



Attn: Robert Stein, Chairman
Connecticut Siting Council
10 Franklin Square
New Britain, CT 06051

RE: Petition of Bloom Energy Corporation, as agent for Frontier Communications Corporation, for a Declaratory Ruling for the Location and Construction of a 1.4MW Fuel Cell Customer Side Distributed Resource at 310 Orange Street, New Haven, CT 06510

Dear Chairman Stein:

We are submitting an original and fifteen (15) copies of the above-captioned Petition, together with the filing fee of \$625.

In the Petition, Bloom Energy Corporation (“Bloom”), as agent for Frontier Communications Corporation (“Frontier”), request the Connecticut Siting Council approve the location and construction of a 1.4 megawatt fuel cell and associated equipment (the “Facility”). The Facility will be located on the site of the Frontier building at 310 Orange Street, New Haven, CT (the “Site”). Electricity generated by the Facility will be consumed primarily at the Site, and any excess electricity will be exported to the electric grid. The Facility will be fueled by natural gas.

Should you have any questions, concerns, or require additional information, please contact me at (860) 839-8373.

Sincerely,
Bloom Energy

Justin Adams
justin.adams@bloomenergy.com
(860) 839-8373

**STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL**

PETITION OF BLOOM ENERGY : PETITION NO. ____
CORPORATION AS AGENT FOR FRONTIER :
COMMUNICATIONS CORP FOR A :
DECLARATORY RULING FOR THE :
LOCATION AND CONSTRUCTION OF A 1.4- :
MEGAWATT FUEL CELL CUSTOMER-SIDE : November 4, 2016
DISTRIBUTED RESOURCE AT 310 ORANGE :
STREET, NEW HAVEN, CONNECTICUT

PETITION OF BLOOM ENERGY CORPORATION AS AGENT FOR IKEA FOR A
DECLARATORY RULING

Pursuant to Conn. Gen. Stat. §§ 4-176 and 16-50k(a) and Conn. Agencies Regs. § 16-50j-38 et seq., Bloom Energy Corporation (“Bloom”), as agent for Frontier Communications Corp. (“Frontier”), requests that the Connecticut Siting Council (“Council”) approve by declaratory ruling the location and construction of a customer-side distributed resources project comprised of six (6) new ES-5 Bloom Energy Servers solid oxide fuel cells and associated equipment (the “Facility”), providing 1.4-megawatts (“MW”) (net) of power to the Frontier building located at 310 Orange Street, New Haven, Connecticut (the “Site”). *See* Exhibit 1. The Facility will be installed, maintained and operated by Bloom and owned by Key Equipment Finance, a third party financing source of Bloom under an agreement with Frontier.

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 Projection.”



The proposed Facility will be a customer-side distributed resource facility under 65MW that complies with the air and water quality standards of the Connecticut Department of Energy and Environmental Protection (“DEEP”). Bloom submits that no Certificate is required because the proposed modifications would not have a substantial adverse environmental effect in the immediate vicinity of the Facility as well as in the State of Connecticut.

I. COMMUNICATIONS

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

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II. DISCUSSION

A. Project Description and Purpose

The proposed Facility would be a 1.4 MW customer-side distributed resource consisting of six state-of-the-art Bloom Energy Servers and associated equipment. It will be interconnected to switchgear located inside the electrical room of the Frontier Communication Corp. building (“Building”). *See* Exhibit 2.

The Facility will be a “customer-side distributed resource(s)” project because it will be “a unit with a rating of not more than sixty-five megawatts [and is located] on the premises of an industrial 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.

The purpose of the proposed Facility is to replace the average baseload of the Building with a Class I renewable energy source, achieve sustainability goals, and improve reliability of electrical systems and equipment. The meter interval data analysis conducted in 2016 (Exhibit 4) determined the average baseload for the Building to be 1,256kW, equivalent to the proposed 1,400kW (1.4 MW) Facility. Therefore, electricity generated by the Facility will be consumed primarily at the Site, and any excess electricity will be exported to the grid.

B. The Facility

i. The Facility

The Facility will consist of six fuel cells Bloom solid oxide fuel cell Energy Servers and associated equipment. Each of the Energy Servers is approximately 32 feet long, 4 feet wide and 7 feet tall. The location and arrangement for the fuel cells and equipment on the roof of the Building is shown in Exhibit 2. The Energy Server module is enclosed, factory-assembled and tested prior to installation. *See* Exhibit 5.

The Facility will be capable of producing 1.4 MW of clean, reliable and continuous 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 United Illuminating Company’s (“UI”) net metering tariff. This site will not have an uninterruptible power module



("UPM") and thus will not have any means to output power in a grid independent capacity at any time. The interconnection to UI will be provided from switchgear located inside the electrical room. The UI interconnection application for the Facility was submitted and is currently under review. The Facility will be fueled by natural gas supplied by Southern Connecticut Gas (SCG).

The Facility, and more specifically the inverters within, are UL1741/IEEE1547 compliant and thus will not operate without a stable utility voltage. In the event of an outage, the Facility will not shut down, they will automatically enter a state of stand-by awaiting the return of a stable utility voltage. When in a state of complete shut down the Energy Server requires a combination of remote and on-site coordination to start up the systems. This work is performed by Bloom employed, trained and certified personnel only, Frontier does not control the operation of the system directly. In accordance with Public Act 11-101¹, an Emergency Response Plan (Exhibit 6) and associated training is provided to Frontier and select employees.

The Facility includes extensive hardware, software and operator safety control systems, designed in accordance with the American National Standards Institute (ANSI) / Canadian Standards Association (CSA) America FC 1-2004 standard for "Stationary Fuel Cell Power System(s)". 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. A Bloom Energy trained service technician will visit the site to determine the cause of the shutdown before starting the system back up. Two manual fuel

¹ An Act Adopting Certain Safety Recommendations of the Thomas Commission

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 accordance with NFPA 853². This standard provides fire prevention and fire protection requirements for safeguarding life and physical property associated with buildings or facilities that employ stationary fuel cell systems of all sizes. The risk of fire related to the operation of this Facility is therefore very low. Furthermore, in the Energy Server, 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. In accordance with Public Act 11-101³, the fuel line (pipe) cleaning procedure is to purge for 60 seconds with 10 blasts of on off prior to connecting to the Facility. In addition to these safety features, the Facility will also be installed in compliance with all applicable building, plumbing, electrical, and fire codes to ensure local standards and procedures are addressed.

C. Existing Environment

i. The Site

The Facility would be installed within the Frontier property located at 310 Orange Street, New Haven. Specifically, the Facility will be constructed on the 12th story roof of a 14 story building located on a 1.52-acre property (“the Site”). The Site is zoned as “Central Business” (“BD”) under the zoning regulations of the City of New Haven (the “City”). The surrounding areas are zoned as BD and Central Business / Residential (“BD-1”). The abutting properties of

² Standard for the Installation of Stationary Fuel Cell Power Systems, 2015 Edition

³ Public Act 11-101, An Act Adopting Certain Safety Recommendations of the Thomas Commission,

the proposed location include a church, small stores, business services, offices, an apartment building, and a government buildings.

The location of Facility was strategically placed on the roof and in proximity to existing mechanical equipment to reduce visual impacts to the City and abutters.

ii. Wildlife and Habitat

A review of the publically available Natural Diversity Database (NDDDB) has shown no known occurrences of state-listed species within the proposed Facility location. Furthermore, the proposed Facility will be located on a roof. Therefore, the construction and operation of the Facility will not have a substantial adverse effect on wetlands and state-listed species.

iii. Archaeological and Historical Resources (Cultural)

The proposed location is within the Central Business District of New Haven. The purpose of the City's zoning regulations⁴ for this district are to encourage the preservation of existing historic structures and not have a negative effect upon the proper functioning of historic districts or of the larger downtown. The proposed Facility location would not be visible from the ground level and is adjacent to existing mechanical equipment typically located on roofs. In addition, the proposed Facility is a reinvestment in Frontier's Regional Headquarters building, which was built in 1955 and is an important fixture in downtown New Haven. The affordable clean energy source encourages the long term function and use of the Building for its current and future use. The proposed Facility would therefore preserve the historic function of the Building

⁴ ZONING ORDINANCE CITY OF NEW HAVEN. ARTICLE V. BUSINESS AND INDUSTRIAL DISTRICTS Section 41. - Description and purpose of business and industrial districts.

and not have a negative effect on the proper functioning of any historic districts or of the larger downtown.

iv. Flood and Coastal Zones

A review of the flood hazard mapping data from Federal Emergency Management Agency's ("FEMA") National Flood Insurance Program ("NFIP") has shown the Facility would not be located within a 100- or 500-year flood zone. The Site was also reviewed for proximity to the Coastal Boundary, which delineates the coastal boundary of Connecticut as defined in the Connecticut Coastal Management Act. The proposed Facility would not be located within a Coastal Boundary.

D. Environmental Effects and Mitigation

i. Natural Gas Desulfurization Process

The first step in the production of electricity in the Bloom Energy server is desulfurization – the removal of the sulfur compounds, which have been added to the natural gas as an odorant by the natural gas suppliers. This step occurs in the desulfurization unit – a canister which contains a filter made for this purpose. Sulfur is not “produced” in this process, but is separated from the natural gas in which it was contained. In this process, trace levels of other compounds which are naturally present in the natural gas may also absorb to the filter. Again, these are not “produced” from the process, but are separated from the natural gas in which they were contained. The filter is made up of inert materials.

The desulfurization process takes place entirely within desulfurization canisters. These are made of extruded aluminum or zinc-plated steel that are built to last for the life of the Energy Server and beyond. Because they are built to hold natural gas, their structural integrity is



essential. That integrity is assured by around the clock monitoring of the Energy Servers to detect any leak. Were there a leak, the Server (including the desulfurization operation) would shut down automatically. There has never been a leak from one of the desulfurization canisters. The structural integrity and leak prevention continues after the desulfurization canisters are removed from service. At that point, the entry and exit points for the natural gas automatically seal shut. The desulfurization canister remains sealed and is not opened at the Site, or anywhere in the State of Connecticut.

Within days that a desulfurization canister is taken out of service, it is picked up by a Bloom contractor and taken to a licensed facility outside the State, where the desulfurization unit is opened and the contents are removed. As described above, the desulfurization unit has complete structural integrity. Its safety as a container for transporting has been certified by the Department of Transportation (DOT). This certification assures that the canisters are secure and have the structural integrity to transport the desulfurization materials safely and without risk of a release.

Bloom has been engaged and expects to have further follow up discussion with regulators on the proper management of materials found in all public pipeline natural gas supplied to homes and businesses, which we filter before that fuel is consumed by our product to produce clean, environmentally friendly electric power. Because our technology is relatively new, the 35 year old regulations do not address our situation, but we have been working with the regulators to obtain clarification.

ii. Emissions

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.

With respect to water discharges, the Energy Servers are designed to operate without water discharge under normal operating conditions. Additionally, the Facility would use no water during normal operation beyond a 524-gallon injection at start up.

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.

