



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**

October 13, 2023

Kristen Grillo
Bloom Energy Corporation
4353 North First Street
San Jose, CA 95134
Kristen.Grillo@bloomenergy.com

RE: **PETITION NO. 1278B** - Bloom Energy Corporation, as an agent for Medtronic Inc., second request to amend its declaratory ruling, pursuant to Connecticut General Statutes §4-176 and §16-50k, for the proposed construction, operation and maintenance of an additional customer-side 2,000-kilowatt fuel cell facility to be located at the Medtronic campus, 195 McDermott Road, North Haven, Connecticut.

Dear Kristen Grillo:

At a public meeting held on October 12, 2023, 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 that includes an itemized list of necessary fire suppression equipment;
2. The use of natural gas as a fuel system cleaning medium during fuel cell construction, installation or modification shall be prohibited;
3. The Council shall be notified in writing at least two weeks prior to the commencement of site construction activities;
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
 - c. 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 North Haven;
 8. Within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed **along with a representative photograph of the facility**;
 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; and
 10. This Declaratory Ruling may be transferred or partially transferred, provided both the facility owner/operator/transferor and the transferee are current with payments to the Council for their respective annual assessments and invoices under Conn. Gen. Stat. §16-50v. 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. Both the facility owner/operator/transferor and the transferee shall provide the Council with a written agreement as to the entity responsible for any quarterly assessment charges under Conn. Gen. Stat. §16-50v(b)(2) that may be associated with this facility, including contact information for the individual acting on behalf of the transferee.

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 August 4, 2023, and additional information received September 12, 2023 and October 3, 2023, 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/dll

Enclosure: Staff Report dated October 12, 2023

- c: The Honorable Michael J. Freda, First Selectperson, Town of North Haven (freda.michael@town.north-haven.ct.us)
Paul Januszewski, Fire Marshal, Town of North Haven (Januszewski.Paul@town.north-haven.ct.us)
The Honorable Joseph Carfora, Mayor, Town of East Haven (eh.mayor@att.net)
The Honorable Justin Elicker, Mayor, City of New Haven (jelicker@newhavenct.gov)

STATE OF CONNECTICUT)

: ss. Southington, Connecticut

October 13, 2023

COUNTY OF HARTFORD)

I hereby certify that the foregoing is a true and correct copy of the Decision and Staff Report in Petition No. 1278B 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

October 13, 2023

COUNTY OF HARTFORD)

I certify that a copy of the Connecticut Siting Council Decision and Staff Report in Petition No. 1278B has been forwarded by Certified First Class Return Receipt Requested mail, on October 13, 2023 to each party and intervenor, or its authorized representative, as listed on the attached service list, dated August 8, 2023.

ATTEST:



Dakota LaFountain
Clerk Typist
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	<p>Kristen Grillo Bloom Energy Corporation 4353 North First Street San Jose, CA 95134 Phone: (917) 803-4511 Fax: (408) 543-1501 Kristen.Grillo@bloomenergy.com</p> <p>George Gaydos Bloom Energy Corporation 4353 North First Street San Jose, CA 95134 Phone: (610) 742-8792 Fax: (408) 543-1501 George.Gaydos@bloomenergy.com</p>
	<input type="checkbox"/> E-mail		
	<input type="checkbox"/> E-mail		



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**Petition No. 1278B
Bloom Energy Corporation
Medtronic Campus, North Haven, Connecticut**

**Staff Report
October 12, 2023**

Introduction

Petition 1278

On February 21, 2017, the Connecticut Siting Council (Council) issued a Declaratory Ruling pursuant to Connecticut General Statutes (CGS) §4-176 and §16-50k, approving a proposal from Bloom Energy Corporation (Bloom), as an agent for Medtronic Inc., for the installation of two separate solid oxide fuel cell units at the Medtronic Inc. campus located at 195 McDermott Road and 20 Middletown Avenue in North Haven, Connecticut (Petition 1278). A 200-kilowatt (kW) fuel cell was installed adjacent to the campus office building and a 300-kW fuel cell was installed adjacent to the main manufacturing plant in December 2017.

