr. p. 1130). This will help Connecticut meet or exceed its carbon dioxide emissions reductions targets under the Connecticut Global Warming Solutions Act. (NTE 16, pp. 5-6).

B. KEC Will Help Develop And Sustain A Competitive Market For Electricity In ISO-NE

Connecticut has among the highest electricity rates in the country. KEC can help address this problem, satisfying the statutory criteria that the plant provide a public benefit by helping develop and sustain a competitive market for electricity. Natural gas-fired combined cycle power facilities are among the most efficient, clean and cost-effective power plants in the market today. KEC proposes to use a state-of-the-art Siemens H-class combustion turbine generator. A heat recovery steam generator will capture waste heat from the combustion turbine to generate steam, which then goes to a steam turbine generator to generate additional electricity. This combined cycle technology uses less fuel to generate a unit of electricity than simple cycle technology or fossil-fueled boilers with steam turbine generators. They are therefore more efficient, less costly, and generate less emissions than other fossil fuel power generation technology. (NTE 1, pp. 33-35). The end result is that KEC will be dispatched by ISO-NE ahead of older, less efficient power plants that are more costly to operate. (Tr. pp. 265-268).

The economic risk of the construction of KEC is also on the developer, not electric customers. End use electric customers will pay KEC only when KEC clears a forward capacity auction or otherwise is party to a capacity obligation agreement (which by definition means KEC is grouped with the lowest-cost resources available) and when ISO-NE dispatches KEC for electricity (which means KEC is the lowest-cost remaining resource bidding into the energy markets). If Killingly does not supply electricity to the grid, the electric customers have no exposure for KEC's costs. (Tr. pp. 1116-1117; NTE 14, p. 14). This is in stark contrast to most of the renewable resources being added to the New England capacity resource mix. The economic risk of most new renewable projects in New England is shifted to ratepayers through power purchase agreements with local distribution companies, resulting in higher costs to ratepayers. (NTE 24, p. 16). The renewable projects need these agreements to secure financing, as in most cases they could not otherwise compete in the forward capacity and energy markets due to their higher costs. For example, the Block Island off-shore wind project has a power purchase agreement with Narragansett Electric Company. (Tr. p. 929). While necessary to promote the development of off-shore wind, the cost to ratepayers is nearly $400 million above what it would otherwise cost to secure the same amount of electricity from a combined cycle plant in today's competitive markets. (NTE 24, p. 14).

C. NTE Has Been Diligent In Considering, And When Possible, Addressing Neighborhood Concerns

1. NTE, in the EJ process and other communications efforts with the public, received community input through a series of open houses, public meetings, informational sessions, and public hearings

NTE has engaged in a significant outreach effort to identify and address community and neighborhood concerns. This effort has included extensive discussions with various Town of Killingly officials, resulting in several community agreements and significant project changes to

address local concerns. NTE, with the approval of DEEP, implemented an aggressive EJ Plan. NTE, both before and after approval of the EJ Plan, conducted numerous open houses and public meetings designed to inform the public about project details and receive input from the community.[6] DEEP notified NTE on July 28, 2016 that it had satisfied the public meeting requirements of the EJ program. Notwithstanding this, NTE continued its community outreach, including holding another public meeting on October 19, 2016. (NTE 29, pp. 5-6). The end result has been 1) a better project, with specific plant design changes intended to directly address and mitigate community concerns, and 2) several agreements with the Town that will provide substantial financial and other benefits to the community.

2. NTE addressed a substantial number of concerns identified in the Town's R&R Orders

The most striking example of NTE's responsiveness to community concerns is its response to the R&R Orders issued by the Killingly Inland Wetlands and Watercourses Commission (IWWC) and Planning and Zoning Commission (PZC). On October 27, 2016, NTE filed its Responses to and Appeal of the Municipal Regulate and Restrict Orders ("Appeal and Response"). (NTE 15). In the Appeal and Response, NTE identified a number of changes that would be made to the project to address community concerns, including the following:

- Two storm water basins and two crushed stone trenches between the basins were added at the headwaters of Wetlands A1 and A3, and all storm water basins were redesigned to incorporate a crushed stone layer to encourage infiltration. (NTE 15, pp. 2-3).

[6] See section III.B above for a detailed list of public meetings, hearings, open houses and other milestones in the community outreach effort.

