



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
Web Site: portal.ct.gov/csc

**VIA ELECTRONIC & CERTIFIED MAIL
RETURN RECEIPT REQUESTED**

June 24, 2022

Kristen Grillo
Senior Permitting Specialist
Bloom Energy Corporation
4535 North First Street
San Jose, CA 95134
kristen.grillo@bloomenergy.com

RE: **PETITION NO. 1509** - 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 customer-side 300-kilowatt fuel cell facility and associated equipment to be located at Park Avenue Medical Center, 5520 Park Avenue, Trumbull, Connecticut.

Dear Ms. Grillo:

At a public meeting held on June 23, 2022, the Connecticut Siting Council (Council) considered and ruled that the above-referenced proposal meets air and water quality standards of the 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 Project changes be delegated to Council staff;
2. Provide a copy of the Fuel Cell Emergency Response Plan to local emergency responders prior to facility operation, and provide emergency response training;
3. The Council shall be notified in writing at least two weeks prior to the commencement of site construction activities;
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 Trumbull;
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 April 27, 2022, and additional information dated May 24, 2022, 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/RDM/laf

Enclosure: Staff Report dated June 23, 2022

- c: The Honorable Vicki A. Tesoro, First Selectman, Town of Trumbull (firstselectman@trumbull-ct.gov)
- The Honorable Joseph P. Ganim, Mayor, City of Bridgeport (mayor@bridgeportct.gov)
- The Honorable David Bindelglass, First Selectman, Town of Easton (dbindelglass@eastonct.gov)
- The Honorable Brenda L. Kupchick, First Selectman, Town of Fairfield (firstselectmanffld@fairfieldct.org)
- Megan Murphy, Fire Marshal, Town of Trumbull (firemarshal@trumbull-ct.gov)



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Petition No. 1509
Bloom Energy Corporation
Yale New Haven Health Park Avenue Medical Center
5520 Park Avenue, Trumbull, Connecticut

Staff Report
June 23, 2022

Introduction

On April 28, 2022, the Connecticut Siting Council (Council) received a petition from Bloom Energy Corporation (Bloom) for a declaratory ruling, pursuant to Connecticut General Statutes (CGS) §4-176 and §16-50k, for the installation of a 300-kilowatt (kW) fuel cell facility and associated equipment to be located at the Yale New Haven Health Park Avenue Medical Center at 5520 Park Avenue in Trumbull, Connecticut (Petition or Project).

Bloom provided Project plans to the Town of Trumbull (Town) Planner on April 4, 2022. The Town did not comment on the Project.

On April 27, 2022, Bloom provided notice of the Project to abutting property owners, Town officials, and required state agencies and officials and the municipalities of Easton, Fairfield, and Bridgeport whose boundaries are within 2,500 feet of the Project. No comments were received.

On April 29, 2022, the Council sent correspondence to the Town and the municipal officials in the Towns of Easton and Fairfield, and the City of Bridgeport stating that the Council has received the Petition and invited the municipalities to contact the Council with any questions or comments by May 28, 2022. No comments were received.

Also on April 29, 2022, pursuant to Regulations of Connecticut State Agencies (RCSA) §16-50j-40, the Council notified all state agencies listed therein, requesting comments regarding the proposed Project be submitted to the Council by May 28, 2022. No comments were received.

The Council issued interrogatories to Bloom on May 20, 2022. Bloom provided responses to the Council's interrogatories on May 24, 2022.

Public Benefit

The Project would be a "customer-side distributed resources" facility, as defined in CGS §16-1(a)(49). 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 as part of the Low and Zero Emissions Renewable Energy Credit (LREC/ZREC) program. The Facility would be installed, maintained and operated by Bloom under a 15-year power purchase agreement with Yale New Haven Health Services Corporation (Yale).

Project Site

The proposed facility is to be located on a 5.9-acre parcel within the B-C Commercial zone. The parcel is developed as a medical center with several buildings and parking lots. The proposed facility would be located in a parking area near the southeastern corner of the main building.

The surrounding area contains a mix of residential and institutional development. The nearest residential property line from the proposed facility is approximately 165 feet to the east.

Proposed Project

The facility would consist of one Bloom Energy 300-kW ES-5 solid oxide fuel cell Energy Server and associated equipment, including a water deionizer, telemetry cabinets, disconnect switches, a transformer and utility cabinets. The energy server would be installed within a an approximate 44-foot long by 17.5-foot wide service area. The height of the energy server would be approximately 7 feet. See Attached Site Plan for detail.

The proposed facility would be located within a paved parking area. To protect the fuel cell from potential vehicle damage, bollards would be installed adjacent to vehicle travel lanes to the north and west. A parking lot island would remain to the south and east.