Petition 1278A

On December 6, 2019, the Council approved an amendment to the Declaratory Ruling to install two, 2.0 megawatt (MW) fuel cell facilities at the Medtronic campus¹, one at 86 Middletown Road and one at 195 McDermott Road in North Haven (Petition 1278A). The fuel cell facilities were installed adjacent to buildings on the parcels in July and October 2020, respectively.

Petition 1278B

On August 7, 2023, Bloom submitted a second request to amend the Declaratory Ruling to the Council for the installation of a 2 MW fuel cell facility at the 195 McDermott Avenue parcel on the Medtronic campus (Petition or Project).

Pursuant to Regulations of Connecticut State Agencies (RCSA) §16-50j-40, on or about July 26, 2023, Bloom provided notice of the request to amend the Declaratory Ruling to the Town of North Haven (Town), Town of East Haven and City of New Haven² (collectively, the municipalities), abutting property owners and state officials and agencies. No comments were received.

On August 9, 2023, the Council sent correspondence to municipalities stating that the Council has received the request to amend the Declaratory Ruling and invited the municipalities to contact the Council with any questions or comments by September 6, 2023. No comments were received.

¹ The campus consists of several buildings located on six abutting parcels, zoned light-industrial, that encompass approximately 58 acres.

² The Town of East Haven and City of New Haven are located within 2,500 feet of the proposed facility site.

Also, on August 9, 2023, pursuant to RCSA §16-50j40, the Council notified all state agencies listed therein, requesting comments regarding the proposed Project be submitted to the Council by September 6, 2023.

On August 16, 2023, the Connecticut Airport Authority (CAA) submitted comments on the Project.³

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.⁴

The Council submitted interrogatories to Bloom on August 28, 2023. Bloom submitted responses to the Council's interrogatories on September 13 and supplemental information responsive to the CAA comments on October 4, 2023.

Pursuant to CGS §4-176(e) of the Uniform Administrative Procedure Act, an administrative agency is required to take action on a petition within 60 days of receipt. On September 28, 2023, pursuant to CGS §4-176(e), the Council voted to set the date by which to render a decision on the Petition as no later than February 3, 2024, which is the 180-day statutory deadline for a final decision under CGS §4-176(i).

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 facility would be installed, maintained and operated by Bloom under a six-year power purchase agreement with Medtronic.

Proposed Site

Pursuant to CGS §16-50x, the Council has exclusive jurisdiction over the proposed fuel cell facility “site.” Under RCSA §16-50j-2a(29), “site” means a contiguous parcel of property with specified boundaries, including, but not limited to, the leased area, right-of-way, access and easements on which a facility and associated equipment is located, shall be located or is proposed to be located. The Council does not have jurisdiction or authority over any portion of the host parcel beyond the boundaries of the Project “site.” This includes portions of the host parcel retained by the landowner and portions of the host parcel the landowner may lease to third parties. Once a facility is decommissioned, the Council no longer has jurisdiction or authority over the Project “site.”

The proposed facility is to be located within an approximately 4,480-square foot site on the 31.4-acre 195 McDermott Avenue parcel. The host parcel contains a manufacturing building and associated driveways, parking areas and lawn.

An existing 300 kW fuel cell facility, approved by the Council in Petition 1278, and an existing 2.0 MW fuel cell facility, approved by the Council in Petition 1278A, are located east side of the building.

On June 20, 2023, CT Solar PDF, LLC submitted a petition for a declaratory ruling to the Council for the proposed construction, operation and maintenance of a 1.45 MW alternating current solar photovoltaic electric generating facility at the Medtronic campus (Petition 1580).

³ https://portal.ct.gov/-/media/CSC/3_Petitions-medialibrary/Petitions_MediaLibrary/MediaPetitionNos1201-1300/PE1278B/ProceduralCorrespondence/PE1278B_STATEMEMO-CommentsRecd_a.pdf

⁴ *Corcoran v. Conn. Siting Council*, 284 Conn. 455 (2007).