- The ULSD storage tank design was revised to include a secondary steel containment structure, allowing for elimination of the bermed spill containment area. (NTE 15, pp. 4-6).
- The ACC, gas compressor building, and ring road were relocated or reconfigured and a retaining wall was removed to increase the separation distance from wetland boundaries. (NTE 15, pp. 6-8).
- Revisions were made to the grading plan to ensure a minimum 25-foot no disturbance buffer from the wetland boundaries can be maintained. (NTE 15, pp. 6-8).
- Two hydrodynamic separators were added to the project design, so the project will now have 3 separate discharge points with hydrodynamic separators for each discharge. (NTE 15, pp. 9-10).
- The size of the created wetlands area on the Switchyard Site was increased from 17,000 square feet to 18,750 square feet. (NTE 15, pp. 10-12).

3. NTE and the Town have negotiated a Community Environmental Benefit Agreement and a Tax Agreement, as well as negotiated the terms of a decommissioning plan and a property value guarantee agreement for neighbors of the project, all addressing neighborhood concerns and providing substantial benefits to the community

As of the January 26, 2017 evidentiary hearing, the Town and NTE had essentially finalized the terms of a CEBA, subject to final approval by the Killingly Town Council.[7] (Tr. p. 1025). The CEBA will include a financial component (in addition to revenue generated by the separate tax agreement) and a plant decommissioning plan, and NTE and the Town have also agreed to terms of a property value guarantee for residences within a certain distance of the

[7] The Killingly Town Manager, Sean Hendricks, testified on January 26, 2017 that he would recommend that the Town Council approve or adopt the CEBA at an upcoming Town Council meeting. (Tr. p. 1025).

plant. (Tr. pp. 1038-1039; NTE 29, App. T). The Town Manager believed the terms of the CEBA, as negotiated, to be fair, and hoped to earmark certain funds for environmental projects or scholarships for local students hoping to study environmental sciences. (Tr. pp. 1027-1029, 1039). The Town Manager also met with local residents in November 2016 to gain public input on potential uses of funds that would be received by the Town as a result of the CEBA. While the tax agreement would generate substantial general revenue for the Town, the Town Manager wanted to use funding from the CEBA for specific environmentally-related projects. Examples include funds set aside for tree planting, water level monitoring and water quality testing in Alexander Lake, and asthma studies. (Tr. pp. 1031-1036). Again, these are issues that have been raised at different points in the EJ process, and NTE has worked extensively with local officials to address the concerns.

Finally, the Council should not lose sight of the other community benefits that will result from the construction of the project, in addition to the substantial financial contribution to the Town. The project will generate between 250 and 350 jobs at the height of plant construction, and more than 25 long-term jobs to support operations. (NTE 1, pp. 54, 128, 158). This increased employment will also stimulate other economic activity, as KEC workers will buy groceries, eat in local restaurants, and support other local businesses. (NTE 1, App. B-2, pp. 5-7). Energy savings realized by all Connecticut residents from the addition of this clean and efficient plant can be reinvested. As discussed below, these benefits vastly outweigh any minimal environmental impacts from the plant.

D. KEC Will Not Have A Significant Adverse Impact On Public Health, Safety, The Environment Or Other Resources Of The State

Pursuant to Conn. Gen. Stat. § 16-50p(a)(3), the Council, before granting a Certificate, must determine the nature of potential environmental impacts and that the impacts are not

sufficient to deny the Application. Set forth below is a discussion of the various environmental factors to be considered and why the impacts, if any, do not warrant denying the Application.

1. Natural environment and ecological balance

The proposed KEC facility has been designed, and will be constructed and operated, to have minimal impacts on the environment. NTE performed detailed investigations of natural resources at the Property to characterize existing conditions. Among other things, NTE evaluated wetlands and watercourses, terrestrial vegetation and habitat, and listed species as it considered the Property and the potential impact of the KEC facility. (NTE 1, pp. 76-81).

For example, NTE retained REMA Ecological Services, LLC ("REMA") to delineate and evaluate existing wetlands and to consider potential impacts on wetlands from the project. (NTE 1, App. E). REMA determined that there are 10.95 acres of wetlands on the 73-acre project site. On the Generating Facility Site, NTE will not fill any wetlands, and will comply with the Town's separation distance from all wetlands boundaries to a minimum of 25 feet. (NTE 15, p. 7). On the Switchyard Site, the project will result in the filling of 12,500 square feet of wetlands. As a result, NTE will create at least 18,750 square feet of wetlands to offset the loss of existing wetlands, and will implement a site-wide program to control invasive species. (NTE 15, p. 11-12; NTE 1, App. E-1, pp. 26-27). NTE has applied for and will comply with the terms of a General Permit from the Army Corps of Engineers for the wetland fill and replication project. (NTE 1, p. 76).

