



# STATE OF CONNECTICUT

## CONNECTICUT SITING COUNCIL

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### **CERTIFIED MAIL RETURN RECEIPT REQUESTED**

December 12, 2016

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

RE: **PETITION NO. 1260** – 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, 2 Washington Street, Norwalk, Connecticut.

Dear Mr. Adams:

At a public meeting held on December 8, 2016, 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. Submit a final site plan that shows the location of all project components, including landscaping;
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
  - c. 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 Norwalk;
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 additional information received on October 27, 2016, November 22, 2016, November 23, 2016, and November 29, 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,



Robert Stein  
Chairman

RS/RDM/lm

Enclosure: Staff Report dated December 8, 2016

- c: The Honorable Harry W. Rilling, Mayor, City of Norwalk
- Steven Kleppin, Director of Planning & Zoning, City of Norwalk
- Alicia Surowiec, Bloom Energy



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### Petition No. 1260

**Bloom Energy Corporation**  
**2 Washington Street, Norwalk CT**

### Staff Report

**December 8, 2016**

On October 24, 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 2 Washington Street, Norwalk, Connecticut. A field review of the project was conducted on November 28, 2016 and was attended by Council Chairman Robert Stein, Council staff member Robert Mercier, Bloom representative Justin Adams, and Frontier representative Phil Licese.

Prior to filing the Petition, Bloom discussed the proposed facility with the City of Norwalk Planning Department. Bloom provided formal notification of the project to abutting property owners, City of Norwalk officials, and required state agencies and officials on or about October 11, 2016. By letter dated October 25, 2016, the Council deemed the Petition incomplete because it did not include notice to several state agencies. By letter dated October 26, 2016, Bloom provided notice and corrected such deficiency. The Council requested additional information on November 16, 2016. Bloom responded to the Council's interrogatories on November 23 and 29, 2016. The Council has not received any written comments on this Petition to date.

The project site is located on a 1.7-acre parcel within the South Norwalk Business District zone that is bound by Washington Street to the north, Dr. Martin Luther King Jr. Drive to the west, Madison Street to the south and the Norwalk Public Library and a post office parking area to the east. The parcel contains a multi-story commercial building used by Frontier that fronts Washington Street and Dr. Martin Luther King Jr. Drive. A condominium complex is located south of Madison Street.

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 80 percent of Frontier's electric needs under normal operating conditions. Any surplus electricity would feed into South Norwalk Electric and Water'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 dimensions of the facility would be approximately 70 feet long by 4.5 feet wide by 7 feet tall. The facility would be located on a concrete pad in a paved service area at the rear of the building. The facility would be installed adjacent to existing building-related exterior mechanical equipment. The proposed project would not result in the loss of any parking spots.

The fuel cell would be interconnected to the existing electrical switchgear located inside the building. Natural gas service would be provided via a new meter assembly located at the south end of the energy server, adjacent to the building and parking lot retaining wall.

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 fuel cell site is not located within an aquifer protection area per the DEEP Aquifer Protection Area Norwalk map dated October 6, 2016. The site is not within a 100-year or 500-year flood zone, as determined by the Federal Emergency Management Agency. 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 <sub>x</sub>	<0.01	0.15
CO	<0.05	1.0
CO <sub>2</sub>	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 proposed facility would emit no methane (CH<sub>4</sub>), sulfur hexafluoride (SF<sub>6</sub>), 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. Its safety as a container for transportation has been certified by the U.S. Department of Transportation.

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.

Visual impact from the proposed project would be minimal due to its location adjacent to an existing mechanical area at the rear of the building. A retaining wall associated with an on-site parking lot would partially screen views of the facility from Madison Street. Bloom would consult with Frontier regarding the possibility of installing some landscaping along the property boundary with the adjacent library to improve the aesthetic quality of the area.

Any noise associated with the construction of this facility would be temporary in nature and exempt per DEEP noise regulations. According to Bloom's acoustical consultant, the operation of this facility would meet DEEP noise regulations at all abutting properties without the need for noise mitigation measures. This includes the condominium complex to the south, across Madison Street.

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. The site property is within a heavily developed area of Norwalk.

With regard to safety, the fuel cell would be surrounded by bollards to protect it from being accidentally struck by a vehicle. A six-foot tall anti-climb fence would enclose the facility. 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. Submit a final site plan that shows the location of all project components, including landscaping.



**View of site from Washington Street. Public library is to left, rear of Frontier building is to right.**