STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
Ten Franklin Square, New Britain, CT 06051
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CERTIFIED MAIL
RETURN RECEIPT REQUESTED

January 6, 2020

Justin Adams
Paul Evan
Bloom Energy Corporation
4353 North First Street
San Jose, CA 95134

RE: **PETITION NO. 1387** – Bloom Energy Corporation petition for a declaratory ruling, pursuant to Connecticut General Statutes §4-176 and §16-50k, for the proposed construction, maintenance and operation of a grid-side 10-megawatt (MW) fuel cell facility and associated equipment to be located at Eversource Energy's existing Judd Brook electric distribution substation, 160 Old Amston Road, Colchester, Connecticut.

Dear Mr. Adams & Mr. Evan:

At a public meeting held on January 2, 2020, the Connecticut Siting Council (Council) considered and ruled that the above-referenced proposal meets air and water quality standards of Department of Energy and Environmental Protection and would not have a substantial adverse environmental effect, and pursuant to Connecticut General Statutes § 16-50k would not require a Certificate of Environmental Compatibility and Public Need, with the following conditions:

1. Approval of any minor project changes be delegated to Council staff;

2. Provide a copy of the Fuel Cell Emergency Response Plan to the local emergency responders prior to facility operation, and provide emergency response training, if requested;

3. The Petitioner shall prepare a Development and Management Plan (D&M) for this facility in compliance with Sections 16-50j-60 through 16-50j-62 of the Regulations of Connecticut State Agencies. The D&M Plan shall be submitted to and approved by the Council prior to the commencement of facility construction and shall include:
    a) A final site plan including, but not limited to, final fuel cell layout, access road, electrical, water and natural gas connections from the facility to the street, and equipment pads;
    b) Copy of DEEP General Permit;
    c) Construction site plans that comply with the DEEP-approved Stormwater Pollution Control Plan that include, but are not limited to, site clearing, grading, site phasing, construction laydown areas, erosion and sedimentation controls, and details regarding construction-related environmental mitigation measures that include the final culvert replacement plans;
    d) Final Wetland and Vernal Pool Protection Plan;
    e) Final Emergency Response Plan;
    f) Final results of ISO-NE project interconnection review;
    g) Post-construction restoration plan for all disturbed areas of the site;
    h) Contact information for the spill response contractor; and
    i) Contact information for the construction contractor.

4. The use of natural gas as a fuel system cleaning medium during fuel cell construction, installation or modification shall be prohibited;

5. Submit the following information to the Council 15 days prior to any fuel pipe cleaning operations related to fuel cell construction, installation, or modification:
    a. Identification of the cleaning media to be used;
    b. Identification of any known hazards through use of the selected cleaning media;
    c. Description of how known hazards will be mitigated, including identification of any applicable state or federal regulations concerning hazard mitigation measures for such media;
    d. Identification and description of accepted industry practices or relevant regulations concerning the proper use of such media;
    e. Provide detailed specifications (narratives/drawings) indicating the location and procedures to be used during the pipe cleaning process, including any necessary worker safety exclusion zones;
    f. Identification of the contractor or personnel performing the work, including a description of past project experience and the level of training and qualifications necessary for performance of the work;
    g. Contact information for a special inspector hired by the project developer who is a Connecticut Registered Engineer with specific knowledge and experience regarding electric generating facilities or a National Board of Boiler and Pressure Vessel Inspector and written approval of such special inspector by the local fire marshal and building inspector; and
    h. Certification of notice regarding pipe cleaning operations to all state agencies listed in General Statutes § 16-50j(h) and to the Department of Consumer Protection, Department of Labor, Department of Public Safety, Department of Public Works, and the Department of Emergency Management and Homeland Security;

6. Compliance with the following codes and standards during fuel cell construction, installation or modification, as applicable:
    a. NFPA 54
    b. NFPA 853; and
    c. ASME B31;

7. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed within three years from the date of the mailing of the Council's decision, this decision shall be void, and the facility owner/operator shall dismantle the facility and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's decision shall not be counted in calculating this deadline. Authority to monitor and modify this schedule, as necessary, is delegated to the Executive Director. The facility owner/operator shall provide written notice to the Executive Director of any schedule changes as soon as is practicable;

8. Any request for extension of the time period to fully construct the facility shall be filed with the Council not later than 60 days prior to the expiration date of this decision and shall be served on all parties and intervenors, if applicable, and the Town of Colchester;

9. Within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;

10. The facility owner/operator shall remit timely payments associated with annual assessments and invoices submitted by the Council for expenses attributable to the facility under Conn. Gen. Stat. §16-50v;

11. This Declaratory Ruling may be transferred, provided the facility owner/operator/transferor is current with payments to the Council for annual assessments and invoices under Conn. Gen. Stat. §16-50v and the transferee provides written confirmation that the transferee agrees to comply with the terms, limitations and conditions contained in the Declaratory Ruling, including timely payments to the Council for annual assessments and invoices under Conn. Gen. Stat. §16-50v; and

12. If the facility owner/operator is a wholly owned subsidiary of a corporation or other entity and is sold/transferred to another corporation or other entity, the Council shall be notified of such sale and/or transfer and of any change in contact information for the individual or representative responsible for management and operations of the facility within 30 days of the sale and/or transfer.

This decision is under the exclusive jurisdiction of the Council and is not applicable to any other modification or construction. All work is to be implemented as specified in the petition, dated October 23, 2019, and additional information received on December 2, 2019, and in compliance with Public Act 11-101, An Act Adopting Certain Safety Recommendations of the Thomas Commission.

Enclosed for your information is a copy of the staff report on this project.