Table 1: Connecticut Emissions Standards for a New Distributed Generator

Compound	Connecticut Emission Standard (lbs/MW-hr)⁵	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	735-832

The facility will also meet state criteria thresholds and projected emissions for all greenhouse gases defined in Regulations of Connecticut State Agencies Section 22a-174-1(49) as shown in Table 2. By virtue of the non-combustion process the Energy Servers virtually eliminate NO_x, SO_x, CO, VOCs and particulate matter emissions from the energy production process. Similarly there are no CH₄, SF₆, HFC or PFC emissions. CH₄ is broken down in the

⁵ Conn. Agencies Regs. § 22a-174-42, Table 42-2.

reforming process. Reforming is the type of process where if you have sufficient catalyst, the reaction can go all the way to completion. That is the case for the Bloom Energy Server. The fuel is reformed in the hot box – with a very significant excess catalyst for reaction.

Table 2: Connecticut Thresholds for Greenhouse Gases

Emission Type	Bloom Output	LERC allowance
Nitrous Oxides (NOx)	<0.01 lbs/MWh	0.07 lbs/MWh
Carbon Monoxide (CO)	<0.10 lbs/MWh	0.10 lbs/MWh
Sulfur Oxides (SOx)	Negligible	Not Listed
Volatile Organic Compounds (VOCs)	<0.02 lbs/MWh	0.02 lbs/MWh
Carbon Dioxide (CO2) ⁶	735-832 lbs/MWh	Not Listed

iii. Sound Levels

Bloom contracted Mei Wu Acoustics (MWA) to predict the sound levels produced by the proposed Facility. The report is provided in Exhibit 7. This analysis confirmed that the predicted sound levels for receivers on the neighboring buildings’ rooftops and at ground level are significantly below the noise criteria set forth in Connecticut regulations for the Control of Noise. The proposed Facility is therefore compliant with requirements.

iv. Visual Effects

The overall visual effect would be mitigated by the proposed location on the roof of the Building, which would not be visible from ground level and in proximity to existing mechanical equipment typically located on roofs.

⁶ Carbon Dioxide is measured at Bloom’s stated lifetime efficiency level of 53-60%

E. Project Construction and Maintenance

During construction, appropriate erosion and sedimentation (E&S) controls will be installed to protect roof drains and prevent the transport of construction related sediment off-site. Temporary E&S control measures will be maintained and inspected throughout construction to ensure their integrity and effectiveness. The temporary E&S control measures will remain in place until the work is complete. Due to the limited disturbance required for the Facility's installation, no construction-related storm water permits will be required. Further, no additional impervious area will be added to the Site and it will not affect drainage patterns or stormwater discharge. Construction-related impacts will be minimal and contained to the roof or within the building.

III. COMMUNITY OUTREACH

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).⁷ A copy of the notice letter and a service list are provided in Exhibit 8 and the corresponding abutters map is provided in Exhibit 9. Additionally, prior to filing this petition, representatives from Bloom briefly discussed the proposed Facility with the City of New Haven Planning Department. An opportunity to comment on the proposed Site Plan has been provided to the Mayor and City Planner to incorporate any design comments they may have. *See* Exhibit 10.

⁷ 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 16-50l 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 noise, 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, Bloom, as agent for Frontier, respectfully requests that the Council approve the location and construction of the Facility by declaratory ruling.

Respectfully submitted,

Bloom Energy Corporation

By: _____

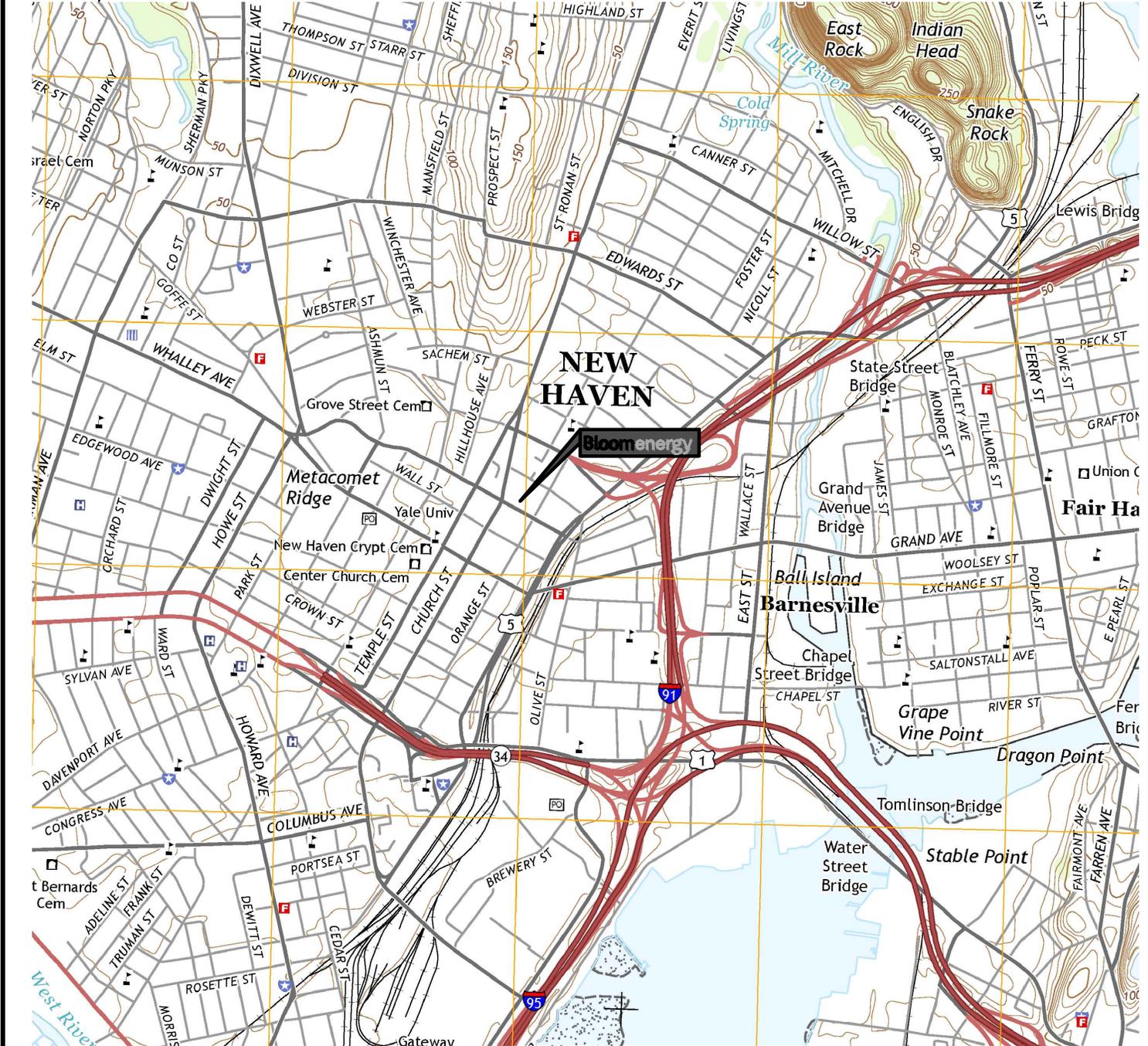
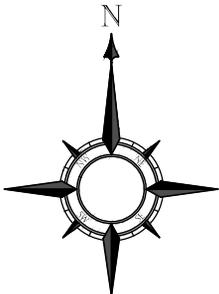
Justin Adams
Bloom Energy Corporation
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Sunnyvale, CA 94089
Telephone: (408) 338-7452
Email: justin.adams@bloomenergy.com



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: Meter interval data analysis conducted in 2016
- Exhibit 5: Bloom Energy Server Product Datasheet and General Installation Overview
- Exhibit 6: Emergency Response Plan
- Exhibit 7: Sound Analysis
- Exhibit 8: Notice Pursuant to Conn. Agencies Regs. § 16-50j-40(a)
- Exhibit 9: Abutters Map
- Exhibit 10: Letter to Mayor and City Planner

Exhibit 1



Job#:	BEC-21229
Scale:	1" ≈ 2,000'
Date:	10/11/2016
Drawn By:	MDS

CORE STATES

GROUP

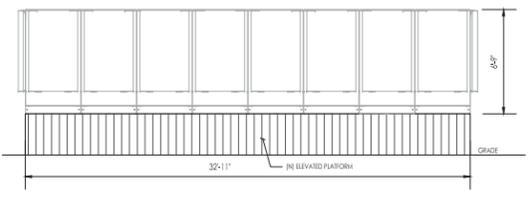
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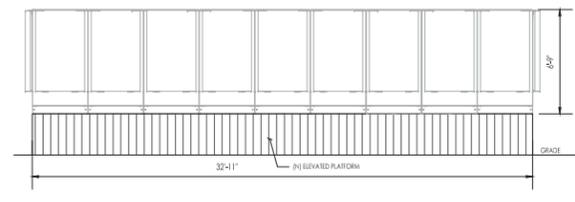
310 Orange Street
 New Haven, CT 06510

**EXHIBIT 1 - SITE LOCATION MAP
 USGS MAP (HARTFORD SOUTH)**

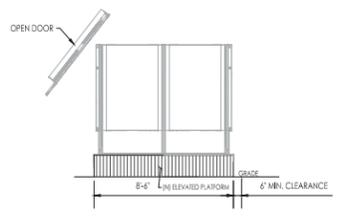
Exhibit 2



A FRONT VIEW (200 kW)



B FRONT VIEW (250 kW)



C SIDE VIEW (250 kW)



Know what's below.
Call before you dig.

THE CONTRACTOR IS SPECIFICALLY CAUTIONED THAT THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AS SHOWN ON THESE PLANS IS BASED ON DESIGN DRAWINGS, RECORDS OF THE VARIOUS UTILITY COMPANIES, AND WHERE POSSIBLE, MEASUREMENTS TAKEN IN THE FIELD. CORE STATES, INC. DOES NOT GUARANTEE THAT LOCATIONS SHOWN ARE EXACT. THE CONTRACTOR MUST CONTACT THE APPROPRIATE UTILITY COMPANIES AT LEAST 72 HOURS BEFORE ANY EXCAVATION TO REQUEST EXACT FIELD LOCATIONS OF UTILITIES.

NOTE: EXISTING CONDITIONS INFORMATION TAKEN FROM PLAN ENTITLED, "NEW HAVEN EQUIPMENT BUILDING", DATED, MARCH 18, 1953, AS PREPARED BY DOUGLAS ORR, ARCHITECT & ENGINEER. OBSERVATIONS PERFORMED BY CORE STATES GROUP ON SEPTEMBER 9, 2016.

