STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
www.ct.gov/csc

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

February 21, 2017

Justin Adams
Bloom Energy Corporation
1299 Orleans Drive
Sunnyvale, CA 94089

RE: **PETITION NO. 1279** - Bloom Energy Corporation, as an agent for The TJX Companies Inc., petition for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the construction, operation and maintenance of a Customer-Side 500-Kilowatt Fuel Cell Facility to be located at the TJX building, 1415 Blue Hills Avenue, Bloomfield, Connecticut.

Dear Mr. Adams:

At a public meeting held on February 16, 2017, the Connecticut Siting Council (Council) considered and ruled that the above-referenced proposal 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. Bloom adhere to DEEP's recommended Eastern Box turtle Protection measures;

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

4. 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.

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

6. 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;

7. 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 Bloomfield;

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

9. 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;

10. 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

11. 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 December 9, 2016, and additional information received on December 20, 2016 and January 26, 2017, 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.

Very truly yours,

Robert Stein MAB

Robert Stein
Chairman

RS/RDM/lm

Enclosure: Staff Report dated February 16, 2017

c: The Honorable Joan A. Gamble, Mayor, Town of Bloomfield
Philip K. Schenck, Jr., Town Manager, Town of Bloomfield
Jose Giner, Director of Planning, Town of Bloomfield
The Honorable Donald Trinks, Mayor, Town of Windsor
Peter Souza, Town Manager, Town of Windsor
Eric Barz, AICP, Town Planner, Town of Windsor
Alicia Surowiec, Bloom Energy Corporation

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Petition No. 1279
Bloom Energy Corporation
1415 Blue Hills Avenue, Bloomfield, Connecticut
Staff Report
February 16, 2017

On December 13, 2016, the Connecticut Siting Council (Council) received a petition (Petition) from Bloom Energy Corporation (Bloom), as an agent for TJX Companies Inc., for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the installation of a 500-kilowatt (kW) solid oxide fuel cell facility at the TJX Companies Inc.'s building located at 1415 Blue Hills Avenue in Bloomfield, Connecticut.

Prior to filing the Petition, Bloom discussed the proposed facility with the Town of Bloomfield Planning and Zoning Department. Bloom provided formal notification of the project to abutting property owners, Town of Bloomfield officials, Town of Windsor officials (Windsor is within 2,500 feet) and required state agencies and officials on or about November 14 and December 19, 2016. The Council submitted interrogatories to Bloom on January 23, 2017. Bloom responded to the Council's interrogatories on January 26, 2017. The Council has not received any written comments on this Petition to date.

The project site is located on a 96.2-acre parcel that is developed with a warehouse/distribution facility. The parcel is zoned Restricted Industrial (I-2) and abuts other I-2 zoned property. The nearest residential property is located approximately 0.3 miles to the west.

Bloom and TJX Companies Inc. have entered into an agreement whereby Bloom would install, operate and maintain two Bloom ES-5 Energy Server fuel cells that would provide approximately 75 percent of the building's electric needs under normal operating conditions. Any surplus electricity that is generated would feed into Eversource's electric distribution system for use by the grid.

The Connecticut Public Utilities Regulatory Authority classifies the Bloom ES-5 Energy Server fuel cell as a Class I renewable energy source. The Bloom fuel cell uses non-combustion solid oxide technology that consumes natural gas as fuel to generate electrical power. The facility would be a customer-side, distributed resources project, designed only to provide electricity. The fuel cell would not have an Uninterruptible Power Module and would not provide backup or grid-isolated power. The fuel cell has an operational life of 20 years. The solid oxide fuel cell media would be changed at five year intervals. At the end of the 20 year contract, the facility would either be dismantled and removed from the property or maintained on-site under a new contract.

The facility would be located on a new concrete pad at the base of an embankment along the east side of the warehouse access road. The fuel cell facility would include two ES-5 250-kW Energy Servers, control cabinets, and gas connection equipment. The fuel cell block measures approximately 80 feet long by 4.5 feet wide by 7 feet tall. Natural gas meter/connection equipment would be installed on an approximate 4-foot wide by 8-foot long concrete pad at the south end of the fuel cell block. An underground gas main is located under the warehouse access road and gas service would be extended to the fuel cell power block by the gas company. The fuel cell facility would interconnect with the existing electrical switchgear located inside the building via underground cable.

With regard to site safety, the fuel cell would be surrounded by bollards to protect it from accidental vehicle impact. The outer panels of the fuel cell are locked, preventing access to interior components. The perimeter of the warehouse is monitored by security cameras.