Sincerely,

Melanie A. Bachman
Executive Director

MAB/MP/lm

Enclosure: Staff Report dated January 2, 2020

c: The Honorable Mary Bylone, First Selectman, Town of Colchester
Matthew Bordeaux, Town Planner, Town of Colchester

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Petition No. 1387
Bloom Energy Corporation
160 Old Amston Road
Colchester, Connecticut
Staff Report
January 2, 2020

Introduction

On October 25, 2019, the Connecticut Siting Council (Council) received a petition from Bloom Energy Corporation (Bloom or Petitioner) for a declaratory ruling, pursuant to Connecticut General Statutes §4-176 and §16-50k, for the installation of a grid-side 10 megawatt (MW) fuel cell facility at 160 Old Amston Road in Colchester, Connecticut.

On November 13, 2019, a public field review of the proposed project was conducted at the site. The field review was attended by Council member John Morissette; Council staff member Michael Perrone; Justin Adams, Permitting Manager, Bloom; Paul Evan, Project Manager, Bloom; Dean Gustafson, Senior Wetland Scientist, All Points Technology Corporation (APT); Rodney Galton, Project Manager, APT; Brian Gaudet, Project Manager, APT; Matthew Bordeaux, Town Planner, Town of Colchester (Town); James Paggioli, Director of Public Works, Town; and Jay Gigliotti, Environmental Analyst, Town.

Representatives of Bloom have discussed the proposed facility with Town's First Selectman Arthur Shilosky. By letter dated October 2, 2018, First Selectman Shilosky expressed support for the proposed project because the Town remains one of the few municipalities in Connecticut without access to natural gas, and the proposed project has the potential to serve as an "anchor" natural gas customer that would enable a local distribution company to deliver natural gas to other residents and businesses within the Town. Bloom mailed notification of the project to abutting property owners, Town officials, and required state agencies and officials on or about October 11, 2019.

On October 25, 2019, the Council sent correspondence to the Town stating that the Council has received the Petition and invited the municipality to contact the Council with any questions or comments by November 24, 2019. No comments were received.

On October 25, 2019, pursuant to Regulations of Connecticut State Agencies §16-50j-40, the Council notified all state agencies listed therein, requesting comments regarding the proposed project be submitted to the Council by November 24, 2019. The Council on Environmental Quality (CEQ) responded on November 20, 2019. CEQ's comment letter is attached to this staff report. The Department of Energy and Environmental Protection (DEEP) responded on November 25, 2019 and revised such comments on December 3, 2019. DEEP's revised comment letter is attached.

While the Council is obligated to consult with and solicit comments from state agencies by statute, the Council is not required to abide by the comments from state agencies. [1]

The Council issued interrogatories to Bloom on November 19, 2019. Bloom provided responses to Council interrogatories on December 2, 2019.

[1] *Corcoran v. Connecticut Siting Council*, 284 Conn. 455 (2007)

On December 5, 2019, pursuant to CGS §4-176(e) of the Uniform Administrative Procedure Act which requires an administrative agency to take action on a petition within 60 days of receipt, the Council voted to set the date by which to render a decision on the petition as April 22, 2020. This date is the statutorily-mandated 180-day decision deadline for this petition under CGS §4-176(i).

Public Benefit

The project would be a "grid-side distributed resources" facility, as defined in Connecticut General Statutes (CGS) § 16-1(a)(37). CGS § 16a-35k establishes the State's energy policy, including the goal to "develop and utilize renewable energy resources...to the maximum practicable extent." The proposed facility is a distributed generation resource, and will contribute to fulfilling the State's Renewable Portfolio Standard as a low emission Class I renewable energy source. The project was selected by DEEP under the Request for Proposals (RFP) from Private Developers of Clean Energy.

Two power purchase agreements (PPAs) with a 20-year term were executed on October 19, 2018. About 20 percent is allocated to The United Illuminating Company, and 80 percent is allocated to The Connecticut Light and Power Company d/b/a Eversource Energy (Eversource). The PPAs were selected by DEEP and approved by the Public Utilities Regulatory Authority (PURA).

Project Site

The site is located on a 12.7-acre parcel located south of Old Amston Road and east of the Air Line Trail. The subject property is owned by Eversource and located within the Town's Suburban Zone. The subject property is largely undeveloped and wooded, except for Eversource's existing Judd Brook Substation (Judd Brook S/S) located in the northeastern portion of the property with frontage along Old Amston Road. Colchester Dog Park is located to the north of the subject property and on the opposite side of Old Amston Road. Undeveloped forested land abuts the subject property to the east and south, with residential development located farther to the south. Bloom's fuel cell facility would be located in the northwestern portion of the subject property. The nearest residential property is located about 900 feet to the east of the site.

Proposed Project

The facility would consist of 36 Bloom Energy Servers totaling 10 MW: twenty 300-kilowatt (kW) units and sixteen 250-kW units. Bloom fuel cells use non-combustion solid oxide technology that consumes natural gas as fuel to generate electrical power. No phosphoric acid is used in the fuel cell process.

The proposed facility would operate in parallel with the utility grid, and all electricity generated by the facility would be transferred to the grid via a connection to Judd Brook S/S.

The proposed fuel cell facility would be installed within an approximately 90-foot by 225-foot gravel compound surrounded by a 6-foot tall chain link fence. The facility would consist of four sections or Stamps. Each 2.5 MW Stamp would consist of the following: five 300-kW fuel cell units; four 250-kW fuel cell units; one 3.75 megavolt-ampere 480V/23-kV three-phase step-up transformer; two water deionization modules; one energy monitoring cabinet; one heat trace cabinet; and one telemetry cabinet. The 23-kV output from the step-up transformers would connect to the 23-kV 600-amp pad-mounted switchgear located slightly to the west. The switchgear would be tallest equipment within the fenced footprint and would reach a height of about 7-feet 8-inches above grade.