TYP ELEV OF ONE ES-5710 BLOOMENERGY ES UNIT SCALE N.T.S. 2

SYSTEM			
Output Power	262.5 kW	Total System Weight (Less Pad)	27,192 lbs
Voltage	480 VAC	Weight - YPM x 6	3,577 lbs
Maximum Output Current	316 Amps	Weight - YAC x 1	3,161 lbs
Frequency	60 Hz	Weight - YFP x 1	2,569 lbs
		Weight - Pad	38,235 lbs

FUEL REQUIREMENTS			
Connection	2" FNPT	Pressure	15 (+3/-1) PSIG
Fuel Type	Natural Gas	Max Consumption Rate (60F, 1atm)	2.3MMBtu/hr

WATER REQUIREMENTS			
Connection	1/2" MNPT	Flow - Startup	< 0.8 gal/min
Quality	Municipal Grade	Flow - Continuous	0 gal/min
Minimum Pressure	35 PSI	Water Discharge	0 gal/min

BLOOMENERGY ES-5 SPECIFICATION (250 kW)

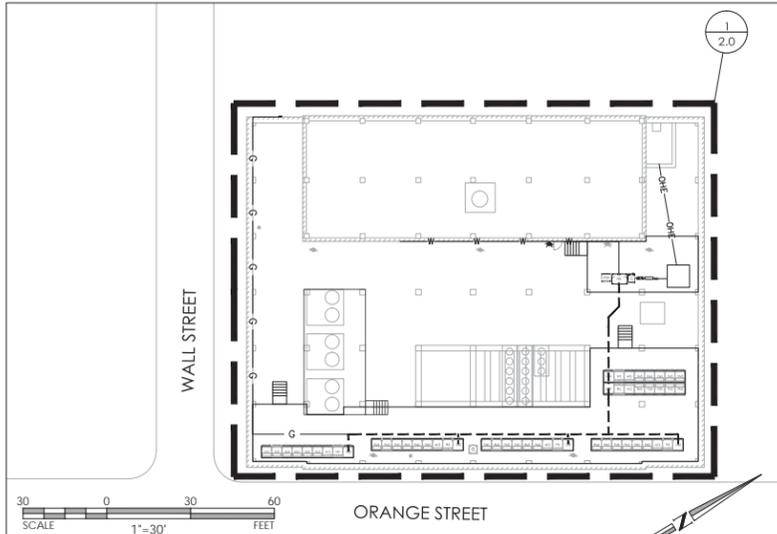
SYSTEM			
Output Power	210 kW	Total System Weight (Less Pad)	23,615 lbs
Voltage	480 VAC	Weight - YPM x 5	3,577 lbs
Maximum Output Current	253 Amps	Weight - YAC x 1	3,161 lbs
Frequency	60 Hz	Weight - YFP x 1	2,569 lbs
		Weight - Pad	38,235 lbs

FUEL REQUIREMENTS			
Connection	2" FNPT	Pressure	15 (+3/-1) PSIG
Fuel Type	Natural Gas	Max Consumption Rate (60F, 1atm)	1.497 MMBtu/hr

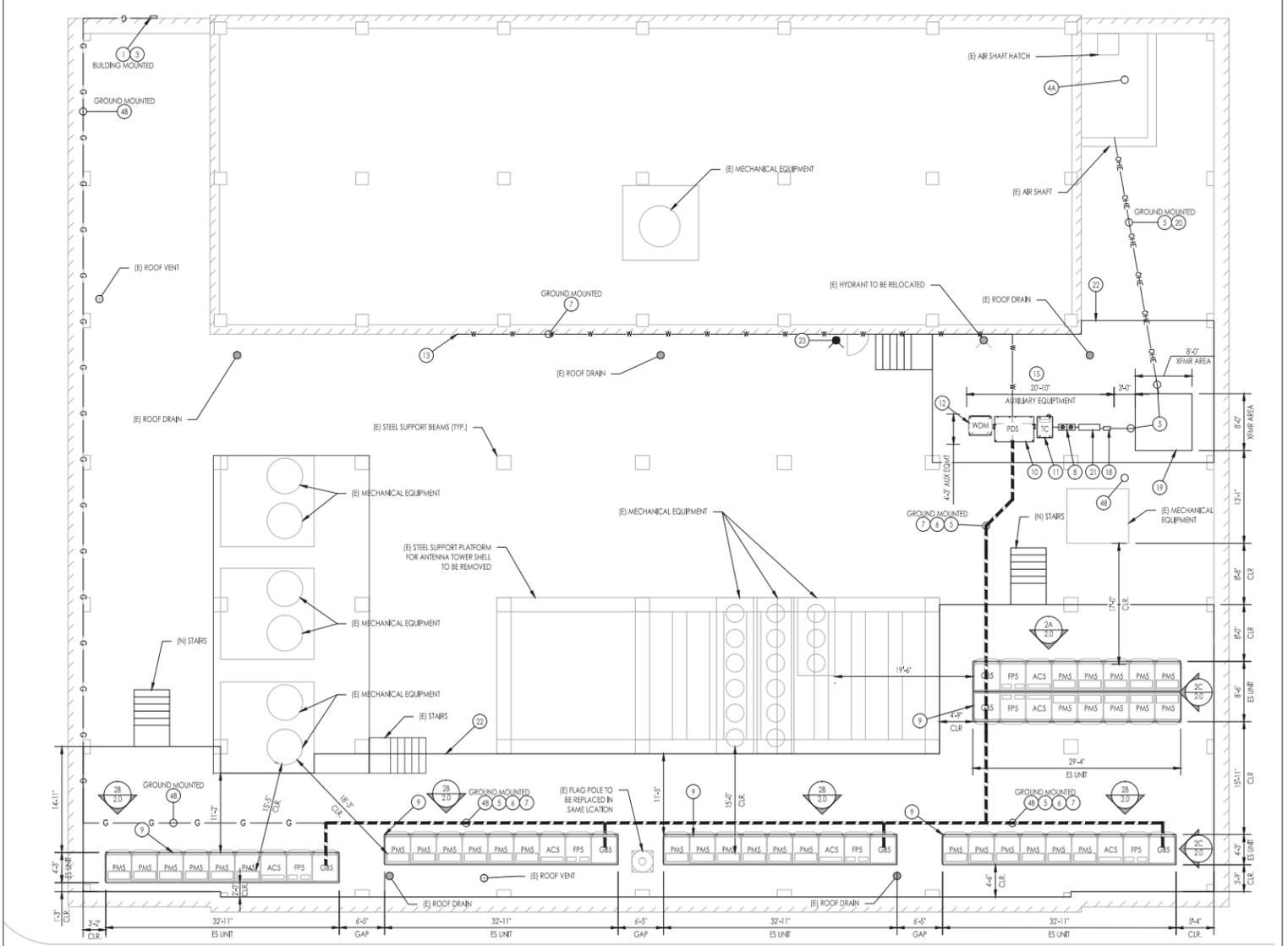
WATER REQUIREMENTS			
Connection	1/2" MNPT	Flow - Startup	< 0.8 gal/min
Quality	Municipal Grade	Flow - Continuous	0 gal/min
Minimum Pressure	35 PSI	Water Discharge	0 gal/min

BLOOMENERGY ES-5 SPECIFICATION (200 kW)

BLOOMENERGY ES-5 SPECIFICATIONS SCALE N.T.S. 3



OVERALL AREA PLAN SCALE 1"=30' 4



ORANGE STREET

SITE PLAN SCALE 1"=10' 1

RESPONSIBILITY NOTES

- THE FOLLOWING EQUIPMENT SHOWN ON THESE PLANS WILL BE PROVIDED AND DELIVERED BY BLOOM ENERGY. APPLICABLE TRADES TO MOUNT AND MAKE FINAL CONNECTIONS.
 - POWER DISTRIBUTION SECTION (PDS)
 - TELEMETRY CABINET (TC)
 - WATER DEIONIZATION MODULE (WDM)
 - STORAGE (SEE SAFETY STORAGE)
 - SITE KIT (SEE SEE KIT NOTES)
- THE FOLLOWING EQUIPMENT SHOWN ON THESE PLANS WILL BE PROVIDED, DELIVERED AND MOUNTED BY BLOOM ENERGY. APPLICABLE TRADES TO MAKE FINAL CONNECTIONS.
 - CLEAN ENERGY SERVER
- CONTRACTOR TO REFER TO ELECTRICAL PLANS FOR ASSOCIATED WORK.

SITE KIT NOTES

- BLOOMENERGY TO PROVIDE AND DELIVER THE SITE KIT.
- ELECTRICAL AND PLUMBING CONTRACTOR TO INSTALL SEE VES, CONSIDERING OF PAD PLUMBING AND BUS BARS, ON THE PRECAST CONCRETE PAD PER MANUFACTURE SPECIFICATIONS.
- PWM DEFLECTORS ARE NOT REQUIRED AT THIS SITE.

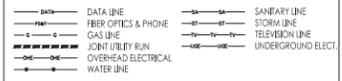
UTILITIES

GAS: SOUTHERN CONNECTICUT GAS COMPANY (SCG)
ELECTRIC: UNITED ILLUMINATING COMPANY (UII)

CONDUIT & PIPE LENGTHS

TYPE	TOTAL DISTANCE FROM TERN TO FURTHEMOST ES UNIT (LINEAR)
GAS PIPE	657'
ELECTRICAL CABLE (TO T1P)	473'
DATA CONDUIT	325'
WATER PIPE	325'

LEGEND OF UTILITY LINES



KEYNOTES

- (N) UTILITY GAS METER SET ASSEMBLY (MSA) FOR CLEAN ENERGY SERVER. COORDINATE LOCATION & INSTALLATION REQUIREMENTS WITH UTILITY COMPANY PRIOR TO INSTALLATION. MAINTAIN MINIMUM 3'-0" CLEARANCE FROM ALL IDENTIFIED SOURCES. CONTRACTOR TO PROVIDE GAS IN PLACE CONCRETE PAD PER GAS ASSEMBLY PAD, MSA & INTERCONNECTION PER NATURAL GAS DIAGRAM AND ONE LINE DIAGRAM (DATA). ADD IMPACT PROTECTION AS INDICATED BY IMPACT PROTECTION PLAN.
- NOT USED.
- (N) GAS SERVICE TAP BY UTILITY COMPANY. EXACT LOCATION TO BE COORDINATED WITH UTILITY. FOR SPECIFICATIONS, REFER TO DETAIL 1 HEREON. SEE(S) & TRENCHING REQUIREMENTS PER UTILITY COMPANY.
- (N) GAS PIPE FROM (N) GAS TAP TO TERMINATE AT (N) UTILITY MSA INSTALLED BY UTILITY COMPANY. SEE(S) & TRENCHING REQUIREMENTS PER UTILITY COMPANY.
- (N) GAS PIPE, DATA CONDUIT & CABLE (WHERE NEEDED) FROM (N) UTILITY GAS MSA TO TERMINATE AT (N) ES UNIT INSTALLED BY CONTRACTOR. SEE(S) PER INTERCONNECTION DIAGRAM & ELECTRICAL DATA DETAILS.
- (N) ELECTRICAL CONDUIT & WIRES FROM (N) PDS TO (N) DISCONNECT WITH FINAL TERMINATION AT (E) SWITCHGEAR. SEE(S) PER ONE LINE DIAGRAM.
- (N) DATA CONDUIT & CABLE FROM (N) TC TO TERMINATE AT (E) MPOE. SEE(S) PER ELECTRICAL DATA DETAILS.
- (N) WATER PIPE FROM BUILDING DOMESTIC WATER SYSTEM TO (N) WDM. CONNECT TO NEAREST AVAILABLE LOCATION. SEE(S) PER INTERCONNECTION DIAGRAM (SHEET 5.0).
- (N) DISCONNECT SWITCH & NEMA 3R ENCLOSURE. DISCONNECT SPECIFICATIONS PER ONE LINE DIAGRAM. MOUNT TO UNITRIT PER MANUFACTURER SPECIFICATIONS. ENSURE LOCATION MEETS ALL REQUIRED N.E.C. CLEARANCES. PROVIDE MODEL NUMBER ON THE OUTSIDE OF THE FRONT PANEL.
- (N) BLOOMENERGY ES-5 ENERGY SERVER.
- (N) POWER DISTRIBUTION SECTION (PDS). MOUNTING SPECIFICATIONS PER GRADING PLAN. CONDUIT STUB-UP LOCATIONS PER ELECTRICAL CONDUIT PLAN.
- (N) TELEMETRY CABINET (TC) WITH FACTORY WIRING CLEAN ENERGY SERVER EMERGENCY POWER-OFF SWITCH (EPOS). MOUNTING SPECIFICATIONS PER GRADING PLAN. CONDUIT STUB-UP LOCATIONS PER ELECTRICAL CONDUIT DETAILS.
- (N) WATER DEIONIZATION MODULE (WDM). MOUNTING SPECIFICATIONS PER GRADING PLAN. PIPE & CONDUIT STUB-UP LOCATIONS PER PIPE PLAN & DETAILS & ELECTRICAL CONDUIT DETAILS.
- (N) WATER TAP. CONTRACTOR TO ENSURE MINIMUM PRESSURE OF 35 PSI.
- (N) 100' COPPER GROUNDING RODS 6'-0" APART. SPECIFICATIONS PER ONE LINE DIAGRAM.
- (N) PROVIDE SECURITY BOXES OF CONDUIT & WIRE AT ALL ELECTRICAL STUB UP LOCATIONS.
- CORE CONDUIT AND/OR PIPE THROUGH WALL. SCAN WALL PRIOR TO CORING.
- NOT USED.
- (N) UTILITY APPROVED IREC METER. MOUNT TO UNITRIT PER MANUFACTURER SPECIFICATIONS. ENSURE LOCATION MEETS ALL REQUIRED N.E.C. CLEARANCES. PROVIDE MODEL NUMBER ON THE OUTSIDE OF THE FRONT PANEL. COMPLETE SPECIFICATION PER ELECTRICAL SPECIFICATIONS.
- (N) TRANSFORMER. CONTRACTOR TO VERIFY DIMENSIONS WITH BLOOMENERGY PROVIDED CUTSHEETS PRIOR TO POURING OF PAD.
- CONTRACTOR SHALL PROVIDE ALL NECESSARY PULLBOXES FOR POWER AND DATA CONDUITS AS REQUIRED.
- (N) UTILITY APPROVED CTC CABINET IN NEMA 3R ENCLOSURES. MOUNT TO UNITRIT PER MANUFACTURER SPECIFICATIONS. ENSURE LOCATION MEETS ALL REQUIRED N.E.C. CLEARANCES. PROVIDE MODEL NUMBER ON THE OUTSIDE OF THE FRONT PANEL. COMPLETE SPECIFICATION PER ELECTRICAL SPECIFICATIONS.
- (N) STRUCTURAL STEEL PLATFORM.
- (E) HYDRANT TO BE RELOCATED.