In addition to maintaining separation distances on the Generating Facility Site, creating new wetlands, and implementing an invasive species control program, NTE has also prepared a stormwater pollution prevention program, discussed below, to ensure minimal stormwater impacts on wetlands. As a result of these efforts, the KEC facility will not have a significant adverse impact on wetlands and watercourses. (NTE 1, App. E-1, p. 27).

REMA also prepared an Ecological Assessment Report for the Property. This effort included surveys of ponds and vernal pools, a wildlife inventory, and avian and listed species surveys. (NTE 1, App. F). Vernal pool habitats were identified within the Property wetlands and on a neighboring property, and KEC has been designed such that it will not encroach on these areas any closer than to within 430 feet. (NTE 1, p. 79; NTE 21, pp. 1-7). NTE also concluded that the development of KEC will not degrade the integrity of these vernal pool habitats. (NTE 21, pp. 7-12). There was no information presented to the Council to refute these conclusions.

NTE has also proposed measures to protect identified species, such as turtles, and to prevent impacts during construction. (NTE 1, p. 80). Given the limited area to be disturbed, the vibrancy of the surrounding on-site and off-site habitat, and the measures to be taken during construction, the KEC facility will not have a significant adverse impact on natural and ecological resources. There was no information presented to the Council to refute this conclusion.

2. Public health and safety

The importance of public health and safety is a common theme throughout the Application. KEC will have lighting systems to promote safe operations while minimizing impacts on the surrounding community. (NTE 1, p. 55). NTE will prepare and implement an emergency management plan and coordinate emergency procedures with the Town of Killingly fire department and safety authorities. (NTE 1, p. 55-56). KEC will have fire protection systems including hydrants, hose stations, sprinkler systems, deluge systems, a CO_2 system, and portable fire extinguishers. (NTE 1, p. 56). Chemicals used for on-site operations will be properly stored in labeled tanks, totes, and containers located in areas with secondary containment. (NTE 1, pp. 56-60).

NTE, through its expert F.A. Hesketh & Associates, Inc. ("F.A. Hesketh"), also prepared a traffic impact report to evaluate traffic generated by the KEC facility and its impacts on the adjacent roadway network. (NTE 1, pp. 126-131; NTE 1, App. I). F.A. Hesketh concluded that "the existing roadway network has sufficient excess capacity and will be capable of accommodating the traffic volumes associated with this proposed development with little or no change in the operating conditions during normal operations." (NTE 1, App. I). There has been no evidence presented to the Council to refute this conclusion.

Similarly, NTE, through its expert Tetra Tech, Inc. ("Tetra Tech") prepared a Sound Survey and Analysis Report. (NTE 1, pp. 132-134; NTE 1, App. L). Tetra Tech evaluated potential levels of noise emissions from KEC and compared them to levels set forth in the State of Connecticut and Town of Killingly noise regulations. Tetra Tech used noise modeling techniques to calculate anticipated noise levels at various surrounding locations resulting from normal KEC operations. (NTE 1, App. L, pp. 18-23). Tetra Tech also identified a number of measures that NTE incorporated into the layout, design and operation of KEC to attenuate noise levels to minimize impact on surrounding receptors. These include positioning louder equipment in the center of the site, using enclosures to mitigate sound levels, and incorporating other noise mitigation measures such as silencers, sound walls, and low-noise equipment. Tetra Tech concluded that "measures can be incorporated that will enable KEC to comply with all applicable noise requirements." (NTE 1, App. L, p. ES-1; Tr. pp. 643, 1055-1056). There has been no evidence presented to the Council to refute this conclusion.

Finally, NTE, through its expert consultant Exponent Inc. ("Exponent") prepared an Electric and Magnetic Field Assessment to evaluate potential impacts of electric and magnetic fields ("EMF"), audible noise ("AN"), and radio noise ("RN") associated with the

interconnection of KEC to the adjoining Eversource transmission lines. (NTE 1, App. M). Exponent has concluded that EMF, AN, and RN levels will all be below levels set in applicable regulations, standards and guidelines for protection of public health. (NTE 1, App. M, pp. iv-v). There has been no evidence presented to the Council to refute these conclusions.

3. Scenic values

NTE also engaged Tetra Tech to perform a Visual Impact Assessment of the proposed KEC facility. (NTE 1, App. K). The primary potential impact to scenic values associated with a power plant is due to the visibility of the stack. Tetra Tech did its assessment for a 5 mile radius from the proposed stack location, identifying the character and quality of KEC and the existing landscape, describing the viewshed analysis performed, and identifying any anticipated visual impacts. (NTE 1, App. K, p. 1). After completing its evaluation, Tetra Tech concluded that "KEC will not alter the visual environment for the majority of the area within 5 miles." Tetra Tech stated that, from most viewpoints, potential views of KEC will be screened by distance, topography, structures or vegetation. (NTE 1, App. K, p. 37; Tr. pp. 196-197). There was no evidence presented to the Council to refute these conclusions. In fact, the Town's consultant concluded that the Tetra Tech report was "sufficient and adequate." (Town 2, p. 32).