An approximately 16-foot wide by 246-foot long gravel access drive[2] would begin off of Old Amston Road with a paved apron and would continue in a generally southwest direction to reach the proposed 16-foot wide fence gate for the facility. To the northwest of the access drive would be a 25-foot by 8-foot concrete gas pad for the gas meter and regulatory assembly.

Bloom's electrical utility connection would extend underground in a roughly northeast direction from the proposed switchgear and continue under the access drive before turning to the northwest to reach a new pole on Old Amston Road. Any work beyond that point (including the installation of the new utility pole) and the overhead distribution line along Old Amston Road to connect to Judd Brook S/S would be the responsibility of Eversource.

There are no transmission connections to Judd Brook S/S. Notwithstanding, the project interconnection is under review by ISO-NE. Bloom anticipates that the review would be complete in January/February 2020. Eversource has completed the Impact Study, evaluating all necessary loading conditions, and has determined that there would be no adverse impacts to the system when the generator is placed online.

Approximately 6,100 linear feet of natural gas distribution service[3] would be installed within the limits of the existing Air Line Trail from a future gas main on Lebanon Avenue (Route 16) south of the proposed facility. Natural gas distribution service would continue to the point of connection on Old Amston Road slightly to the west of the proposed access drive[4]. Natural gas distribution service would continue underground along the western limits of clearing to reach the 25-foot by 8-foot natural gas pad and would continue to the east to reach the four Stamps.

Approximately 5,510 linear feet of water service would also be installed along the Air Line Trail from an existing fire hydrant approximately 950 feet north of Route 16. Water service would continue east along Old Amston Road[5]. Bloom's connection to this water main extension would be located on Old Amston Road slightly to the west of the proposed access drive. Bloom's water connection would continue underground (passing under the access drive) in a roughly southwest direction to reach the proposed fuel cell facility.

Bloom is in the process of permitting the water and gas main extensions from their sources on the Air Line Trail in coordination with the Town.

Project construction is expected to begin in second quarter of 2020 with 24 weeks of total construction time, i.e. 17 weeks of site preparation, 4 weeks of equipment installation, and 3 weeks of commissioning. Construction hours are expected to be between 7:00 a.m. to 7:00 p.m. Monday through Saturday. If Sunday work is required, the construction hours would be between 9:00 a.m. and 6:00 p.m. No work is planned at night. At times during the installation of the natural gas and water service, a portion of the Air Line Trail would be closed to the public. Bloom would coordinate with the Town on the closure of the Air Line Trail and would comply with any notification requirements to the public.

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[2] This total access drive length includes the paved apron.
[3] The Council does not have jurisdiction over natural gas distribution lines. PURA has jurisdiction over natural gas distribution.
[4] The natural gas extension onto Old Amston Road would be a 6-inch main and is sized for future expansion to customers on/off Old Amston Road.
[5] The water main extension onto Old Amston Road would be an 8-inch main and is sized to support other nearby customers.

The fuel cell facility has an operational life of 20 years equal to the 20 year contract. The solid oxide fuel cell media would be changed at approximately five year intervals. At the end of the 20 year contract, Bloom may renew the contract, decommission the facility, or sell into the wholesale ISO-NE market. If the facility is to be removed at the end of the contract, the fuel cell units, associated equipment and components, concrete pads, gravel, and fencing would be dismantled and removed, and the site would be restored as nearly as practicable to its effective original condition.

Environmental Effects and Mitigation

The fuel cell facility would comply with all applicable DEEP water quality standards. The site is not within a DEEP-designated Aquifer Protection Area. The facility would use about 3,456 gallons of water each time the fuel cell facility starts up, which is expected to be infrequent. For example, this would occur during initial startup, during maintenance, and after grid outages. The facility would not require water consumption during operation. The facility is also designed to operate without water discharge under normal operating conditions.

According to DEEP mapping, the ground water classification at the site is designated as GA/GAA[6]. Class GA designed uses are for existing private and potential public or private water supplies of water suitable for drinking without treatment and baseflow for hydraulically-connected surface water bodies. Class GAA designated uses are for existing or potential public supply of water suitable for drinking without treatment and baseflow for hydraulically-connected surface water bodies. There are no surface water bodies on the site. The Petitioner is not aware of any existing wells in the area. Potential short-term temporary associated with the Project's construction activities would be minimized by the proposed erosion and sedimentation controls which would be installed and maintained throughout the duration of construction in accordance with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control* (2002 CT Guidelines). In addition, the proposed Wetland and Vernal Pool Protection Plan (WVPPP)[7] would provide additional measures to protect water resources during construction.

Air emissions produced during fuel cell operation would be below DEEP applicable limits for a new distributed generator, as shown below, and thus, no DEEP air permit is required.

Comparison of the Fuel Cell Facility with RCSA Criteria[8]		
Compound	Fuel Cell Facility (lbs/MWh)	Emissions standards(lbs/MWh)
NOx	<0.01	0.15
CO_2	679-833	1,650

[6] As of October 2018, the site is located in a GA/GAA area that currently may not be meeting the GA or GAA standards.

[7] The WVPPP protection plan includes, but is not limited to, project and work area isolation via erosion and sediment controls, herpeto-fauna sweeps, petroleum materials storage and spill prevention measures, contractor education, periodic inspection and maintenance of erosion and sediment controls, and reporting.

[8] Regulations of Connecticut State Agencies Section 22a-174-42(b)(3)(C); 22a-174-42(d)(2)(B)(ii) & Table 42-2

The fuel cell desulfurization system would remove sulfur that is used as an odorant in natural gas because it is a fuel cell system contaminant. Sulfur compounds would be collected within a desulfurization unit (desulf unit) using a filter media – a composite copper catalyst. The U.S. Department of Transportation has certified the desulf unit as an acceptable form of transport for the desulfurization material that meets hazardous waste shipment standards. When a desulf unit is taken out of service, it is transported by a Bloom contractor to an out of state facility where the composite copper catalyst within the unit is removed, and the copper is used as an ingredient in other products. Because the spent desulf units are used to make copper products, the desulf units are exempted from hazardous waste requirements as "excluded recyclable material."