REV	DATE	DESCRIPTION
11/02/16	PRELIM. SUBMISSION	

PROJECT INFORMATION	
JOB #	BEC-21229
DATE	10/25/16
DRAWN BY:	MMD
CHECKED BY:	MDS

MODEL	
(2) ES-5-BABA0(4) ES-5-AA1AA0	

SHEET TITLE	
SITE PLAN	

SHEET NUMBER	
2.0	

Bloomenergy
1352 Orleans Drive, Sunnyvale CA, 94089
Tel: 408 543 1000
Fax: 408 543 1001
www.bloomenergy.com

Frontier COMMUNICATIONS
NEW CONSTRUCTION OF
CLEAN ENERGY SERVER
310 ORANGE STREET
NEW HAVEN, CT 06510

CORE STATES
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 User: MDS/AA
 Unit: MDS/AA
 Date: 10/25/16
 Drawing No: 02_16_0927
 Drawing Date: 10/25/16

Exhibit 3



STATE OF CONNECTICUT

DEPARTMENT OF ENERGY AND ENVIRONMENTAL PROTECTION
PUBLIC UTILITIES REGULATORY AUTHORITY
TEN FRANKLIN SQUARE
NEW BRITAIN, CT 06051

**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**

September 12, 2012

By the following Directors:

Arthur H. House
John W. Betkoski, III

DECISION

I. INTRODUCTION

By Petition dated February 14, 2012, pursuant to Section 4-176 in the General Statutes of Connecticut (Conn. Gen. Stat.) and Section 16-1-113 in the Regulations of Connecticut State Agencies, Bloom Energy Corporation requests that the Public Utilities Regulatory Authority (Authority) issue a declaratory ruling that its solid oxide fuel cell energy server qualifies as a Class I renewable energy source.

II. PETITIONER'S EVIDENCE

Bloom Energy Corporation (Bloom) has commercialized a scalable, modular fuel cell using Bloom's patented solid oxide fuel cell (SOFC) technology. A fuel cell is a device that uses a fuel and oxygen to create electricity by an electrochemical process. A single fuel cell consists of an electrolyte and two catalyst-coated electrodes (an anode cathode). Fuel cells are generally categorized by the type of electrolyte used. Petition, pp. 2 and 3.

Each Bloom Energy Server consists of thousands of Bloom's patented SOFCs. Each fuel cell is a flat, solid ceramic square capable of producing at least 25 watts. In an energy server, Bloom "sandwiches" the SOFCs between metal interconnect plates into a fuel cell "stack." Bloom aggregates multiple fuel cell stacks together into a "power module," and then multiple power modules, along with a common fuel input and electrical output, are assembled as a complete energy server fuel cell. Id., p. 3.

The Bloom Energy Server converts the chemical energy contained in fuel, such as natural gas, into electricity at an efficiency of approximately 50% - 60% (lower heating value net AC) without any combustion or multi-stage conversion loss. Fuel entering the energy server is processed using a proprietary catalytic method to yield a reformat gas stream, and the gaseous product and preheated air are introduced into the fuel cell stacks. Within the stacks, ambient oxygen reacts with the fuel to produce direct current (DC) electricity. The DC power produced by the energy server system is converted into 480-volt AC power using an inverter, and delivered to the host facility's electrical distribution system. Id.

SOFCs operate at very high temperatures, obviating the need for expensive metal catalysts. With low cost ceramic materials, and extremely high electrical efficiencies, SOFCs can deliver attractive economies without relying on combined heat and power. Id.

Bloom Energy Servers are a fraction of the size of a traditional base load power source, with each server occupying a space similar to that of a parking space. This small, low-impact, modular form of base load power does not pose the environmental challenges associated with a traditional base load power plant, significantly reducing environmental impacts. Moreover, Bloom's innovative design requires only an initial input of 120 gallons of water per 100 kW, after which no additional water is consumed during normal operation. Id., pp. 3 and 4.

Bloom Energy Servers deliver significant environmental benefits over conventional base load technologies. In addition to significant CO₂ reductions due to its high efficiency, the energy server emits virtually no NO_x, SO_x, or other smog forming particulates since the conversion of gas to electricity in a Bloom Energy Server is done through an electrochemical reaction rather than combustion. Id., p. 4.

III. AUTHORITY ANALYSIS

Conn. Gen. Stat. §16-1(a)(26) defines a Class I renewable energy source as:

(A) energy derived from solar power; wind power; a fuel cell; methane gas from landfills; ocean thermal power; wave or tidal power; low emission advanced renewable energy conversion technologies; a run-of-the-river hydropower facility provided such facility has a generating capacity of not more than five megawatts, does not cause an appreciable change in the river flow, and began operation after the effective date of this section; or a biomass facility, including, but not limited to, a biomass gasification plant that utilizes land clearing debris, tree stumps or other biomass that regenerates or the use of which will not result in a depletion of resources, provided such biomass is cultivated and harvested in a sustainable manner and the average emission rate for such facility is equal to or less than .075 pounds of nitrogen oxides per million BTU of heat input for the previous calendar quarter, except that energy derived from a biomass facility with a capacity of less than five hundred kilowatts that began construction before July 1, 2003, may be considered a Class I renewable energy source, provided such biomass is cultivated and harvested in a sustainable manner; or (B) any electrical generation, including distributed generation, generated from a Class I renewable energy source.

Based on Bloom's assertions, the Authority finds that its Bloom Energy Server qualifies as a Class I renewable energy source "fuel cell" as defined in Conn. Gen. Stat. §16-1(a)(26)(A).

The Authority has created an electronic application process for generation owners to apply for a Connecticut Renewable Portfolio Standards registration. The application is available on the Authority's website at the web address <http://www.ct.gov/pura>. The application should be submitted electronically along with a single hard-copy filing. While the Authority concludes in this Decision that the Bloom Energy Server would qualify as a Class I renewable energy source pursuant to Conn. Gen. Stat. §16-1(a)(26), Bloom must still apply for registration of the aforementioned system once the facility becomes operational and is registered in the New England Generation Information System.

IV. CONCLUSION

Based upon the project as described herein, the Authority finds that, as proposed, the Bloom Energy Server would qualify as a Class I renewable energy source. However, since the energy server is not yet operational, it should apply for Class I registration once it begins operations.

The Connecticut Department of Energy and Environmental Protection is an Affirmative Action/Equal Opportunity Employer that is committed to requirements of the Americans with Disabilities Act. Any person with a disability who may need information in an alternative format may contact the agency's ADA Coordinator at 860-424-3194, or at deep.hrmed@ct.gov. Any person with limited proficiency in English, who may need information in another language, may contact the agency's Title VI Coordinator at 860-424-3035, or at deep.aaoffice@ct.gov. Any person with a hearing impairment may call the State of Connecticut relay number – 711. Discrimination complaints may be filed with DEEP's Title VI Coordinator. Requests for accommodations must be made at least two weeks prior to any agency hearing, program or event.

**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**

This Decision is adopted by the following Directors:

Arthur H. House

John W. Betkoski, III

CERTIFICATE OF SERVICE

The foregoing is a true and correct copy of the Decision issued by the Public Utilities Regulatory Authority, State of Connecticut, and was forwarded by Certified Mail to all parties of record in this proceeding on the date indicated.



Kimberley J. Santopietro
Executive Secretary
Department of Energy and Environmental Protection
Public Utilities Regulatory Authority

September 12, 2012

Date

Exhibit 4

Baseload Analysis - Meter Interval Data Analysis

INPUTS	
BE Output Factor	95%
Select Utility ----->	CL&P
Customer Name	Frontier - 5625

Absolute Minimum kW	0 kW
Recurring Minimum Base	1,145 kW
Average Baseload	1,256 kW
Proposed System Size*	1,400 kW

SYSTEM DETAILS	
% Exported	2.1%
% of Load Offset	95%
Utility Exports	
Peak Hours	30,871 kWh
Partial Peak Hours	0 kWh
Off-Peak Hours	218,465 kWh
Total kWh Exported	244,793 kWh
CUSTOMER DETAILS	
Total Days of Data	365
Annual Load Factor	93%
Total Customer Usage	12,043,266 kWh
Average Hourly kWh	1,375 kWh
Daily Avg. Peak Demand	1,531 kW