The fuel cell facility would comply with all applicable Department of Energy and Environmental Protection (DEEP) water quality standards. Bloom's design only requires an initial input of approximately 240 gallons of water, after which no additional water is consumed or discharged during normal operation. The proposed facility is not located within an aquifer protection area. The site is not within a designated 100-year flood zone or within a DEEP designated Coastal Management Area. The nearest wetland is approximately 0.25 mile west of the proposed facility. Based on a review of the project site, DEEP recommends implementation of an Eastern Box Turtle Protection Program which includes contractor awareness, exclusionary fencing, and a construction work time frame of April 1 to September 30.

Air emissions produced during fuel cell operation would be below the applicable DEEP limits, as shown in the table below – thus, no air permit is required:

Comparison of the Fuel Cell Facility with Applicable Air Emission Criteria		
Compound	Fuel Cell Facility (lbs/MWh)	Emission Standard (lbs/MWh)
NO_x	<0.01	0.07[1]
CO	<0.05	0.1[1]
CO_2	679-833	1,650[2]

[1] Low Emissions Renewable Energy Credit Program

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

The project would result in a net carbon dioxide reduction for the environment because it would displace emissions from traditional fossil-fueled generation. The proposed facility would reduce net CO_2 emissions for the environment by at least 25 percent per year when compared to the ISO-NE fossil fuel output emissions rate.

The proposed facility would emit no methane (CH_4), sulfur hexafluoride (SF_6), hydrofluorocarbons (known as HFCs) or perfluorocarbons (known as PFCs), which are greenhouse gasses defined in Regulations of Connecticut State Agencies Section 22a-174-1(49), and emit negligible amounts of sulfur oxides, a component of acid rain.

The fuel cell facility has a desulfurization process to remove the sulfur compounds which were added to the natural gas as an odorant, with sulfur compounds collected within a canister containing sulfur filter media. There are no air emissions related to the desulfurization process. When a desulfurization canister is taken out of service, typically after five years, it is taken by a Bloom contractor to a licensed out of state facility. The desulfurization canister has been certified by the U.S. Department of Transportation for transport of this material.

Bloom utilizes an U.S. Environmental Protection Agency (EPA) exemption that provides for the regulation of the desulfurization canisters up to the point of removal of any waste. The EPA exemption has also been incorporated into Connecticut's Hazardous Waste Management Regulations. Thus, Bloom would dispose of desulfurization canister substances at an EPA-permitted Transportation, Storage and Disposal Facility in Texas.

The fuel cell facility has internal and remote 24/7 operational monitoring. Abnormal operation would cause the unit to automatically shut down. The fuel cell can also be shut down through a remote operations center as well as by manual switches on the unit. The fuel cell facility is designed in accordance with American National Standards Institute and Canadian Standards Association (ANSI/CSA) America FC 1-2014 and the National Fire Protection Association, Inc. Standard 853 for stationary fuel cell power systems and includes extensive safety control systems, including both automatic and manual shutdown mechanisms that comply with pertinent engineering standards. An Emergency Response Plan for the facility has been developed by Bloom and is included within the Petition.

Any noise associated with the construction of this facility would be temporary in nature and exempt per DEEP noise regulations. According to Bloom, the operation of the facility would result in a projected noise value of 47 dBA at the abutting industrial property line, well below the DEEP Noise Control regulatory level of 70 dBA.

Visual impact from the proposed project would be minimal due to its location in a developed industrial area.

Construction of the facility would require re-grading of the existing grass-covered embankment to create a level surface for the fuel cell pad. The area around the fuel cell pad would be paved and separated from lawn areas with a new curb. Appropriate erosion and sedimentation controls would be established which would include silt fencing around the work area and Dandy Sacks to prevent any debris from entering existing storm drains. Bloom anticipates commencing construction in April 2017 with construction taking approximately 8 weeks. Construction work hours would conform to Town of Bloomfield construction ordinances.

The proposed installation would not have any substantial adverse environmental effect and would meet DEEP air and water quality standards. It would reduce the emission of air pollutants that contribute to smog and acid rain, and to a lesser extent, global climate change.

Staff recommends the following conditions:

1. Approval of any minor project changes be delegated to Council staff; and
2. Bloom adhere to DEEP's recommended Eastern Box turtle Protection measures.

Location of Site - 1415 Blue Hills Avenue, Bloomfield