Underground utilities (natural gas., electric, water, data) would extend through parking areas and driveways to interconnect with existing utility infrastructure adjacent to or within the medical center.

The proposed facility would be a customer-side, distributed resources project, designed only to provide electricity. The proposed facility would operate in parallel with the utility grid and provide a portion of the electrical needs of the medical center. The proposed facility is sized to provide at least 55% of the average annual baseload of the medical center. Any excess electricity created during periods of low energy usage would be exported to the local electric grid under the net metering tariff. The interconnection application was submitted to United Illuminating in January 2022 for review.

The proposed Bloom fuel cell unit are designed to optimize the electrical efficiency alone rather than operate as combined heat and power units. Heat generated by the proposed facilities is used internally to increase the electrical efficiency of the fuel cells, and consequently there is no useful waste heat generated.

The fuel cell facility has an operational life of 15 years. The solid oxide fuel cell media would be changed at five-year intervals. At the end of the 15-year contract, Yale may renew the contract, return the facility at no cost, or buy the facility at fair market value. If the facility is to be removed at the end of the contract, the fuel cell units and associated equipment and components would be dismantled and removed.

Bloom anticipates construction to start in the third quarter of 2022 and would occur over a four-month period. Construction hours would be Monday-Friday, 7 AM – 5 PM.

The estimated cost of the facility is \$586,485.

Environmental Effects and Mitigation

The fuel cell facility would comply with all applicable Department of Energy and Environmental Protection (DEEP) water quality standards as no water would be consumed or discharged once the facility is operational. The proposed fuel cell facility would operate without water discharge under normal operating conditions. Water consumption would only occur at system fill and during restart operations.

Air emissions produced during fuel cell operation would not trigger any regulatory thresholds and are shown below.

Fuel Cell Facility	
Compound	lbs/MWh
NO _x	0.01
CO ₂ *	679-833

*DEEP amended its regulations in 2016 to eliminate the CO₂ permit requirements from the New Source Review and Title V Programs as a result of a United States Supreme Court decision that overturned states' regulatory CO₂ permit requirements (*Utility Air Regulatory Group v. U.S. Environmental Protection Agency*, 573 U.S. 302 (2014))

The proposed facility would emit no methane (CH₄), sulfur hexafluoride (SF₆), hydrofluorocarbons (HFCs) or perfluorocarbons (PFCs), which are greenhouse gases defined in RCSA §22a-174-1(49), and would emit negligible amounts of sulfur oxides, volatile organic compounds and particulate matter.

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 for other products. The empty desulf units are the refurbished for reuse at other Bloom fuel cell locations.

No trees would be removed to construct the facility. Visual impact from the proposed Project would be minimal as it is located on the medical center property among buildings and parking lots. There may be interspersed views of the facility from abutting residential properties along Plattsville Road through existing landscape screening on this parcel. Although the medical center is adjacent to the Merritt Parkway, there would be no views of the facility from the parkway.

No wetlands, forest or prime farmland soils would be disturbed by the proposed Project as it is located entirely within paved areas on a developed property. Erosion and sedimentation controls for the proposed facility would comply with the 2002 *Connecticut Guidelines for Soil Erosion and Sediment Control*.

The site is not within a DEEP Natural Diversity Database buffer area. The site is not within a Federal Emergency Management Agency- designated flood zone nor within an Aquifer Protection Area (APA). The nearest APA is 5.7 miles to the southeast.

The site is previously disturbed and would not impact historic or cultural resources.

Public Safety

Before commissioning the proposed facility, Bloom would use compressed air as pipe cleaning media in accordance with Public Act 11-101, An Act Adopting Certain Safety Recommendations of the Thomas Commission.

The fuel cell facility has internal and remote 24/7 operational monitoring. Abnormal operation would cause the facility to automatically shut down. The facility can also be shut down through a remote operations center as well as manually. The fuel cell facility is designed in accordance with American National Standards Institute and Canadian Standards Association (ANSI/CSA) America FC 1-2004 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 is included within the Petition. Bloom would submit the ERP to the Town Fire Marshal and would provide on-site training to local officials.

The fuel cell system is controlled electronically and has internal sensors that continuously measure system operation. If safety circuits detect a condition outside normal operating parameters, the fuel supply is stopped, and individual system components are automatically shut down. In addition, manual emergency shut down push buttons would be located at the site.

Noise associated with the construction of this Project would be temporary and exempt from DEEP Noise Control Regulations. Operation of the facility would comply with DEEP Noise Control Regulations and is expected to produce noise emissions of approximately 37 dBA at the nearest residential receptor, located approximately 165 feet to the east of the facility. The fuel cell would have a noise dampening foam material at the doors and exhaust of the fuel cell to lower its noise emissions by up to 5 dBA.