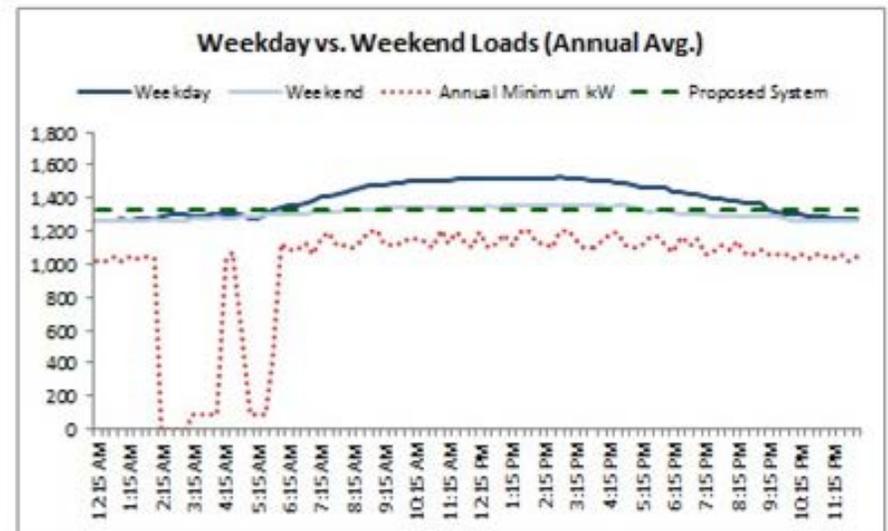
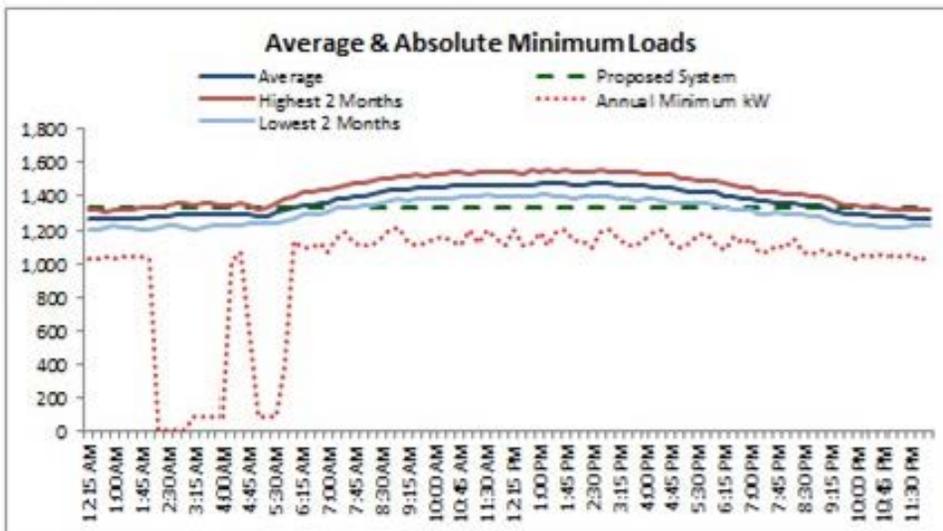


Exhibit 5



Energy Server 5

Clean, Reliable, Affordable Energy



CLEAN, RELIABLE POWER ON DEMAND

The Energy Server 5 delivers clean power that reduces emissions and energy costs. The modular architecture enables the installation to be tailored to the actual electricity demand, with a flexibility to add servers as the load increases. The Energy Server 5 actively communicates with Bloom Energy's network operations centers so system performance can be monitored 24 hours per day, 365 days per year.

INNOVATIVE TECHNOLOGY

Utilizing solid oxide fuel cell (SOFC) technology first developed for NASA's Mars program, the Energy Server 5 produces clean power at unprecedented efficiencies, meaning it consumes less fuel and produces less CO₂ than competing technologies. Additionally, no water is needed under normal operating conditions.

ALL-ELECTRIC POWER

The Energy Server 5, which operates at a very high electrical efficiency, eliminates the need for complicated and costly CHP systems. Combining the standard electrical and fuel connections along with a small footprint and sleek design, the Energy Server 5 is the most deployable fuel cell solution on the market.

CONTROLLED AND PREDICTABLE COST

By providing efficient on-site power generation, the economic and environmental benefits are central to the Energy Server 5 value proposition. Bloom Energy customers can lock in their long term energy costs and mitigate the risk of electricity rate increases. The Energy Server 5 has been designed in compliance with a variety of safety standards and is backed by a comprehensive warranty.

About Bloom Energy

Bloom Energy is making clean, reliable energy affordable. Our unique on-site power generation systems utilize an innovative fuel cell technology with roots in NASA's Mars program. By leveraging breakthrough advances in materials science, Bloom Energy systems are among the most efficient energy generators, providing for significantly reduced operating costs and dramatically lower greenhouse gas emissions. Bloom Energy Servers are currently producing power for many Fortune 500 companies including Apple, Google, NSA, Walmart, AT&T, eBay, Staples, as well as notable non-profit organizations such as Caltech and Kaiser Permanente.

Headquarters:

Sunnyvale, California

For More Information:

www.bloomenergy.com

Energy Server 5

Technical Highlights (ES5-AA1AA0)

Outputs

Nameplate power output (net AC)	262.5 kW
Base load output (net AC)	250 kW
Electrical connection	480 V, 3-phase, 60 Hz

Inputs

Fuels	Natural gas, directed biogas
Input fuel pressure	10-18 psig (15 psig nominal)
Water	None during normal operation

Efficiency

Cumulative electrical efficiency (LHV net AC)*	65-53%
Heat rate (HHV)	5,811-7,127 Btu/kWh

Emissions

NO _x	< 0.01 lbs/MWh
SO _x	Negligible
CO	<0.05 lbs/MWh
VOCs	< 0.02 lbs/MWh
CO ₂ @ stated efficiency	679-833 lbs/MWh on natural gas; carbon neutral on directed biogas

Physical Attributes and Environment

Weight	14.3 tons
Dimensions (variable layouts)	14'9" x 8'9" x 7' or 29'6" x 4'5" x 7'5"
Temperature range	-20° to 45° C
Humidity	0% - 100%
Seismic vibration	IBC site class D
Location	Outdoor
Noise	< 70 dBA @ 6 feet

Codes and Standards

Complies with Rule 21 interconnection and IEEE1547 standards
Exempt from CA Air District permitting; meets stringent CARB 2007 emissions standards
Product Listed by Underwriters Laboratories Inc. (UL) to ANSI/CSA FC 1-2014

Additional Notes

Access to a secure website to monitor system performance & environmental benefits
Remotely managed and monitored by Bloom Energy
Capable of emergency stop based on input from the site

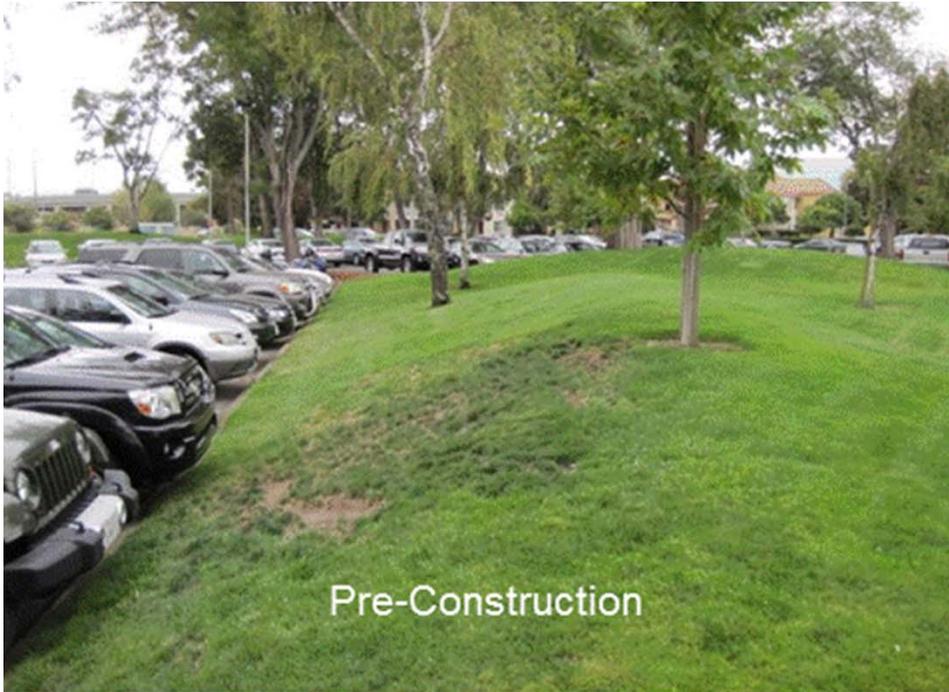
* 65% LHV efficiency verified by ASME PTC 50 Fuel Cell Power Systems Performance Test



Bloom Energy Corporation
1299 Orleans Drive
Sunnyvale CA 94089
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www.bloomenergy.com

Bloom Energy Server





Pre-Construction



Install Preparations – Trenching & Underground Utility



Set Pads



Site Completion

Bloom Energy Server Installation



Representative Installations



Exhibit 6



Fire Prevention and Emergency Planning

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Bloom Energy Corporation, 1299 Orleans Drive, Sunnyvale, CA 94089 USA

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2. Fuel Cell Installation Safety Features
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4. Fire and Smoke Procedures
5. Medical Emergency Procedures
6. Materials Release Procedures
7. Natural Disasters and Severe Weather
 - 7.1 Earthquake
 - 7.2 Flood
8. Utility Outage
9. Good Housekeeping and Maintenance
 - 9.1 Good Housekeeping
 - 9.2 Maintenance
10. Training

1. FIRE PREVENTION AND EMERGENCY PLANNING OVERVIEW

The following document is provided only as a guide to assist you in complying with national and local codes and requirements, as well as to provide other helpful information. It is not intended to supersede the requirements of any standard. You should review the standards for particular requirements that are applicable to your individual situation, and make adjustments to this program that are specific to your company. You will need to add information relevant to your facility in order to develop an effective, comprehensive program.

2. FUEL CELL SYSTEM INSTALLATION SAFETY FEATURES

The fuel cell system has redundant safety features and in-system checks to ensure that the system will not harm certified technicians or bystanders near the unit. While the actual fuel cells operate at high temperatures, these components do not move, and are contained within many layers of insulation. During normal operation, the unit is cool to the touch and operates quietly.

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. A Bloom Energy Remote Monitoring and Control Center (RMCC) operator can also remotely initiate any emergency sequence. An Emergency Stop alarm condition initiates an automatic shutdown sequence that puts the fuel cell system into “safe mode” and causes it to stop exporting power. If you have questions about any of these safety features, please contact Bloom Energy.

If you have to shut down your fuel cell system right away—for example, in case of a building fire or electrical hazard—three shutoff controls are installed at your facility external to the system. The locations of these three controls should be known to your facilities manager before operation, and should be noted on your facility diagram that you created with your Bloom Energy account manager. The three shutoffs are the **EPO button**, the **electrical disconnect**, and the **natural gas shutoff valve**.

- An **Emergency Power Off (EPO) Button** cuts all power to all systems and stops them from exporting power to your building. All natural gas flow is also stopped within the systems. (The EPO button is on the front/side of the EDM, if an EDM is installed.) Lift the protective cover and break the glass seal that covers the button with the attached hammer. After the glass seal is broken, the shutdown sequence will automatically begin.



Figure 1: Emergency Power Off Button

- An **electrical disconnect** manually disconnects systems from the grid if needed. Pressing the EPO button should already stop any power transmission, but it does not hurt the systems to also open this disconnect if you believe it is needed. The location of this disconnect will vary, however it is typically located near the point of interconnection where the wires from the fuel cell installation meet the facility's electrical framework. This may be inside your facility's electrical room, or if the fuel cell installation is near the electrical room, it may be found within the switchgear that Bloom Energy installs. This location of this disconnect is shown on the Site Map (see below) and is labeled "(name of electrical utility) Lockable Visible Generator Disconnect Switch".