4. Historical values

NTE, through its consultant, Tetra Tech, conducted historical background research and a cultural resources evaluation on the Property. Tetra Tech determined that there were no significant cultural resources that would be adversely impacted by the construction or operation of KEC. (NTE 1, p. 137). NTE shared the evaluation, in the form of a Phase I Cultural Resources Reconnaissance Survey prepared by Tetra Tech, with the State Historic Preservation Office ("SHPO") and the Tribal Historic Preservation Offices ("THPO") of the Mashantucket Pequot Tribal Nation and the Mohegan Tribe. (NTE 1, App. N-1; NTE 7, Ex. 59-2). The SHPO

concurred with Tetra Tech's conclusion that "no additional archeological investigations are warranted and that no historic properties will be affected by the proposed energy facility project." (NTE 7, Ex. 59-1) (emphasis in original). The Mashantucket Pequot Tribal Nation THPO also concurred with Tetra Tech's conclusion that no archeological sites were identified in the area. (NTE 27; Tr. p. 1074-1075). There was no evidence presented to the Council to refute these conclusions.

5. Recreational values

The proposed KEC site is private property that is largely undeveloped land with no current recreational uses. NTE provided an extensive inventory of recreational resources within 5 miles of the proposed KEC site. (NTE 1, pp. 118-120). There has been no compelling evidence presented to the Council to suggest that KEC will have any adverse impact on the recreational value of any of these resources. In fact, the creation of a conservation easement adjacent to the plant should have a positive impact on recreational values.

6. Forests and parks

The proposed KEC site is undeveloped and not located in any state forest or park. There has been no evidence presented to the Council to suggest that KEC will have any adverse impact on state forests or parks.

7. Air and water purity

a. Air

KEC will be located in an area designated as non-attainment because ozone levels do not currently meet the National Ambient Air Quality Standards ("NAAQS"). As a result, KEC must comply with the Nonattainment New Source Review ("NNSR") requirements of the Clean Air Act ("CAA"). This will include meeting the Lowest Achievable Emissions Rate ("LAER") for nitrogen oxides and securing emission offsets. Because the area is in attainment of the NAAQS

for the other criteria pollutants, the Prevention of Significant Deterioration ("PSD") requirements of the CAA apply. KEC will be required to implement Best Available Control Technology ("BACT") controls for certain pollutants. (NTE 1, pp. 93-95).

NTE submitted an air permit application to DEEP for the construction and operation of KEC. (NTE 1, App. G-4). The application demonstrates that KEC, through the use of appropriate emissions control technologies, will comply with all applicable regulatory standards. NTE, through Tetra Tech, performed extensive air dispersion modeling to simulate worst-case conditions to predict concentrations for each pollutant. This worst case scenario modeling shows that the predicted pollutant levels are below the very conservative Significant Impact Levels ("SILs") for all but two parameters. For those two parameters (1-hour nitrogen oxides and 24-hour particulate matter with diameters equal to or less than 2.5 microns [PM2.5]), additional cumulative modeling was done. (NTE 1, p. 98-99).

The cumulative modeling included emissions from sources located within 31 miles of the Property. This cumulative modeling effort demonstrated that the total concentrations of these constituents, even when considering all these other nearby sources, will be below the NAAQS. (NTE 1, pp. 99-100). There was no evidence presented to the Council to refute these conclusions, and KEC will ultimately be required to secure, and comply with the terms of, an air permit from DEEP.

b. Water

(1) Water supply

KEC will use water provided by the Connecticut Water Company, Crystal Water Division ("CWC"). (NTE 1, App. H-1; NTE 28). The plant will need approximately 50,000 gallons per day, based on natural gas-fired operation on an average operating day, with the amount increasing up to approximately 100,000 gallons per day when ambient air temperatures

exceed 59 degrees Fahrenheit when evaporative combustion air cooling is employed for efficiency improvement purposes. For those limited times when the plant burns ULSD, water usage could be up to 400,000 gallons per day. (NTE 1, p. 46).