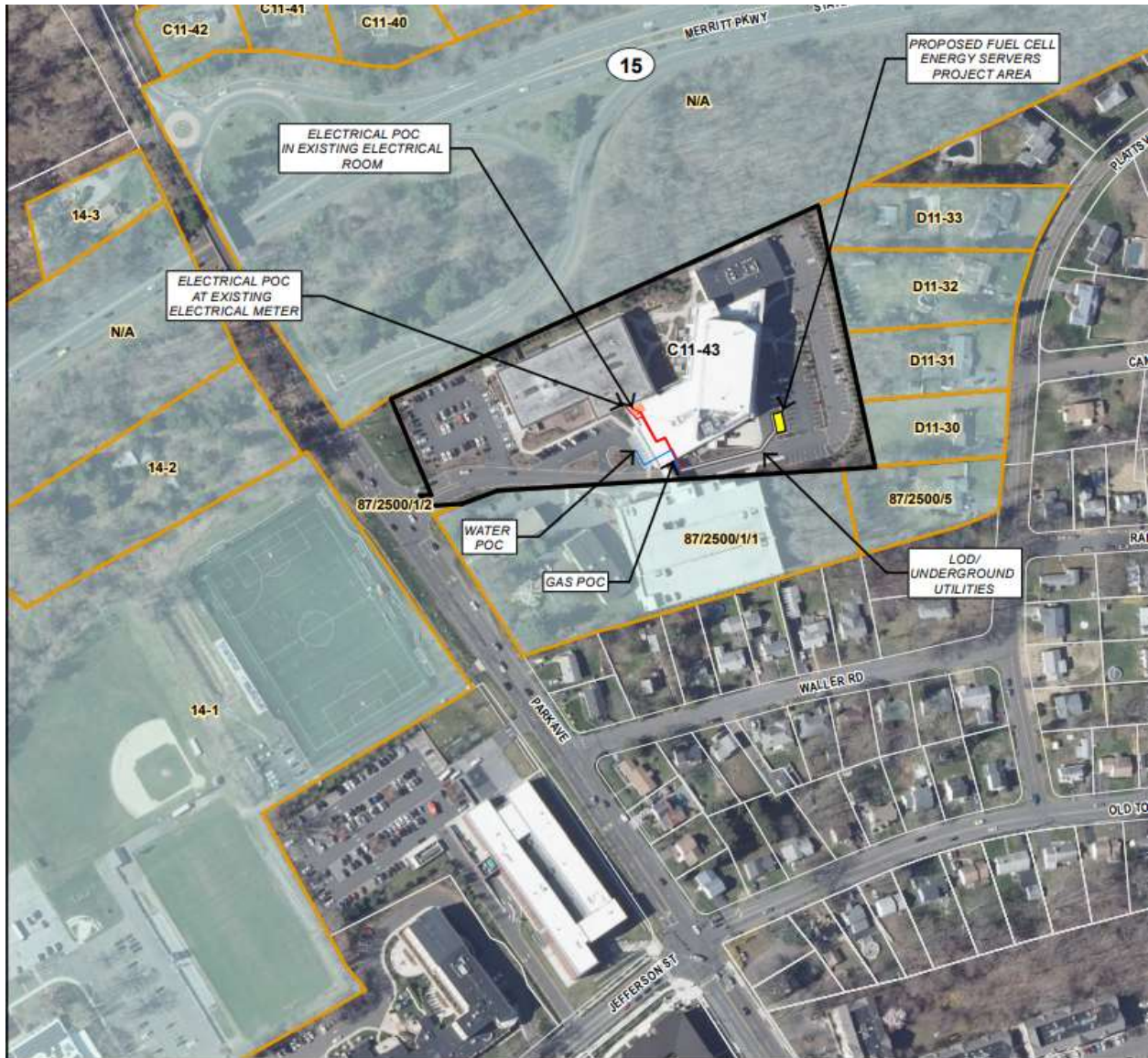
Conclusion

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. Furthermore, the Project was selected under the state's LREC/ZREC Program.

If approved, staff recommends the following conditions:

1. Approval of any Project changes be delegated to Council staff;
2. Provide a copy of the Fuel Cell Emergency Response Plan to local emergency responders prior to facility operation, and provide emergency response training; and
3. The Council shall be notified in writing at least two weeks prior to the commencement of site construction activities.