Figure 2: Electrical Disconnect

- A **manual natural gas valve** shuts down all natural gas to the system. If the valve operator is perpendicular to the pipe, the valve is shut. If it is parallel with the pipe, the valve is open.



Figure 3: Manual Natural Gas Valve

Site map:

- An overhead site map showing the location of all safety features will be posted throughout the fuel cell installation
- Electronic copies are available to you for use in your site planning

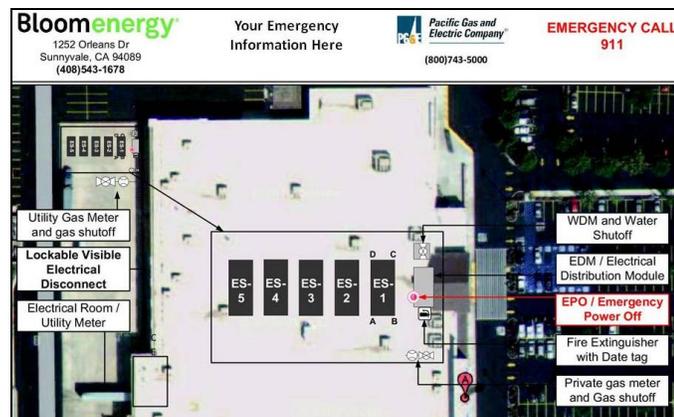


Figure 4: Sample Site Map

Manual controls:

- Clearly marked emergency stop button labeled “Fuel Cell Emergency Shut Down” located at site
- Two manual fuel shutoff valves outside the system, and two isolation valves inside the system

Fire hazard mitigation:

- System is plumbed directly to utility-provided natural gas
- If system input gas pressure is compromised, a pressure switch triggers an emergency system shutdown and fuel input is isolated
- System does not use fuel compressors or pumps
- System has virtually no stored fuel (internal capacity is < 5 scf)

Electrical hazard and mitigation:

- System operates at 480V
- Signs inside the system warn of the risk of electric shock
- System has backfeed protection
- System inverter prevents grid backfeed during a power outage

Mechanical hazard and mitigation:

- Finger/hand guard protection is provided on all fans
- All moving parts are located behind secured doors

Material hazard mitigation:

- Desulfurizer bed (to remove fuel impurities) are fully enclosed
- Maintained and serviced by licensed vendors

3. EMERGENCY NOTIFICATION PROCEDURES

Life-Threatening Emergencies

To report life-threatening emergencies, immediately call:

Fire:	911
Ambulance:	911
Police:	911

Conditions that require automatic emergency notification include:

- Unconscious Victim
- Seizure
- Major Trauma
- Chest Pains
- Difficulty Breathing
- Flames

Non-Life-Threatening Emergencies

For non-life-threatening emergencies, report the incident to the local safety control center.

When you report an emergency, give the following information:

- Exact nature of the emergency (describe as clearly and accurately as possible).
- Exact location (i.e., address, building, floor, area, department, etc.).
- Telephone number from which you are calling.
- Your full name.
- **Do not hang up**, as additional information may be needed.

To assist in any subsequent investigation or determination of corrective actions, it is recommended to record the following items as close to the incident time as possible:

- Summary of any violation

- Identification of responsible parties
- Identification of victims and witnesses
- Description of evidence
- Description of general conditions
- Description of any vehicles involved
- Narratives from witnesses
- Any photographs

4. FIRE OR SMOKE PROCEDURES

This section describes the procedures involving a fire or smoke. A major fire is one that requires the use of more than one fire extinguisher or takes more than one minute to extinguish.

If you discover a fire or smoke:

1. Activate the nearest fire alarm if not activated already.
2. Activate the fuel cell Emergency Stop if possible.
3. Shut off the fuel cell installation natural gas line if possible.
4. If the fire is small and does not pose an immediate risk to personal safety, you may attempt to extinguish it with a portable fire extinguisher **only if trained to do so**.
5. Avoid using water on electrical fires.
6. Report every fire, regardless of size, immediately. Smoke or the smell of smoke should be reported.
 - From a safe location dial **911**.
 - Report the incident to the local security safety center.

5. MEDICAL EMERGENCY PROCEDURES

This section describes the necessary procedures for injuries or illnesses that may occur under extreme conditions.

A serious injury can be life-threatening and will require immediate medical attention. Injuries can include head injuries, spine injuries, broken bones, heart attack, stroke, loss of consciousness, excessive bleeding, chemical exposure, etc.

A non-serious injury is not immediately life-threatening but may still require the attention of a medical doctor. These can include headaches, nausea, itching, cuts, burns, etc.

Life-Threatening Medical Emergency

1. Remain calm.
2. Immediately dial 911.
3. Report the incident to local security safety center.
4. Do not move the victim unless it is absolutely necessary.
5. Call out for personnel trained in first aid and/or CPR which may include Building Evacuation or Emergency Response team members.

6. Ask someone to bring the area first aid kit and Automated External Defibrillator.
7. Assist if capable or asked to do so.

Non-Life-Threatening Medical Emergency

1. Remain calm.
2. Report the incident to the local security safety center.
3. Do not move the victim unless it is absolutely necessary.
4. Call out for personnel trained in first aid.
5. Ask someone to bring the area first aid kit.
6. If the victim requires further medical attention, then direct them to the nearest approved medical clinic or hospital – Contact Security or Human Resources for assistance if needed.
7. The injured employee's supervisor/manager is responsible for ensuring injury forms are properly filled out. Complete the forms within 24 hours of incident and submit to the injury reporting system for follow-up. Follow company protocols.

6. MATERIALS RELEASE PROCEDURES

The fuel cell system does not pose a hazard to health or environment. However, some internal materials when released, may pose a irritation risk to people and a possible risk of fire if not properly handled. This section was designed to address potential material release events:

In case of a material release that poses a direct threat to health, safety, or the environment:

1. Report the incident to local safety/security office.
2. If extremely life-threatening immediately dial **911** followed with a call to Security.
3. Contain the spill.
4. Evacuate the area or building if the material release is determined to be life-threatening.

In the event of an unknown indoor smell or odor, report the incident to authorities responsible for HAZMAT and spills.

7. NATURAL DISASTERS AND SEVERE WEATHER

7.1 Earthquake

This section provides information and procedures for earthquake emergencies.

The fuel cell system is designed to automatically shut off if the natural gas supply is compromised.

The natural gas supply line has an external, manual shut-off valve that should be activated if it is safe to do so. This valve will be labeled, "Notice – Fuel Cell Gas Shut

Off". The natural gas line will be labeled with the word "gas" on a yellow background with an arrow pointing in the direction of flow.

The nearby Emergency Stop can be activated to stop the flow of fuel and power to/from the fuel cell system.

A Bloom Energy Field Engineer will validate site safety and system operation during/after severe weather as necessary.

7.2 Flood

The fuel cell system support pad is designed to divert water flow. However, if flooding conditions exist, or threaten to exist due to heavy rainfall, creek bank overflows, or pipe breakage, then immediately report the incident to the local safety/security office.

Do not use the fuel cell power system if any part has been under water. If it is safe to reach the Emergency Power Off button for the site without entering the water, stop all systems until a Bloom Energy representative can assess the site.

Precautions to follow after a flood:

- Stay out of flooded areas. Flooded areas remain unsafe. Entering a flooded area places you at risk.
- Notify Bloom Energy. A Bloom Energy Field Engineer will validate site safety and system operation during/after severe weather as necessary

8. UTILITY OUTAGE

The fuel cell system is operated in "Grid-Parallel" mode. If utility provided power is lost for any reason, the fuel cell system will go "off-line". The fuel cell system will remain in stand-by mode until it automatically senses the utility grid has been restored. If utility gas is shut down, the fuel cell system will begin to shut down completely.

The Bloom Energy Remote Monitoring Control Centers monitor the fuel cells 24 hours per day and will be alerted to utility grid interruptions via its controls software. A Field Service Engineer will be dispatched to restart the fuel cell system if necessary. Customer personnel should NOT attempt to start up or operate the fuel cell system.

Before a Planned Outage

- Notify the Bloom Energy Remote Monitoring Control Center at 1-408-543-1678 at least 24 hours before planned outage.
- Bloom Energy Remote Monitoring Engineers will reduce power generated by the fuel cell system and take the fuel cell off-line.
- Abrupt fuel cell system shutdowns may cause significant system damage.

During a Utility Power Loss

- The fuel cell system will automatically go off-line.
- The Bloom Energy Remote Monitoring Control Centers will monitor the fuel cell system.
- Bloom Energy Field Service will be dispatched to start up the fuel cell system as necessary.
- If the fuel cell system has been automatically shut down and utility power is restored, there will be no impact to building power delivery: primary power will come from the utility rather than the fuel cells.

9. GOOD HOUSEKEEPING AND MAINTENANCE

9.1 Good Housekeeping

Although extremely unlikely, to minimize the risk of fire and any incidents, Facility Managers should take the following precautions around the fuel cell installation:

- What to do if you smell gas:
 - Do not try to light any appliance
 - Do not touch any electrical switch; do not use any phone in the area
 - Leave the area immediately
 - Immediately call your gas supplier. Follow the gas supplier's instructions.
 - If you cannot reach your gas supplier, call the fire department
- Notify Bloom Energy Remote Monitoring Control Center at 1-408-543-1678 of any condition that would impair the safety of the fuel cell installation so that mitigation measures could be determined and placed into effect.
- Prohibit smoking within the area of the fuel cell installation. Bloom Energy will furnish No Smoking signs for the area.
- Ensure only Bloom Energy Service Providers are permitted access inside the system.
- Keep the area around the fuel cell installation clear for ten feet in all directions, for safety and ease of maintenance.
- Keep the area around the fuel cell power system clear and free of combustible materials, gasoline, and other flammable vapors and liquids.
- Shut the system down and call Bloom Energy immediately if you suspect a fuel line rupture.
- **Never enclose an operating system** in a tarp, tent, shed, or other structure that would allow air to become trapped. This system runs on natural gas, and produces trace amounts of CO and CO₂. The amounts of these gases are safe for normal outdoor operation but could gather in an enclosed place.
- Do not block or obstruct air openings on the fuel cell power system. This system requires air flow in order to operate.

- Do not use this fuel cell power system if any part has been under water. Immediately call qualified service personnel to inspect the fuel cell power system and to replace any functional part which has been under water.
- Please contact Bloom Energy at 408-543-1678 with as much advance notice as possible if you plan, detect, or suspect a prolonged Internet outage.
- The Bloom Energy Field Service team will periodically clean the equipment; do not spray with pressurized hoses.

9.2 Maintenance

Your site has specific Field Service personnel assigned to it for both routine maintenance and troubleshooting. Your site project manager will introduce you to the designated Bloom Energy Field Service team assigned to your site prior to operation.

Bloom Energy Field Service personnel are trained in state Safety Law. They are trained in all the procedures required for the fuel cell installation, and their toolkit includes all the safety equipment required to work around the fuel components and high voltage in our system (480VAC).

Bloom Energy also requires its employees to follow all necessary safety precautions, including:

- Every time a Field Service technician arrives at a site for the first time and opens a service panel, the technician will use a leak detector to determine whether there is any gas buildup in the system and determine that it is safe to work on it.
- Whenever a Field Service technician is removing and replacing a component on a fuel or exhaust line, the technician must keep a CO detector nearby to make sure that no CO is present in the line even after the system has been shut down.