The proposed facility would have minimal visibility and would not reflect a significant change in the character of views currently experienced. There would be minimal, if any, impact to the Air Line Trail or Town-owned Colchester spur connected to the Air Line Trail post-construction. The proposed facility would be screened by existing mature trees along the western, southern and eastern property boundaries.

No lighting is proposed at the site. In the event that lighting is needed for unscheduled maintenance, Bloom would supply portable lighting as necessary.

The total tree clearing area would be about 1.1 acres. Tree stumps would remain in the area between the limits of disturbance and the proposed compound fence. The grading associated with the facility development has been designed to closely balance cut and fill volumes and thus reduce the need to import or export material to/from the site.

The proposed site is not located within an area mapped as core forest per DEEP's Forestland Habitat Impact Mapping. The proposed project would result in approximately 550 square feet of impact to an area mapped as Prime Farmland soils. This would be about 0.2 percent of the 6-acres of mapped Prime Farmland soils, and thus it would be a minimal intrusion into Prime Farmland soils at the site. There are no Statewide Important Farmland soils within the proposed project area.

The site is located within the Federal Emergency Management Agency-designated unshaded Zone X, an area outside of the 100-year and 500-year flood zones.

Wetland 1 consists of a complex of hillside seep wetlands that border on an intermittent watercourse. Wetland 1 traverses the site in a roughly northeast-southwest direction. Wetland 1 generally flows to the south/southwest focusing its flows within the northeast-southwest flowing interior intermittent watercourse. As this wetland drains to the southwest near the southwestern property corner, it crosses under the Air Line Trail via a 15-inch corrugated plastic pipe and eventually converges offsite with Judd Brook further to the west.

The installation of the natural gas and water service will require the replacement of one existing culvert along the Air Line Trail. The culvert replacement will be completed in accordance with the New England District of the U.S. Army Corps of Engineers (ACOE) General Permit 19 Stream, River & Brook Crossing. Specifically, the culvert would be replaced with a 24-inch diameter high-density polyethylene (HDPE) pipe.

The culvert replacement would comply with the guidelines outlined in the DEEP Inland Fisheries Division Habitat Conservation and Enhancement Program Stream Crossing Guidelines document referenced by ACOE. The culvert installation would follow a phasing to be determined by the contractor but shall include the use of dewatering techniques per the 2002 CT Guidelines to provide temporary flow across the trail during culvert replacement to prevent the risk of sediment release.

The Town Conservation Commission regulates a 75-foot Upland Review Area to wetlands and 100-foot Upland Review Area to the ordinary high-water mark to watercourses. The proposed facility would be located about 55 feet northwest of the nearest inland wetland boundary. Thus, the eastern portion of the project would be located within the 75-foot and 100-foot Upland Review Areas. (See attached Site Plan.) Potential short-term temporary impacts associated with the Project's construction activities would be minimized by the proposed erosion and sedimentation controls consistent with the 2002 CT Guidelines. In addition, the proposed WVPPP would provide additional measures to protect water resources during construction.

Three cryptic vernal pools were identified in Wetland 1 in the eastern portion of the subject property. However, the proposed facility would be located over 172 feet from nearest vernal pool (Vernal Pool #3). Thus, there would be no direct impacts to 100-foot Vernal Pool Envelopes of any of the vernal pools. The results of the vernal pool analysis confirm that the post-development conditions would not exceed 25 percent of the 100-foot to 750-foot Critical Terrestrial Habitats for any of the three pools. The proposed project is consistent with guidelines from the U.S. Army Corps of Engineers New England District's Vernal Pool Best Management Practices dated January 2015. Additionally, the WVPPP would avoid/minimize the potential for short-term impacts to herpetofauna during construction activities.

A Phase 1A Cultural Resources Assessment Survey dated August 2019 indicates that about 6.9 acres of the subject property possesses a no/low archaeological sensitivity; 3.1 acres possesses moderate archaeological sensitivity; and 2.7 acres retain a high archaeological sensitivity. No archaeological examination of the no/low sensitivity areas was recommended. A Phase 1B cultural resources reconnaissance survey (Phase 1B Survey) was recommended because the southeastern portion of the proposed project would be located within the high archaeological sensitivity area.

Accordingly, a Phase IB Survey report dated September 2019 indicates that 72 shovel tests were performed. Prehistoric cultural material was identified from eight of the shovel tests, which were collectively designated as Locus 1. However, Locus 1 lacks substantial archaeological deposits, cultural features, research potential and/or qualities of significance as defined by the National Register of Historic Places (NRHP) criteria. No additional archaeological examination of Locus 1 or the remainder of the fuel cell area is recommended. If the fuel cell footprint is expanded or portions of the larger project parcel are impacted in the future, an additional Phase 1B survey would be recommended.

There are no known historic resources listed on the NRHP within a one-mile radius of the project area. Two historic resources located within a one-mile radius of the project area were identified on the State Register of Historic Places: Zagray Sawmill at 544 Amston Road, Colchester and Old Railroad Station at Windham Avenue and Lebanon Avenue, Colchester. Neither historic resource would be impacted by the proposed project.