The proposed fuel cell facility would be located east of the manufacturing building, adjacent to the existing 300 kW fuel cell facility.

The surrounding area consists of industrial and commercial development. The nearest property line from the proposed facility is 171 McDermott Road, approximately 272 feet to the north. The nearest residence is located at 31 Quinnipiac Avenue, approximately 1,220 feet southeast of the proposed facility.

Proposed Facility

The facility would consist of seven Bloom Energy solid oxide fuel cell Energy Servers (five 275-kW ES5, one 300-kW ES5 and one 325-kW ES5) and associated equipment, including water deionizers, telemetry cabinets, disconnect switches, a transformer and utility cabinets.

The fuel cell facility would be constructed within a lawn area on a proposed 82-foot by 53-foot asphalt and gravel pad divided from an existing driveway by a curb. The proposed gas meter and gas regulator will be protected by existing bollards. No fence or additional bollards are needed for the energy servers or other components, as they are located in a secured area of the Medtronic campus. The internal portions of the energy servers can only be accessed by essential personnel with a unique access key.

The natural gas interconnection would be installed underground through a parking/access drive area to existing gas utility infrastructure. Electric connections would extend to a new 25-foot by 50-foot switchgear building to be located in a lawn area adjacent to an existing electrical vault on the host parcel. A water connection would occur at the existing building on the host parcel.

The proposed facility would be a customer-side, distributed resources project, designed only to provide electricity. The proposed fuel cell facility is sized to provide 41% of the average annual baseload of Medtronic's manufacturing facility. Any excess electricity created during periods of low energy usage, would be exported to the grid under the net metering tariff. The interconnection application has been submitted to the United Illuminating Company and is under review.

The contract with Bloom is for 6 years. The fuel cell facility has an operational life of 10 years. At the end of the 6-year contract, Medtronic 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 second quarter of 2025, with completion in four months. Construction days/hours would be Monday-Friday, 7AM – 5 PM.

The estimated cost of the facility is \$3,143,085.

Environmental Effects and Mitigation Measures

The fuel cell facility would comply with all applicable 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
SO _x	negligible
Volatile Organic Compounds	0.02
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 then refurbished for reuse at other Bloom fuel cell locations.

No wetlands, forest or prime farmland soils would be disturbed to construct the proposed facility. 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 Federal Emergency Management Agency-designated flood zone nor within an Aquifer Protection Area (APA). The site is not located within a DEEP Natural Diversity Database buffered area. The site is previously disturbed and not expected to impact historic or cultural resources. There would be no visibility of the proposed facility outside of the Medtronic campus.

Public Safety

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

An emergency response plan for the facility would be submitted to the Town Fire Department. Bloom would provide training to emergency responders related to fire safety at the site.

The fuel cell facility has internal and remote 24/7 operational monitoring. Abnormal operation would cause the facility to automatically shut down. 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. A noise analysis that accounts for existing ambient noise, including operation of the two existing fuel cell facilities on the host parcel, determined that operation of the facility, together with the two existing fuel cells, is expected to produce noise emissions no greater than 43 dBA at the nearest residential receptor located approximately 272 feet south of the site and would comply with DEEP Noise Control Regulations.

Tweed-New Haven Airport is located approximately 5 miles to the south of the site. The proposed facility will not impact aviation safety in the area. On October 3, 2023 the Federal Aviation Administration issued no hazard determinations for use of a construction crane at the site and for the proposed fuel cell installation.

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.

If approved, staff recommends the following conditions:

1. Approval of any Project changes be delegated to Council staff; and
2. Provide a copy of the Fuel Cell Emergency Response Plan to local emergency responders prior to facility operation and provide emergency response training that includes an itemized list of necessary fire suppression equipment.

Fuel Cell Site Location



Fuel Cell Site Plan