The Field Service team expects to conduct quarterly and yearly preventative maintenance for certain types of consumable or cleanable components such as replacement of air filters, water filters, and desulfurizer beds. Other maintenance will be performed as required. During such times, inspections for any hazards will be conducted including quarterly fire extinguisher inspection (if applicable).

10. TRAINING

Prior to system startup, a Bloom Energy representative will provide training on the fuel cell installation to include the location and operation of safety features as well as actions to take during emergencies. We desire this training to provide lasting value and are more than happy to work with you to customize the experience to suit your needs.

Exhibit 7



To: Justin Adams, Bloom Energy justin.adams@bloomenergy.com
From: Joshua Marcley, Mei Wu Acoustics josh@mei-wu.com
Tyler Adams, Mei Wu Acoustics tyler.adams@mei-wu.com
Mei Wu, Mei Wu Acoustics meiwu@mei-wu.com
Date: October 24, 2016
Subject: Bloom Energy – Frontier Communications - New Haven, CT
MWA Project – 16079

Mei Wu Acoustics (MWA) has predicted the sound levels produced by the proposed fuel cell energy server system at 310 Orange Street, CT. An ambient noise study was not conducted for this site. The following report will show that the planned fuel cell system is compliant with the applicable codes.

1. Project Overview

The proposed equipment will consist of a six (6) ES-5 energy servers. The following figure provides a site plan showing the approximate location of the fuel cells on the rooftop of the Frontier Communications Building.

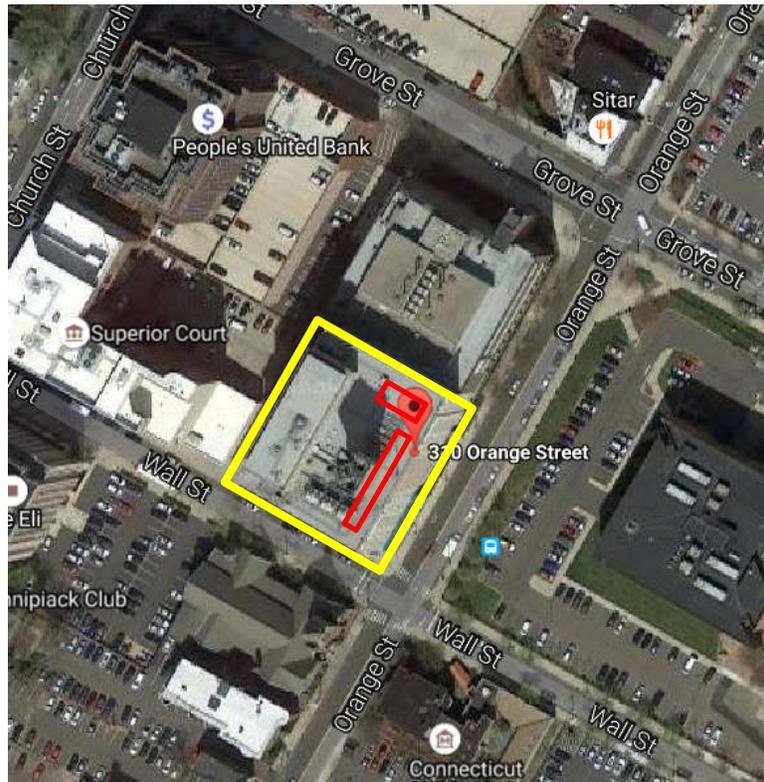


Figure 1: Site plan showing location of fuel-cells (red outlines) and property outline (yellow outline)

2. Noise Criteria

This section documents the environmental noise criteria and code requirements applicable the project site.

2.1. New Haven Code of Ordinances

An excerpt of relevant portions of this code is provided here for reference:

Chapter 18 – Offences and Miscellaneous Provisions

Article II – Noise Control

Sec. 18-73 Definitions

(a) Ambient noise or background noise means a noise of a measurable intensity which exists at a point as a result of a combination of many distant individually indistinguishable sources. In statistical terms, it is the level which is exceeded ninety (90) percent of the time (L90) in which the measurement is taken.

(c) Commercial zone means all commercial districts and business districts, including BA, BB, BC, BD, BD-1 and BE as defined in the zoning regulations of the City of New Haven, and all uses associated therewith permitted either as a right or as a special use.

(g) Daytime hours means the hours between 7:00 a.m. and 10:00 p.m. Mondays through Saturdays, and the hours of 9:00 a.m. through 9:00 p.m. Sundays and federal and state holidays. Unless otherwise provided, all other hours shall be construed as nighttime hours.

(h) Decibel means a logarithmic unit of measure used in measuring magnitudes of sound. The symbol is dB. SPL (sound-pressure level) is defined as:

$$\text{SPL} = 20 \log P \text{ in dB/Po}$$

Where $P_o = 0.0002$ microbars

(n) Impulse noise means a sound of short duration, usually less than one (1) second, with an abrupt onset and rapid decay.

(o) Industrial zone means all industrial districts as defined by the zoning regulations of the City of New Haven, including but not limited to IL, IM and IH Districts.

(s) Noise means any sound, the intensity of which exceeds the standards set forth in this article as it is amended from time to time.

(t) Noise level means the sound-pressure level in decibels as measured with a sound-level meter using the A-weighting network. The level so read is designated dB(A) or dBA.

(u) Person means any individual, firm, partnership, association, syndicate, company, trust, corporation, municipality, agency or political or administrative subdivision of the state or other legal entity of any kind.

(v) Premises means any building, structure, land or portion thereof, including all appurtenances, yards, lots, courts, inner yards, and real properties without buildings or improvements, owned or controlled by a person. The emitter's "premises" includes contiguous publicly dedicated street and highway rights-of-way, all road rights-of-way and waters of the state.

(w) Property line means that real or imaginary line along the ground surface and its vertical extension which separates real property owned or controlled by any person from contiguous real property owned or controlled by another person, and separates real property from the public right-of-way.

(x) Public right-of-way means any street, avenue, boulevard, highway, sidewalk, alley, park, waterway, railroad or similar place which is owned or controlled by a governmental entity.

(aa) Residential zone means all city-owned property used for recreational or educational purposes, all residential districts (RS-1, RS-2, RM-1, RM-2, RH-1, RH-2 and RO), any commercial district when used for residential purposes, as defined in the zoning regulations of the City of New Haven as they are amended from time to time, and all uses permitted therewith either as a right or as a special use.

(bb) Sound means a transmission of energy through solid, liquid or gaseous media in the form of vibrations, which constitute alterations in pressure or position of the particles in the medium, and which, in air, evoke physiological sensations, including but not limited to an auditory response when impinging on the ear.

(cc) Sound-level meter means an instrument used to take sound-level measurements and which should conform, at a minimum, to the operational specifications of the American National Standards Institute for Sound Level Meters, S1.4—1971 (Type S2A) as amended from time to time.

(dd) Sound-pressure level means twenty (20) times the logarithm to the base ten (10) of the ratio of the pressure of a sound to the reference pressure of twenty (20) micronewtons per square meter (20×10^{-6} newtons/meter²) and which is expressed in decibels (dB)

Sec. 18-75 Noise Levels

(a) *It shall be unlawful for any person to emit or cause to be emitted any noise beyond the boundaries of his/her premises in excess of the noise levels established in these regulations as amended from time to time.*

(b) *Noise level standards.*

(2) *No person in a commercial zone shall emit noise beyond the boundary of his/her premises that exceeds the levels stated herein, and applies to adjacent residential, commercial or industrial zones:*

Emitter's zone: Commercial

Receptor's zone: Maximum level:

Industrial62 dBA

Commercial62 dBA

Residential/Day55 dBA

Residential/Night45 dBA

(4) *Any non-conforming use shall be deemed to be in the zone which corresponds to the actual use.*

Sec. 18-76 High background noise levels and impulse noise

(a) *If background noise levels caused by sources not subject to these regulations exceed the standards contained herein as amended from time to time, a source shall be considered to cause excessive noise if its emission exceeds the background noise levels by five (5) decibels, provided that no source subject to this article shall emit noise in excess of eighty (80) decibels at any time, and provided that this section does not decrease the permissible levels of other sections of this chapter as amended from time to time.*

(b) *No person shall cause or allow the emission of impulse noise in excess of eighty (80) decibels peak sound-pressure level during the nighttime to any residential noise zone.*

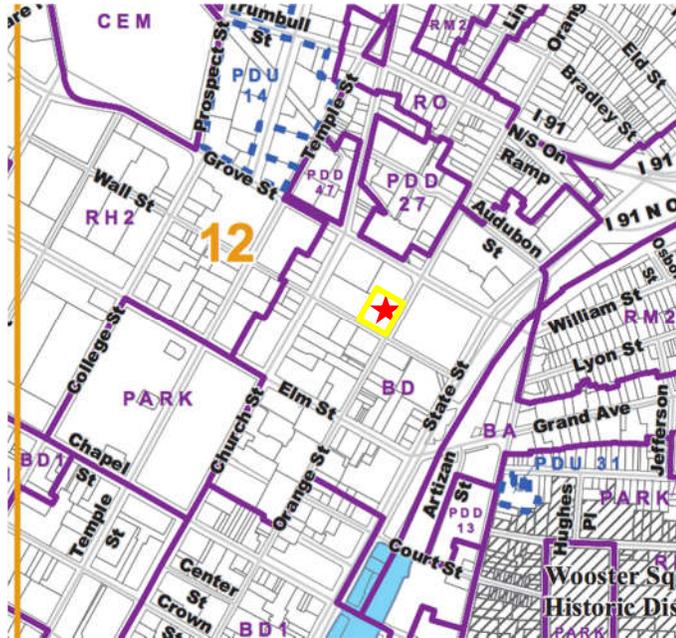
(c) *No person shall cause or allow the emission of impulse noise in excess of one hundred (100) decibels peak sound-pressure level at any time in any zone.*

2.2. New Haven City Plan

MWA has reviewed the New Haven Vision 2025 comprehensive plan and was not able to locate a “Noise Element” portion of this general plan. The Noise Element typically provides goals and policies to guide compatible land uses and the incorporation of noise attenuation measures for new uses to protect people living and working in the City from an excessive noise environment.

2.3. New Haven Zoning Map

The following figure provides a zoning map of the areas surrounding the project site. As shown, the project site is zoned BD – Central Business. The neighboring uses appear to be commercial. There is a planned Development District approximately 275 ft to the north which appears to have mixed-use residential and commercial.



BD – Central Business
PDD – Planned Development District

Figure 2: New Haven Zoning Map – Approximate location of fuel cells indicated by red star.

2.4. Connecticut Department of Energy and Environmental Protection (DEEP)

The Connecticut Siting Council (Council) is an autonomous agency residing within the merged Department of Energy and Environmental Protection (DEEP). The following is an excerpt of their noise requirements:

Sec.22a-69-1 Definitions

(h) daytime means 7:00 a.m. to 10:00 p.m. local time.

(n) nighttime means 10:00 p.m. to 7:00 a.m. local time.

Sec.22a-69-1.2 Acoustic Terminology and definitions

(c) background noise means noise which exists at a point as a result of the combination of many distant sources, individually indistinguishable. In statistical terms, it is the level which is exceeded 90% of the time (L90) in which the measurement is taken.

(f) excessive noise means emitter Noise Zone levels from stationary noise sources exceeding the Standards set forth in Section 3 of these Regulations beyond the boundary of adjacent Noise Zones.