Any noise associated with the construction of this project would be temporary in nature and exempt per DEEP Noise Control Regulations. RCSA §22a-69-2.2 notes that, "Where multiple uses exist within a given Noise Zone, the least restrictive land use category for Emitter and Receptor shall apply..." Accordingly, given that the subject property already contains a substation facility, the proposed facility would also be considered a Class C (Industrial) emitter. Under such scenario, and with residential land uses (i.e. Class A receptors) to the east and south of such facility (and conservatively to the west as well), the most stringent DEEP noise limits at the property boundaries would be 51 dBA at night. Projected sound impacts are not expected to exceed 50 dBA at all property boundaries. Thus, the operation of the proposed fuel cell facility would meet DEEP Noise Control Regulations.

The proposed site is not located within 0.25-mile of a Connecticut Department of Energy and Environmental Protection (DEEP) Natural Diversity Database (NDDB) buffered area. DEEP's Instructions for Completing a Request for NDDB State Listed Species Review notes that, "If your project does not intersect an NDDB area and you are not otherwise a[wa]re of the presence of any state or federal listed

species on the site, you do NOT need to submit the Request for Connecticut Natural Diversity Data Base State Listed Species Review."[9]

Pursuant to CGS Section 22a-430b, DEEP retains final jurisdiction over stormwater management and administers permit programs to regulate stormwater pollution. DEEP regulations and guidelines set forth standards for erosion and sedimentation control, stormwater pollution control and best engineering practices.[10] The DEEP General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (General Permit) requires implementation of a Stormwater Pollution Control Plan to prevent the movement of sediments off construction sites into nearby water bodies and to address the impacts of stormwater discharges from a project after construction is complete. The General Permit authorizes the discharge of stormwater at a site with a total disturbance of one or more acres of land area. A DEEP-issued General Permit for stormwater management is required prior to commencement of construction. The Petitioner has not yet submitted an application for a General Permit. The Petitioner anticipates filing an application for the General Permit in the first quarter of 2020.

Public Safety

During construction, Bloom would use nitrogen gas as pipe cleaning media, in accordance with Public Act 11-101, An Act Adopting Certain Safety Recommendations of the Thomas Commission.

The facility would be remotely monitored by Bloom to detect abnormalities in operation. If operational abnormalities occur, the fuel supply is stopped and individual system components are automatically shut down. The fuel cell facility is designed in accordance with American National Standards Institute and Canadian Standards Association (ANSI/CSA) America FC 1-2014 and NFPA 853 and includes extensive safety control systems, including both automatic and manual shutdown mechanisms that comply with pertinent engineering standards.

Bloom would work with the Colchester Fire Department to determine and meet any additional requirements that they may have for an emergency response plan and safety training. A final Emergency Response Plan would be generated once the consultation is complete.

Conclusion

The project is a distributed energy resource with a capacity of not more than sixty-five megawatts, meets air and water quality standards of the DEEP, and would not have a substantial adverse environmental effect. It would reduce the emission of air pollutants that contribute to smog and acid rain, and to a lesser extent, global climate change, and furthers the State's energy policy by developing and utilizing renewable energy resources and distributed energy resources.

Recommendation

If approved, staff recommends the following conditions:

1. Approval of any minor project changes be delegated to Council staff; and
2. Provide a copy of the Fuel Cell Emergency Response Plan to the Council and local emergency responders prior to facility operation, and provide emergency response training, if requested.

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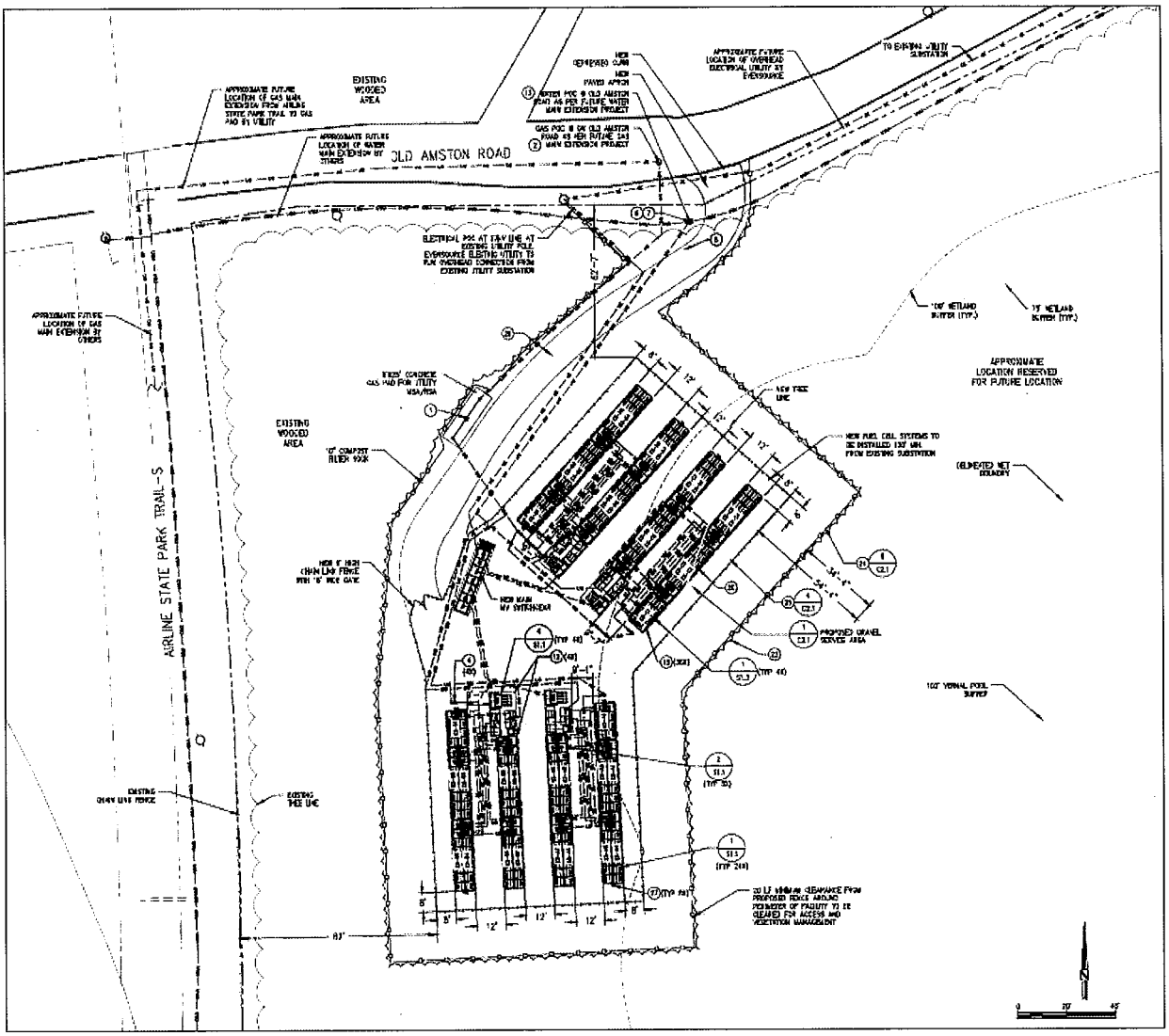
[9] Instructions for Completing a Request for NDDB State Listed Species Review, DEEP-INST-007, Revised 11/8/17, available at https://www.ct.gov/deep/lib/deep/endangered_species/general_information/nddb_inst.pdf

