ORIGINAL

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

PETITION OF WAL-MART STORES, INC. FOR A DECLARATORY RULING FOR THE LOCATION AND CONSTRUCTION OF A 200-KILOWATT FUEL CELL CUSTOMER-SIDE DISTRIBUTED RESOURCE AT 69 PAVILIONS DRIVE, MANCHESTER, CONNECTICUT	:	**PETITION NO. 1208 Corrected Text**
	:	November __, 2015

WAL-MART STORES, INC. FOR A DECLARATORY RULING

Pursuant to Conn. Gen. Stat. §§ 4-176 and 16-50k(a) and Conn. Agencies Regs. § 16-50j-38 *et seq.*, Wal-Mart Stores, Inc. ("Walmart"), requests that the Connecticut Siting Council ("Council") approve by declaratory ruling the location and construction of a customer-side distributed resources project comprised of an approximately 200-kilowatt ("KW") (net) Bloom solid oxide fuel cell Energy Server facility and associated equipment (the "Facility"), located at the rear of the Sam's Club building at 69 Pavilions Drive, Manchester, Connecticut (the "Site"). *See* Exhibit 1. The facility will be installed by Bloom and operated by Sam's Club.

Conn. Gen. Stat. § 16-50k(a) provides that:

> Notwithstanding the provisions of this chapter or title 16a, the council shall, in the exercise of its jurisdiction over the siting of generating facilities, approve by declaratory ruling . . . (B) the construction or location of any fuel cell, unless the council finds a substantial adverse environmental effect or of any customer-side distributed resources project or facility . . . with a capacity of not more than sixty-five megawatts, as long as such project meets air and water quality standards of the Department of Energy and Environmental Protection."

As discussed fully in this petition, in addition to being a fuel cell facility, the Facility will be a customer-side distributed resources facility under 65 megawatts ("MW") that complies with the air and water quality standards of the Connecticut Department of Energy and Environmental

Protection ("DEEP"). Additionally, the Facility will not have a substantial adverse environmental effect in the State of Connecticut.

I. COMMUNICATIONS

Correspondence and other communication regarding this petition should be directed to the following parties:

Rory Eblen
Bloom Energy Corporation
1284 Pacific Street, Apt. 4B
Brooklyn, NY 11216
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II. DISCUSSION

A. Background

The Facility will be a 200 kilowatt customer-side distributed resources facility consisting of a state-of-the-art Bloom Energy Servers and associated equipment. The Facility will be interconnected to an existing switchgear section located inside the electrical room, near the southwest corner of the Sam's Club building (the "Building"). *See* Exhibit 2. Electricity generated by the Facility will be consumed primarily at the Site, and any excess electricity will be exported to the grid.

The Facility will be a "customer-side distributed resources" project because it will be "a unit with a rating of not more than sixty-five megawatts [and is located] on the premises of a retail end user within the transmission and distribution system including, but not limited to, fuel cells . . . ." Conn. Gen. Stat. § 16-1(a)(40)(A). Further, in its Final Decision in Docket No. 12-

02-09, dated September 12, 2012, the Connecticut Public Utilities Regulatory Authority ("PURA") determined that Bloom's Energy Server qualifies as a Class I renewable energy source fuel cell as defined in Conn. Gen. Stat. §16 1(a)(26)(A). *See* Exhibit 3.

Wal-Mart Stores, Inc. was selected by The Connecticut Light and Power Company ("CL&P") as a winning bidder in CL&P's and The United Illuminating Company's joint request for proposals for their "Low and Zero Emissions Renewable Energy Credit Program" established under Sections 107, 108, and 110 of Public Act No. 11-80, *An Act Concerning the Establishment of the Department of Energy and Environmental Protection and Planning for Connecticut's Energy Future* (codified at Conn. Gen. Stat. §§ 16-244r, -244s, and -244t, respectively). As a result of that selection, Wal-Mart Stores, Inc. has entered into a *Standard Contract for the Purchase and Sale of Connecticut Class I Renewable Energy Credits* ("Standard Contract") with CL&P, under which it will sell, and CL&P will purchase, Connecticut Class I Renewable Energy Credits generated by the Facility. The PURA approved Wal-Mart Stores, Inc.'s selection by CL&P and its Standard Contract on July 15, 2015.