CWC has confirmed that it has a sufficient supply of water to serve KEC, with certain conditions. CWC will need to construct, at NTE's expense, a water main extension and a booster station to connect its water supply between Killingly and Plainfield. CWC may also need to make improvements to an existing water tank in Killingly Industrial Park. (NTE 1, App. H-1; NTE 28; Tr. pp. 405-406, 663-664). The State of Connecticut Department of Public Health, Drinking Water Section confirmed that, with the interconnection between Killingly and Plainfield, CWC will have an adequate margin of safety to supply the needs of KEC. (State Agency Comments 4). There was no evidence presented to the Council to refute these conclusions, and CWC will ultimately be required to secure the necessary permits and approvals to make the interconnection and supply water to KEC.

(2) Wastewater

Wastewater from KEC will be directed, after appropriate pre-treatment, to the Killingly sewer system and wastewater treatment plant, operated by Suez. The discharge will consist of demineralizer water treatment reject, sanitary wastes, evaporative cooler blowdown, HRSG blowdown, and floor drain discharges. KEC will provide any necessary pre-treatment, for example through the use of oil/water separators, before the wastewaters are discharged to the municipal sanitary sewage system. KEC will generate approximately 30,000-45,000 gallons of wastewater per day under gas-fired operations (with evaporative cooling) and up to 90,000 gallons per day when burning ULSD. (NTE 1, pp. 50-51). Suez has confirmed that the Killingly wastewater collection system has sufficient capacity to handle anticipated wastewater discharges from KEC. (NTE 1, App. H-2). KEC will be required to secure an approval for the

interconnection to the sewage system and obtain, and comply with the terms of, any necessary discharge permits from DEEP. (NTE 1, App. H-2).

(3) Stormwater

NTE, through Killingly Engineering Associates, prepared an extensive Stormwater Pollution Prevention Plan ("SWPPP") to ensure proper management of stormwater runoff from the site. (NTE 1, App. D; NTE 15, Ex. 3). The measures described in the SWPPP include reducing impervious surfaces, and allowing for appropriate conveyance, treatment and retention of stormwater flows to maximize infiltration, control water quality and minimize erosion and sedimentation. (NTE 1, p. 51). Particular attention has been given to protection of on-site wetlands, as discussed above. The SWPPP describes the stormwater collection systems, which are designed to collect stormwater from impervious surfaces and direct those waters to stormwater detention/treatment basins. The SWPPP was prepared in accordance with the State of Connecticut 2004 Water Quality Guideline recommendations and will result in KEC having minimal impacts associated with stormwater discharges.

8. Fish, aquaculture and wildlife

Over the course of six months, NTE, through REMA and Tetra Tech, conducted a detailed investigation of natural resources at the Property. REMA prepared an Ecological Assessment Report and had an Invertebrate Survey performed, while Tetra Tech prepared a Bat Monitoring Survey. (NTE 1, Ex. F-1 – F-3). As discussed above, the KEC facility will not have a significant adverse impact on any of these natural resources. There has been no evidence presented to the Council to refute this conclusion.

E. The Application Should Be Approved Because The Benefits Of The Proposed Plant Outweigh Any Potential Impacts

As discussed in detail above, the benefits of the KEC facility are substantial and the potential impacts on public health, safety and the environment are minimal. Given that the benefits outweigh the impacts, the Council should grant the Certificate.

KEC will provide substantial benefits in the way of increased reliability of the electric power supply of Connecticut and New England. KEC is necessary to offset anticipated retirements of older, less efficient, dirtier power plants, to increase reliability during extreme cold when other power plants cannot operate due to fuel restrictions, and to help integrate increased levels of renewable power. KEC will also be one of the most clean and efficient power plants in ISO-NE, leading to lower costs (and a more competitive market) and lower greenhouse gas emissions.

KEC will also have a substantial positive impact on the local and state economy. During the peak of construction, KEC will employ between 250 and 350 on-site workers, and will create several hundred additional jobs. Following construction, KEC will have 25-30 full-time operational jobs, spending in the local community, and savings in electricity costs available for further investment. In addition, KEC will contribute approximately $100 million in benefits to the local community through the CEBA and tax agreement.

When these benefits are compared to the minimal environmental impacts, the result is clear. The record is devoid of any evidence of significant adverse impacts that can be expected from the construction and operation of KEC. To the contrary, the Application and the record show substantial evidence that NTE and its project team went to great lengths to evaluate and address the potential impacts on health, safety and the environment as well as incorporate the majority of changes requested by the Town. The conclusions, that there were minimal, if any,

impacts, coupled with the extensive permitting and regulatory requirements to which KEC will be subject, make it clear that the benefits of KEC vastly outweigh any potential impacts.

V. CONCLUSION

For all the foregoing reasons, the Council should approve the Application and issue NTE a Certificate of Environmental Compatibility and Public Need for the proposed KEC facility.

Respectfully submitted,
NTE CONNECTICUT, LLC

By _____

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