[10] General Permit, DEEP-WPED-GP-015 (October 1, 2019), available at https://www.ct.gov/deep/lib/deep/permits_and_licenses/water_discharge_general_permits/storm_const_gp.pdf

Site Plan


OLD AMSTON ROAD
AIRLINE STATE PARK TRAIL - S
EXISTING WOODED AREA
APPROXIMATE LOCATION RESERVED FOR FUTURE LOCATION
EXISTING WOODED AREA
EXISTING CHAIN LINK FENCE
EXISTING TREE LINE
100' WETLAND BUFFER (TYP.)
75' WETLAND BUFFER (TYP.)
100' VERNAL POOL BUFFER

Existing Conditions

EXISTING

Proposed Conditions

PROPOSED

Wetlands and Vernal Pools

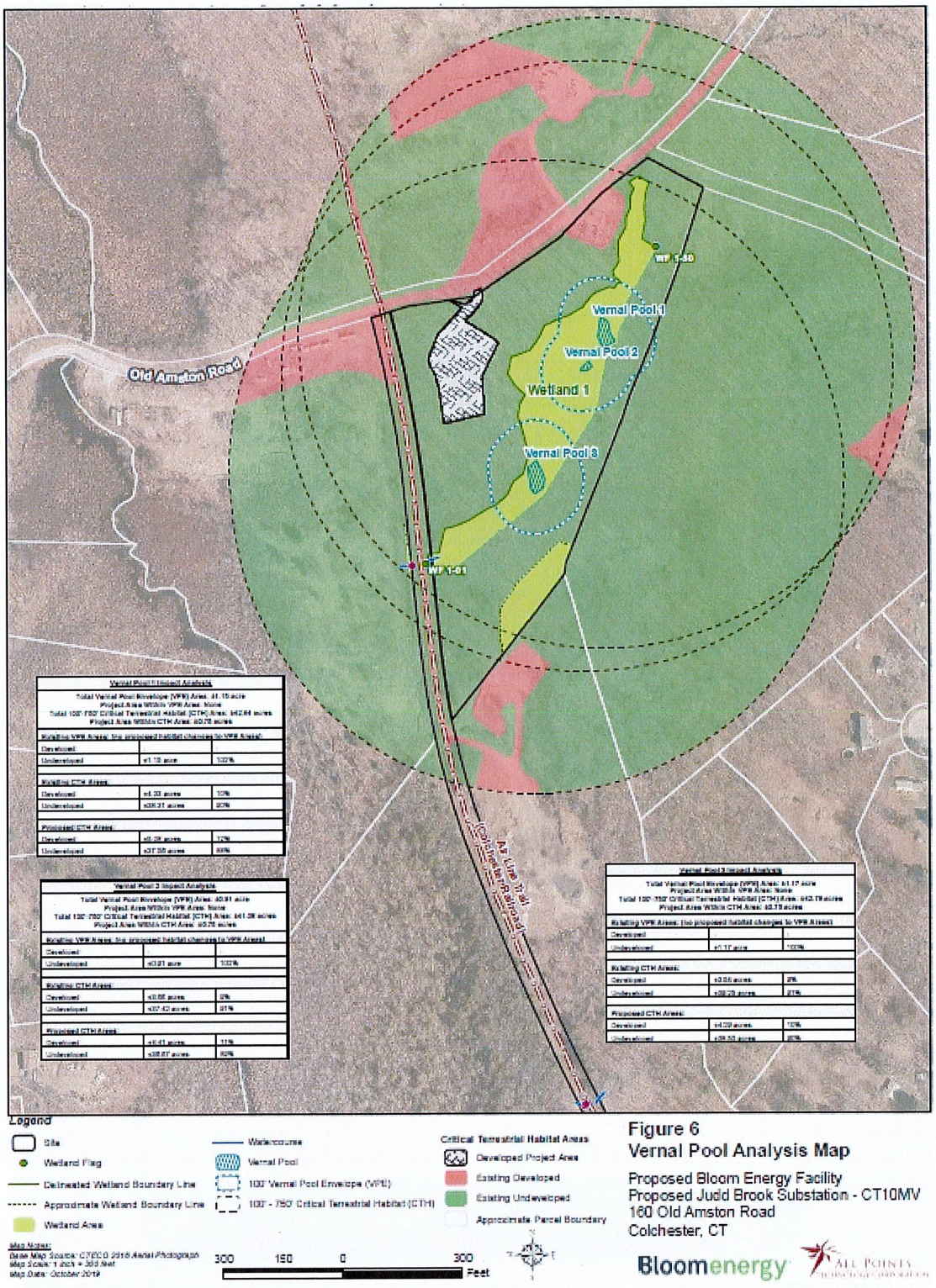


Figure 6
Vernal Pool Analysis Map

Proposed Bloom Energy Facility
Proposed Judd Brook Substation - CT10MV
160 Old Amston Road
Colchester, CT