B. Description of the Site and the Facility

1. The Site

The Facility will be installed on the Sam's Club development, a commercial urban development building located on 69 Pavilions Drive in Manchester. Specifically, the Facility will be constructed on the 13.07-acre property that surrounds the Sam's Club. The Site is owned by Wal-Mart Stores Inc. and is zoned "Commercial Urban Development" ("CUD") under the zoning regulations of the Town of Manchester (the "Town").

The property is bordered by Pavilions Drive to the south and Buckland Hills Drive to the north. The surrounding area is commercial urban development zones located within the Town of Manchester and Town of South Windsor. The closest residential properties are located to the southeast of the commercial lot and parking lot, over 500 feet away from the Facility.

The Facility will be located in an existing paved area at the rear of building. The portion of the Site that will be used for the Facility is shown on Exhibit 2.

Prior to filing this petition, representative from Bloom Energy discussed the proposed Facility with the Town's Planner in August 2015. See Exhibit 4.

2. The Facility

The Facility will consist of a Bloom solid oxide fuel cell Energy Servers and associated equipment. The dimensions of the Energy Server are approximately 26'-5" long, 8'-7" wide and 6'-9" high. The Energy Server module is enclosed, factory-assembled and tested prior to installation on the Site. *See* Exhibit 5.

The Facility will be capable of producing 200 KW of continuous, reliable electric power. The Facility will interconnect to the Site's distribution system and operate in parallel with the grid to provide the Site's electrical requirements. Any electricity generated in excess of the Site's requirement will be exported to the grid under CL&P's net metering tariff. The interconnection to CL&P will be provided from the existing switchgear section located inside the electrical room near the western portion of the Building. At the time of this petition, the CL&P interconnection application is currently being prepared.

The Energy Server will be fueled by natural gas supplied by Connecticut Natural Gas ("CNG"). Gas service will be delivered to the Energy Server via a new CNG gas meter assembly. The new service line will branch off of the existing CNG line located adjacent to the facility.

The Bloom Energy Server will have extensive hardware, software and operator safety control systems, designed into the system in accordance with ANSI/CSA America FC 1-2004, the American National Standards Institute and Canadian Standards Association standard for Stationary Fuel Cell Power Systems. The Facility will be remotely monitored by Bloom Energy 24 hours a day, seven days a week. If software or hardware safety circuits detect an unsafe condition, variation in temperature or gas pressure outside of operational parameters, fuel supply is automatically stopped and the system is shut down. Two manual fuel shut-off valves are provided at each installation site, and two normally closed, safety shut-off rated isolation valves are installed within the system. The Facility will be installed in compliance with all applicable building, plumbing, electrical, fire and other codes.

The risk of fire related to the operation of the Energy Server is very low. In the Bloom fuel cell, natural gas is not burned; it is used in a chemical reaction to generate electricity. The natural gas is digested almost immediately upon entering the unit and is no longer combustible. As stated above, any variation in heat outside of the operational parameters will trigger an automatic shutdown of the energy server.

C. The Facility Complies with DEEP's Air and Water Quality Standards and Will Not Have a Substantial Adverse Environmental Effect

The construction and operation of the Facility will comply with DEEP's air and water quality standards and will not have a substantial adverse environmental effect.

Construction-related impacts will be minimal. The Facility will be located on new concrete service pads at the rear of the building within an existing paved area. All utility trenches will be restored in-kind.

Conn. Agencies Regs. § 22a-174-42, which governs air emissions from new distributed generators, exempts fuel cells from air permitting requirements. Accordingly, no permits, registrations, or applications are required based on the actual emissions from the Facility. *See* Conn. Agencies Regs. §§ 22a-174-42(b) and (e). Notwithstanding this exemption, as shown below in Table 1, the Facility meets the Connecticut emissions standards for a new distributed generator. Further, Bloom's Energy Server has passed the stringent California Air Resources Board Distributed Generation Certification Regulation 2007 Fossil Fuel Emission Standards. *See* Exhibit 6.