Fuel Cell Location



Legend

- Site
- Abutting Property
- Approximate Assessor Parcel Boundary
- Project Area
- Limit of Disturbance/Underground Utilities
- Electrical Service
- Water Service
- Gas Service
- Existing Electrical Room

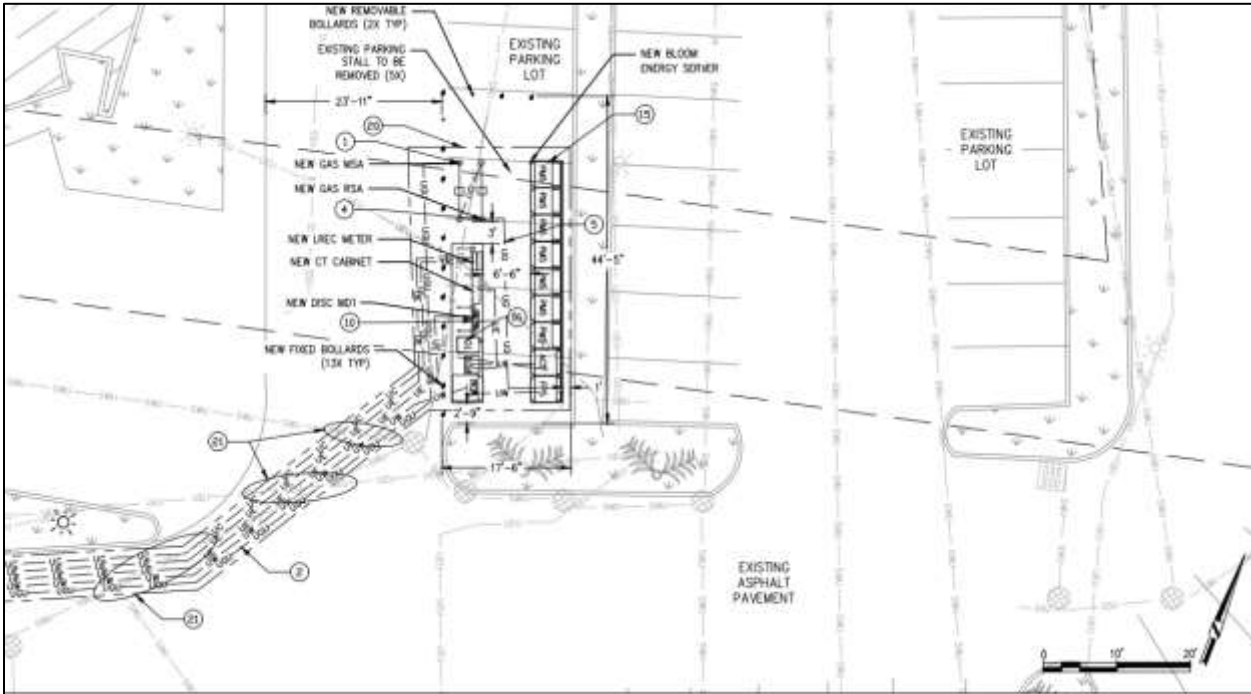
Map Notes:
 Base Map Source: CTECO 2019 Aerial Photograph
 Map Scale: 1 inch = 300 feet
 Map Date: April 2022



Exhibit 2
Site Vicinity
 Proposed Bloom Energy Facility
 Yale New Haven Health
 5520 Park Avenue
 Trumbull, Connecticut

B

Site Plan



Site Location Photograph



Looking west toward Facility location at center of photo (to right of trees); building in background.

STATE OF CONNECTICUT)

: ss. Southington, Connecticut June 24, 2022

COUNTY OF HARTFORD)

I hereby certify that the foregoing is a true and correct copy of the Decision and Staff Report in Petition No. 1509 issued by the Connecticut Siting Council, State of Connecticut.

ATTEST:



Melanie A. Bachman
Executive Director
Connecticut Siting Council

STATE OF CONNECTICUT)

: ss. New Britain, Connecticut June 24, 2022

COUNTY OF HARTFORD)

I certify that a copy of the Connecticut Siting Council Decision and Staff Report in Petition No. 1509 has been forwarded by Certified First Class Return Receipt Requested mail, on June 24, 2022, to all parties and intervenors of record as listed on the attached service list, dated April 28, 2022.

ATTEST:

/s/ Lisa A. Fontaine

Lisa Fontaine
Fiscal Administrative Officer
Connecticut Siting Council

LIST OF PARTIES AND INTERVENORS
SERVICE LIST

Status Granted	Document Service	Status Holder (name, address & phone number)	Representative (name, address & phone number)
Petitioner	<input checked="" type="checkbox"/> E-mail	Bloom Energy Corporation	Kristen Grillo Bloom Energy Corporation 4353 North First Street San Jose, CA 95134 Phone (917) 803-4511 Kristen.Grillo@bloomenergy.com Nedal Sumrein Bloom Energy Corporation 4353 North First Street San Jose, CA 95134 Phone (408) 543-1500 Nedal.Sumrein@bloomenergy.com