Bloomenergy

STATE OF CONNECTICUT

COUNCIL ON ENVIRONMENTAL QUALITY

November 20, 2019

Melanie Bachman, Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

RE: PETITION NO. 1387 – Bloom Energy Corporation petition for a declaratory ruling for the proposed construction, maintenance and operation of a grid-side 10-megawatt (MW) fuel cell facility and associated equipment at 160 Old Amston Road in Colchester.

Dear Ms. Bachman:

The Council on Environmental Quality ("the Council") has reviewed the Petition for Declaratory Ruling noted above and offers the following comments for consideration by the Connecticut Siting Council. The Council supports the deployment of clean, distributed generation technologies at appropriate sites in Connecticut to reduce energy costs to consumers, increase energy reliability, and enhance environmental quality.

1. State Listed Species

The Petitioner, Bloom Energy Corporation, indicated that they reviewed the publicly available Natural Diversity Database ("NDDB") mapping for the proposed site and the area along the Air Line Trail Colchester Spur. The Council wishes to make it clear, as it has with prior petitions that the NDDB only contains information on state-listed species that have been found and reported and it is not a substitute for an on-site survey. In this case, the Petitioner leaves unanswered the question of whether any state-listed species are present on the proposed site and, if so, what appropriate mitigation measures are necessary to protect them. The Council recommends that all petitioners and applicants conduct biological surveys for state-listed species that may be present on a proposed site. In cases where none are found, an indication of what was looked for would serve to indicate that a survey was conducted based on the habitats present.

2. Vernal Pool Habitats

The Petitioner notes that vernal pools were identified within the wetland on the proposed site, that obligate vernal pool species were observed in proximity to the wetland, and that the proposed site would minimally impact the adjacent habitat within 750 feet of the vernal pools. As such, the Council recommends that the Petitioner provide additional details regarding the sedimentation and erosion control measures that would be employed on the proposed site, and that efforts be made to minimize the potential impact of the proposed facility (construction and operation) on the obligate vernal pool species.

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Phone: (860) 424-4000 Fax: (860) 424-4070
http://www.ct.gov/ceq

3. Recreational Impact

The Petition states that the "nearest public recreational area is the Colchester Dog Park located approximately 500 feet to the northeast across Old Amston Road. Additional public recreation areas are located within a one-mile radius but are not near enough to be visually impacted by the proposed Facility". However, the Petitioner does identify "a multi-use recreational path" that abuts the proposed site and it is clearly the nearest public recreation area to the proposed project. This path, known as the "Colchester Spur" of the Airline Trail is heavily used. As such, the Council recommends that the Siting Council assess the potential impact the proposed facility would have, including noise and visibility, on its recreational value.

4. Water and Gas Supply

The Petitioner states that the Facility would use no water during normal operation beyond a 3,456-gallon injection at start up. The Council recommends that the Siting Council confirm the necessity of installing a new public water supply along the Air Line Trail Colchester Spur from the point approximately 950 feet north of State Route 16 to the proposed site. In addition, the Petitioner states that "the Facility is designed to operate without water discharge under normal operating conditions". The presence of this water supply raises a number of questions:

- What atypical conditions would result in the proposed facility discharging wastewater?
- How much wastewater would be discharged under those atypical conditions?
- Where would the wastewater be discharged?

The town is pleased at the prospect of gas service to portions of town that are not served by natural gas. The presence of new gas service and water supply begs the question of whether the lines supplying the water and gas would be sized to only provide adequate supply for the facility, or would they be oversized and consequently spur secondary development that would detract from views from this recreational trail that has state-wide and regional importance?

5. Lastly, since the developer plans to maintain the vegetated area between the proposed fuel cells and the perimeter fence, consideration of plantings of native, non-invasive species and those that support pollinators is encouraged.

Thank you for your consideration of these comments. Please do not hesitate to contact the Council if you have any questions.

Sincerely,

Peter Hearn,
Executive Director

Connecticut Department of
ENERGY &
ENVIRONMENTAL
PROTECTION

79 Elm Street • Hartford, CT 06106-5127 www.ct.gov/deep Affirmative Action/Equal Opportunity Employer

December 3, 2019

Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051

RE: 10-MW Fuel Cell Facility
Bloom Energy Corporation
Colchester, Connecticut
Petition No. 1387

Dear Members of the Connecticut Siting Council:

Staff of this department have reviewed the above-referenced petition for declaratory ruling that no Certificate of Environmental Compatibility and Public Need will be required for the construction of a 10-MW fuel cell generating facility at 160 Old Amston Road in Colchester. A field review of the site was conducted on November 19. Based on these efforts, the following comments are offered to the Council for your use in this proceeding.

The proposed Bloom Energy fuel cell facility is one of three fuel cell projects selected by DEEP pursuant to a January 31, 2018 *Request for Proposals from Private Developers for Clean Energy*. This RFP solicited proposals for offshore wind, fuel cell and anaerobic digester Class I resources.

