



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

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CERTIFIED MAIL RETURN RECEIPT REQUESTED

January 20, 2017

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

RE: **PETITION NO. 1264** - Bloom Energy Corporation, as an agent for Frontier Communications Corporation, 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 400-Kilowatt Fuel Cell Facility to be located at the Frontier building, 25 Butler Street, Meriden, Connecticut.

Dear Mr. Adams:

At a public meeting held on January 19, 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. Use of off-road construction equipment that meets the latest EPA or California Air Resources Board standards, or in the alternative, equipment with the best available controls on diesel emissions, including, but not limited to, retrofitting with diesel oxidation catalysts, particulate filters and use of ultra-low sulfur fuel;
2. Compliance with the provisions of Section 22a-174-18(b)(3)(C) of the Regulations of Connecticut State Agencies that limit the idling of mobile sources to 3 minutes;
3. Approval of any minor project changes be delegated to Council staff;
4. The facility sound barrier shall be installed in accordance with the revised noise analysis conducted by Mei Wu Acoustics, dated October 24, 2016, and as depicted on the proposed Site Plan, Sheet 2.0, dated October 31, 2016;
5. The use of natural gas as a fuel system cleaning medium during fuel cell construction, installation or modification shall be prohibited;
6. 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.
7. 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.
 8. 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;
 9. 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 City of Meriden;
 10. Within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;
 11. 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;
 12. 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
 13. 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 17, 2016 and supplemental information dated October 26, 2016, December 19, 2016, and December 22, 2016, 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,

A handwritten signature in blue ink that reads "Robert Stein" followed by the initials "NAB" in a smaller, slanted font.

Robert Stein
Chairman

RS/RDM/cm

Enclosure: Staff Report dated January 19, 2017

- c: The Honorable Kevin M. Scarpati, Mayor, City of Meriden
- Guy Scaife, City Manager, City of Meriden
- Robert Seale, City Planner, City of Meriden
- Alicia Surowiec, Bloom Energy Corporation



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Petition No. 1264

Bloom Energy Corporation

25 Butler Street, Meriden, Connecticut

Staff Report

January 19, 2017

On October 26, 2016, the Connecticut Siting Council (Council) received a petition (Petition) from Bloom Energy Corporation (Bloom), as an agent for Frontier Communications (Frontier), for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the installation of a 400-kilowatt (kW) solid oxide fuel cell energy server and associated equipment at the Frontier building located at 25 Butler Street, Meriden, Connecticut. A field review of the project was conducted on December 16, 2016 that was attended by Council member Philip Ashton, Council staff member Robert Mercier, Bloom representative Justin Adams, City of Meriden Planner, Robert Seale, and Associate City Planner, Paul Dickson.

Prior to filing the Petition, Bloom discussed the proposed facility with the City of Meriden Planning Department. Bloom provided formal notification of the project to abutting property owners, City of Meriden officials, and required state agencies and officials on or about October 11, 2016. The Council requested additional information on December 12, 2016. Bloom responded to the Council's interrogatories on December 19, 2016. Additionally, Bloom submitted a revised facility noise analysis on December 22, 2016. The Council has not received any written comments on this Petition to date.

The project site is located on a 1.38 acre parcel that is developed with a multi-story building and associated paved parking areas. The parcel, owned by Frontier Communications, is in a developed urban area and is zoned "Central Commercial". Several multi-family residential dwellings abut the site to the west, a YMCA building abuts the site to the north, and commercial buildings abut the site to the east and south. The nearest residential structure is 55 feet west of the proposed facility.

Bloom and Frontier have entered into an agreement whereby Bloom would install and maintain two Bloom ES-5 Energy Servers that would collectively produce 400 kilowatts of power for the building, providing approximately 95 percent of Frontier's electric needs under normal operating conditions. Any surplus electricity would feed into Eversource's electric distribution system for use by the grid.

The Connecticut Public Utilities Regulatory Authority classifies Bloom Energy Servers as a Class I renewable energy source. The proposed 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 facility would be located in a paved area at the rear of the building, at the base of an existing concrete retaining wall along the west property boundary. The retaining wall supports a six foot change in elevation from the Frontier property to the abutting properties to the west. The fuel cell facility would include two 200-kilowatt energy servers, control cabinets, and gas connection equipment. The facility would measure 72 feet long by 4.5 feet wide by 7 feet tall.

The fuel cell would interconnect with the existing electrical switchgear located inside the building. Natural gas service would be provided via a new meter assembly located at the north end of the facility.



CONNECTICUT SITING COUNCIL

Affirmative Action / Equal Opportunity Employer

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 300 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 per the Meriden DEEP Aquifer Protection Area map dated October 6, 2016. The site is within a 100-year flood zone for Hancock Brook, but this zone has levee protection. The site is not within a DEEP designated Coastal Management Area.

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

Comparison of the Fuel Cell Facility with RCSA Criteria *		
Compound	Fuel Cell Facility (lbs/MWh)	Emissions standards (lbs/MWh)
NO _x	<0.01	0.15
CO	<0.05	1.0
CO ₂	679-833	1,650

* 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 CO₂ 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 (CH₄), sulfur hexafluoride (SF₆), 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).

The Bloom fuel cell facility has a desulfurization process to remove the sulfur compounds which were added to the natural gas as an odorant. The desulfurization canister has a filter made for this process. When a desulfurization canister is taken out of service, it is taken by a Bloom contractor to a licensed out of state facility. The desulfurization container 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.

According to Bloom's acoustical consultant, the operation of the facility requires the installation of a 75-foot long, 5-foot tall wood noise barrier on top of the existing retaining wall adjacent to the facility in order for the facility to comply with DEEP noise criteria at the abutting residential properties. Any noise associated with the construction of this facility would be temporary in nature and exempt per DEEP noise regulations.

Visual impact from the proposed project would be minimal due to its location at the rear of a multistory building and adjacent to an existing retaining wall. Although residential properties are located to the west, the change in grade between the site property and the residential properties effectively screens the facility from views. Additionally, the proposed sound barrier would offer additional screening from these properties. Existing buildings effectively screen the facility from other nearby locations.

The site property is within a heavily developed area. The proposed project is located outside of the shaded area of the DEEP Natural Diversity Database. There are no wetlands in the vicinity of the site. The project site is already developed and consists of asphalt. Some small diameter trees growing on top or adjacent to the retaining wall would be removed to install the noise barrier.

With regard to site safety, the fuel cell would be surrounded by bollards to protect it from accidental vehicle impact. The facility would be remotely monitored by Bloom on a 24/7 basis to detect abnormalities in operation. The fuel cell facility is designed in accordance with American National Standards Institute and Canadian Standards Association (ANSI/CSA) America FC 1-2004 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. Bloom included an Emergency Response Plan within the Petition.

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. Use of off-road construction equipment that meets the latest EPA or California Air Resources Board standards, or in the alternative, equipment with the best available controls on diesel emissions, including, but not limited to, retrofitting with diesel oxidation catalysts, particulate filters and use of ultra-low sulfur fuel;
2. Compliance with the provisions of Section 22a-174-18(b)(3)(C) of the Regulations of Connecticut State Agencies that limit the idling of mobile sources to 3 minutes;
3. Approval of any minor project changes be delegated to Council staff; and,
4. The facility sound barrier shall be installed in accordance with the revised noise analysis conducted by Mei Wu Acoustics, dated October 24, 2016, and as depicted on the proposed Site Plan, Sheet 2.0, dated October 31, 2016.



View of site, Frontier Building, 25 Butler Street, Meriden