Table 1: Connecticut Emissions Standards for a New Distributed Generator

Compound	Connecticut Emission Standard (lbs/MW-hr)[1]	Bloom Energy Server (lbs/MW-hr)
Oxides of Nitrogen (NO_x)	0.15	<0.01
Carbon Monoxide (CO)	1	<0.10
Carbon Dioxide (CO_2)	1,650	773

With respect to water discharges, the Energy Servers are designed to operate without water discharge under normal operating conditions. During construction, appropriate soil erosion prevention techniques will be incorporated around the disturbed areas to minimize soil erosion. The area for the proposed Facility will require some clearing and associated

[1] Conn. Agencies Regs. § 22a-174-42, Table 42-2.

maintenance to ensure that proper clearance is met from the Energy Server to the surrounding greenery. However, due to the limited disturbance required for the Facility's installation, no construction-related storm water permits will be required. Further, de minimis additional impervious area will be added to the Site and will not affect drainage patterns or stormwater discharge.

The proposed Facility will be located in a paved area on the lot that was previously developed and disturbed during construction of the Sam's Club building. Therefore, the construction and operation of the Facility will not have any adverse effects on endangered species, historical resources or surrounding areas.

The acoustical impact of the Facility will be minimal, and the Facility will meet the applicable requirements for off-site noise receptors. As discussed above, the proposed Facility will be located over 500 feet from the nearest residential properties separated by a large commercial building, and will meet DEEP noise regulations without the need for sound remediation devices.

III. NOTICE

Bloom has provided notice of this petition to all persons and appropriate municipal officials and governmental agencies to whom notice is required to be given pursuant to Conn. Agencies Regs. § 16-50j-40(a).[2] A copy of the notice letter and a service list is attached as Exhibit 7.

[2] Conn. Agencies Regs. § 16-50j-40(a) requires that "[p]rior to submitting a petition for a declaratory ruling to the Council, the petitioner shall, where applicable, provide notice to each person other than the petitioner appearing of record as an owner of property which abuts the proposed primary or alternative sites of the proposed facility, each person appearing of record as an owner of the property or properties on which the primary or alternative proposed facility is to be located, and the appropriate municipal officials and government agencies [listed in Section 16-50*l* of the Connecticut General Statutes]."

IV. BASIS FOR GRANTING OF THE PETITION

Under Conn. Gen. Stat. § 16-50k(a), the Council is required to approve by declaratory ruling the construction or location of a customer-side distributed resources project or facility with a capacity of not more than 65 MW, as long as the facility meets DEEP air and water quality standards. The proposed Facility meets each of these criteria. The Facility is a "customer-side distributed resources" project, as defined in Conn. Gen. Stat. § 16-1(a)(40)(A), because the Facility is "a unit with a rating of not more than sixty-five megawatts [and is located] on the premises of a retail end user within the transmission and distribution system including, but not limited to, fuel cells" and, as demonstrated herein, will meet DEEP air and water quality standards. In addition, as demonstrated above, the construction and operation of the Facility will not have a substantial adverse environmental effect in the State of Connecticut.

V. CONCLUSION

For the reasons stated above Wal-Mart Stores, Inc. respectfully requests that the Council approve the location and construction of the Facility by declaratory ruling.

Respectfully submitted,

Wal-Mart Stores, Inc.

By: 

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EXHIBITS

Exhibit 1:	Site Location Map
Exhibit 2:	Site Plan
Exhibit 3:	Final Decision, PURA Docket No. 12-02-09, *Petition of Bloom Energy Corporation for a Declaratory Ruling that Its Solid Oxide Fuel Cell Energy Server Will Qualify as a Class I Renewable Energy Source* (Sept. 12, 2012)
Exhibit 4:	Correspondence with the Town
Exhibit 5:	Bloom Energy Server Product Datasheet and General Installation Overview
Exhibit 6:	California Air Resources Board Distributed Generation Certification
Exhibit 7:	Notice Pursuant to Conn. Agencies Regs. § 16-50j-40(a)