Site Description

The project would be located on a compact site just west of the existing Eversource Judd Brook Substation on the southern side of Old Amston Road and immediately east of and adjacent to the town-owned Colchester Spur of the Air Line Trail. The Petition describes the project compound as measuring 90' by 225'. The site is isolated from any residential areas. In addition to the substation and the recreational trail mentioned above, the only other proximal facility is the Town of Colchester Dog Park, an apparently popular facility, located just north of the fuel cell and substation sites. Five vehicles were parked at this facility at 4:00 pm on the day of DEEP's field visit. A broad wetland area immediately west of the Air Line Trail spur separates the project area from the residential area to the west.

The site itself is a small knoll rising slightly above Old Amston Road. Red oak, with lesser amounts of black oak, white oak and ironwood, cover the site. A light to moderate understory is present, being more open closer to the road and somewhat denser toward the interior of the site. The largest trees on the site are up to 36" dbh, though most of the trees are less than 8" dbh.

As described in the Petition, the high ground of the site separates the footprint area of the proposed fuel cell facility from the wetlands to the interior of the site such that drainage from the fuel cell facility will be toward Old Amston Road and away from the wetlands. The wetlands are very boulder-strewn, and contained a few scattered, small pockets of standing water on the November 19 date of the DEEP visit. Due to declining daylight at the time of the late afternoon visit, no attempt was made to locate or evaluate the three cited potential vernal pools mentioned in the Petition.

Old Amston Road is a hilly and curvy 2-lane road. The sight line from the proposed facility entrance drive to the east is limited by topography as this hilltop levels off in front of the substation. However, all traffic observed during the DEEP site visit moved at fairly slow speeds passing this site. The line of sight to the west is fairly long, though it includes curves and changes of grade.

Colchester Spur of the Air Line Trail

As mentioned above, the adjacent recreational trail is town-owned. Though it physically connects to DEEP's Air Line Trail State Park, DEEP does not own or maintain it. Though DEEP does have a grant program to towns for trail development, there has never been a grant to Colchester and thus there is no condition in any State grant which would speak to the installation of utilities on or along the trail. The trail currently supports an electric distribution or low voltage transmission line from Old Amston Road south (and for a very short distance north of that road also). We assume any agreement to install any gas or water line in the trail would include language to restore the trail to at least its current condition.

In the area immediately adjacent to the proposed fuel cell generating facility, the trail is 14' wide, well graded and maintained, and is used to provide vehicular access to a lot containing dirt piles, road millings and chunks of asphalt paving. This wide section of trail extends for several hundred feet south of Old Amston Road. After that point, the trail narrows to 8' in graded width but appears well maintained and capable of supporting vehicular access, at least as far as could be seen looking south from the junction of the trail and the access road to the above-mentioned material storage lot.

Air Permits and Greenhouse Gas Emissions

Per the chart on page 33 of the Petition, the proposed Colchester fuel cell facility will emit 679 to 833 pounds of CO2 per MWh of electricity produced. As mentioned in DEEP's comments on Petitions No. 1350 and 1372, the EIP Investment Fuel Cell in New

Britain and the Derby Fuel Cell, LLC, respectively, the United States Supreme Court overturned the regulatory requirements for CO2 permits and DEEP subsequently eliminated the invalid CO2 permit requirements from our New Source Review and Title V programs, so this former permit requirement would not be applicable to the proposal at hand. It should be noted, however, that although these emissions are not currently regulated under air permitting, state law, in accordance with the 2018 Act Concerning Climate Change Planning and Resiliency, calls for a 45 percent reduction in greenhouse gas emissions by 2030 (from 2001 levels) and an 80 percent reduction by 2050.

Potential Hazardous Waste Generation

Fuel cells have the capability to generate various types of wastes, some of which may be subject to regulation as hazardous wastes. Typically such wastes are generated during maintenance activities, such as the replacement of individual fuel cells in an installation, or the replacement of the electrolyte media within a fuel cell. In addition, fuel cells have a limited life, and must be managed in accordance with applicable waste management requirements when they are decommissioned.

The most common type of potentially-hazardous waste routinely generated by fuel cells is associated with desulfurization filters. The sulfur that is added to natural gas as an odorant must be removed from the gas before it is fed into the fuel cells. During the process of filtering out the sulfur, certain other constituents of the natural gas such as benzene are commonly also removed. When the spent desulfurization filters are drained out or replaced, the resulting materials are typically collected and sent off-site for treatment and disposal. The presence of the benzene or other hazardous constituents can render the resultant waste a hazardous waste. All hazardous waste must be managed in conformance with hazardous waste generator requirements, which vary depending on the amount of hazardous waste that is generated and stored on the site. If the facility will generate 1,000 kg or more of hazardous waste per calendar month or will accumulate 1,000 kg or more of hazardous waste on site at any one time, it is classified as a large quantity generator of hazardous waste in Connecticut.

Bloom Energy is undoubtedly familiar with the notification and disposal requirements for both small quantity and large quantity hazardous waste generators. Information on Connecticut's requirements for notification, storage, and proper disposal is available at: https://www.ct.gov/deep/cwp/view.asp?a=2718&q=455812&deepNav_GID=1967

Stormwater Management Permit

Though the facility compound is cited as measuring 90' by 225' or slightly less than one-half acre in size, the area of disturbance for the project is given as 1.4 acres on page 23 of the Petition. Therefore, because the area disturbed will be in excess of one acre and the project is not locally regulated, the project will require registration under the General Permit for the Discharge of Stormwater and Dewatering Wastewaters from

Construction Activities. The petitioner should contact Neal Williams of the DEEP Stormwater Program at (860) 424-3356 or at neal.williams@ct.gov or Oswald Inglese of the same office at (860) 424-3725 or at oswald.inglese@ct.gov in this regard.

Thank you for the opportunity to review this Petition and to submit these comments to the Council. Should Council members or Council staff have any questions, please feel free to call me at (860) 424-4110.

Respectfully yours,

Frederick L. Riese

Frederick L. Riese
Senior Environmental Analyst

cc: Commissioner Katie Dykes