Sec.22a-69-2 Classification of land according to use

Sec. 22a-69-2.1. Basis Noisy Zone classifications shall be based on the actual use of any parcel or tract under single ownership as detailed by the Standard Land Use Classification Manual of Connecticut

Sec. 22a-69-2.2. Multiple uses

Where multiple uses exist within a given Noise Zone, the least restrictive land use category for the Emitter and Receptor shall apply regarding the noise standards specified in Section 3 of these Regulations.

Sec. 22a-69-2.3. Class A noise zone

Lands designated Class A shall generally be residential areas where human beings sleep or areas where serenity and tranquility are essential to the intended use of the land. Class A Land Use Category. The land uses in this category shall include, but not be limited to, single and multiple family homes, hotels, prisons, hospitals, religious facilities, cultural activities, forest preserves, and land intended for residential or special uses requiring such protection

Sec. 22a-69-2.4. Class B noise zone

Lands designated Class B shall generally be commercial in nature, areas where human beings converse and such conversation is essential to the intended use of the land.

Sec. 22a-69-3. Allowable Noise Levels

Sec. 22a-69-3.1. General prohibition

No person shall cause or allow the emission of excessive noise beyond the boundaries of his/her Noise Zone so as to violate any provisions of these Regulation

Sec. 22a-69-3.5. Noise zone standards

(b) No person in a Class B Noise Zone shall emit noise exceeding the levels stated herein and applicable to adjacent Noise Zones:

	Class C Receiver	Class B Receiver	Class A Receiver Day	Class A Receiver Night
Class B Emitter	62 dBA	62 dBA	55 dBA	45 dBA

Levels emitted in excess of the values listed above shall be considered excessive noise.

Sec. 22a-69-3.6. High background noise areas

In those individual cases where the background noise levels caused by sources not subject to these Regulations exceed the standards contained herein, a source shall be considered to cause excessive noise if the noise emitted by such source exceeds the background noise level by 5 dBA, provided that no source subject to the provisions of Section 3 shall emit noise in excess of 80 dBA at any time, and provided that this Section does not decrease the permissible levels of the other Sections of this Regulation

2.5. Summary of Noise Criteria

- The fuel cells produce steady, broadband noise. Therefore tonal, fluctuating, or impulsive penalties will not be applied.
- The project site is zoned business/commercial and is a commercial use. The neighboring uses commercial, within the BD - Central Business District.
- **DEEP Requirements**
 - According to the Noise Zone Standards, the neighboring receiving uses are Class B in each direction. Therefore, the noise level at neighboring commercial properties should not exceed 62 dBA.
 - The code allows for an exception to the above standard for “high background noise areas”. In which case, the noise level should not exceed 5 dBA above the background noise level (L90).
- **New Haven City Requirements**
 - The New Haven municipal code requirements are similar to the DEEP requirements – refer to summary above.
 - New Haven does not have a Noise Element in their General Plan.

3. Calculation and Prediction of Energy Server Noise Impacts to Adjacent Properties

Sound power levels for the energy servers were used to calculate sound transmission to adjacent properties. As we understand it, the ES-5 (also referred to as ES-5 Linear) system will be installed. Sound power levels for the ES-5 Linear were provided in a MWA report dated June 21, 2016, and updated on August 30, 2016. The following table provides the total sound power for a single fuel cell. The following table provides the total sound power for a single fuel cell.

	63 Hz	125 Hz	250 Hz	500 Hz	1000 Hz	2000 Hz	4000 Hz	LwA
ES-5 Linear	77.9 dB	80.9 dB	84.1 dB	82.3 dB	80.5 dB	76.9 dB	69.4 dB	84.9 dB

Table 3: Sound power levels (dB re 10⁻¹² W) for a single ES-5 Linear.

Our calculations considered the sound power of the unit (above), reflections from surrounding buildings, rooftop equipment and structures, and distance attenuation. Additionally, the fuel cell does not radiate sound uniformly; the sides and rear of the fuel cell are significantly quieter than the top and front intakes. Therefore, the analysis assumes that the rear of the fuel cells are arranged to be facing the edges of the rooftop, thereby minimizing the noise transmission to the nearest property line. The following figure provides the predicted sound pressure level for a receiver on the surrounding rooftops or at ground level (indicated by a black or green outline respectively).



Figure 3: Satellite view of the project site identifying the proposed location of the fuel cells (red). Numbers indicate the predicted sound pressure level due to the fuel cells (in dBA) with black outlines representing receiver locations on neighboring buildings' rooftops and green outlines representing receiver locations at ground level.

The noise level at each of the receiver locations is well below the requirements established by the governing codes and summarized in Section 2.5 of this report. The relatively low levels are due to distance attenuation as a result of the significant height difference from the rooftop of 310 Orange St to the neighboring buildings and due to the blocked line-of-sight between the equipment and the receiving properties.

4. Conclusion

No ambient measurement was conducted at this site since it was believed that the predicted noise level due to the fuel cell system on the rooftop of 310 Orange St would not significantly affect neighboring buildings. This was confirmed by the analysis which shows that the predicted sound levels for receivers on the neighboring buildings' rooftops and at ground level are significantly below the project noise criteria. The proposed fuel cell is therefore compliant with the code requirements. No additional mitigation measures are recommended.

This concludes our report. Please contact Mei Wu Acoustics if there are any questions or comments regarding this document.

* * *

Exhibit 8



VIA FIRST CLASS MAIL

10/18/2016

RE: Application for Bloom Energy, as Agent for Frontier Communications, for the construction of a new ES-5 Bloom Energy Servers solid oxide fuel cell which would provide 1.4 megawatts of Customer-Side Distributed Resource at – 310 Orange Street, New Haven, CT

Dear Ladies and Gentlemen:

Pursuant to Section §16-50j-40 of the Connecticut Siting Council's (the "Council") regulations, we are notifying you that Frontier Communications Corp. intends to file on or shortly after November 4, 2016, a petition for declaratory ruling with the Council. The petition will request the Council's approval of the location and construction of an approximately 1.4 megawatt Bloom Energy Corporation fuel cell facility and associated equipment (the "Facility"), located at the site of the Frontier Communications building at 310 Orange Street, New Haven, Connecticut (the "Site"). Electricity generated by the Facility will be consumed primarily at the Site, and any excess electricity will be exported to the electric grid. The Facility will be fueled by natural gas.

The proposed placement of the Facility is on the roof of the building where existing mechanical equipment are currently located. The purpose of the proposed Facility is to replace the average baseload of the building with a renewable energy sourceⁱ and improve reliability of electrical systems and equipment.

Keeping the lines of communication open is an important part of our work in your community. If you have questions about this work, please contact the undersigned or the Council.

Respectfully,

Justin Adams
justin.adams@bloomenergy.com

ⁱ Connecticut General Statutes §16-1(a)(26)(A) identifies fuel cells as a "Class I renewable energy source"

Notice and Service List Pursuant to Conn. Agencies Regs. § 16-50j-40(a)

Municipal and Elected Officials

Last Name	First Name	Title	Address	City	State	Postal Code
Harp	Toni	Mayor, City of New Haven	165 Church Street	New Haven	CT	06510
Hartjen	Anne	City Planning Dept.	165 Church Street, 5th Floor	New Haven	CT	06510
Blumenthal	Richard	U.S. Senator	702 Hart Senate Office Building	Washington	DC	20510
Murphy	Chris	U.S. Senator	B40A Dirksen Senate Office Building	Washington	DC	20510
DeLauro	Rosa	U.S. Representative	2413 Rayburn House Office Building	Washington	DC	25015
Esposito, JR	Louis	State Representative, 116th	Legislative Office Building, Room 4112	Hartford	CT	06106
Megna	Robert	State Representative, 97th	Legislative Office Building, Room 2802	Hartford	CT	06106
Lemar	Roland	State Representative, 96th	Legislative Office Building, Room 4041	Hartford	CT	06106
Candelaria	Juan	State Representative, 95th	Legislative Office Building, Room 1804	Hartford	CT	06106
Porter	Robyn	State Representative, 94th	Legislative Office Building, Room 4006	Hartford	CT	06106
Walker	Toni	State Representative, 93rd	Legislative Office	Hartford	CT	06106

			Building, Room 2702			
Dillon	Patricia	State Representative, 92nd	Legislative Office Building, Room 4019	Hartford	CT	06106
Looney	Martin	State Senator, 11th	Legislative Office Building, Room 3300	Hartford	CT	06106
Winfield	Gary	State Senator, 10th	Legislative Office Building, Room 2400	Hartford	CT	06106
Jepsen	George	Connecticut Attorney General	55 Elm Street	Hartford	CT	06106
Klee	Rob	Commissioner, Development of Energy and Environmental Protection	79 Elm Street	Hartford	CT	06106
Dykes	Katie	Chairman, Department of Public Utility Regulatory Authority	10 Franklin Square	New Britain	CT	06105
Rino	Raul	Commissioner, Department of Public Health Protection	410 Capital Avenue, PO Box 340308	Hartford	CT	06134
Merrow	Susan	Chair, Council on Environmental Quality	79 Elm Street	Hartford	CT	06106
Revicky	Steven	Commissioner, Department of Agriculture	165 Capital Avenue	Hartford	CT	06106
Barnes	Benjamin	Secretary of OPM, Office of Policy and Management	450 Capital Avenue	Hartford	CT	06106
Redeker	James	Commissioner, Department of Transportation	2800 Berlin Turnpike	Newington	CT	06111
Smith	Catherine	DECD Commissioner, Department of Economic and Community Development	501 Hudson Street	Hartford	CT	06106

Shea	Colonel, William	Deputy Commissioner, Department of Emergency Services and Public Protection, Division of Emergency Management and Homeland Security	25 Sigourney Street, 6th Floor	Hartford	CT	06106
Harris	Jonathan	Commissioner, Department of Consumer Protection	165 Capitol Ave # 3	Hartford	CT	06106
Currey	Melody	Commissioner, Department of Administrative Services	165 Capitol Ave # 3	Hartford	CT	06106
Jackson	Scott	Commissioner, Department of Labor	200 Folly Brook Boulevard	Wethersfield	CT	06109

Abutter Properties

Map ID Number	Owner Name	Address	City	State	Zip
00201	FUSCO ARENA ASSOCIATES LLC	26 GROVE ST	New Haven	CT	06510
00300	SOUTHERN NEW ENGLAND TELEPHONE	310 ORANGE ST	New Haven	CT	06510
00200	TRINITY EVANGELICAL LUTHERAN CHURCH	292 ORANGE ST	New Haven	CT	06510
00900	CONNECTICUT CHILDRENS MUSEUM	22 WALL ST	New Haven	CT	06510
00102	CONNECTICUT PROPERTIES LLC	36 WALL ST	New Haven	CT	06510
00100	CONNECTICUT PROPERTIES LLC	227 CHURCH ST	New Haven	CT	06510
00400	STATE OF CONNECTICUT COURTHOUSE - ADMN	237 CHURCH ST	New Haven	CT	06510
01601	CITY OF NEW HAVEN	GROVE ST	New Haven	CT	06510
01300	ORANGE GROVE LLC	41 GROVE ST	New Haven	CT	06510
01401	CITY OF NEW HAVEN	GROVE ST	New Haven	CT	06510
01402	CITY OF NEW HAVEN	GROVE ST	New Haven	CT	06510
00101	SOUTHERN NEW ENGLAND TELEPHONE	335 ORANGE ST	New Haven	CT	06510

Exhibit 9

Abutters Map New Haven GIS

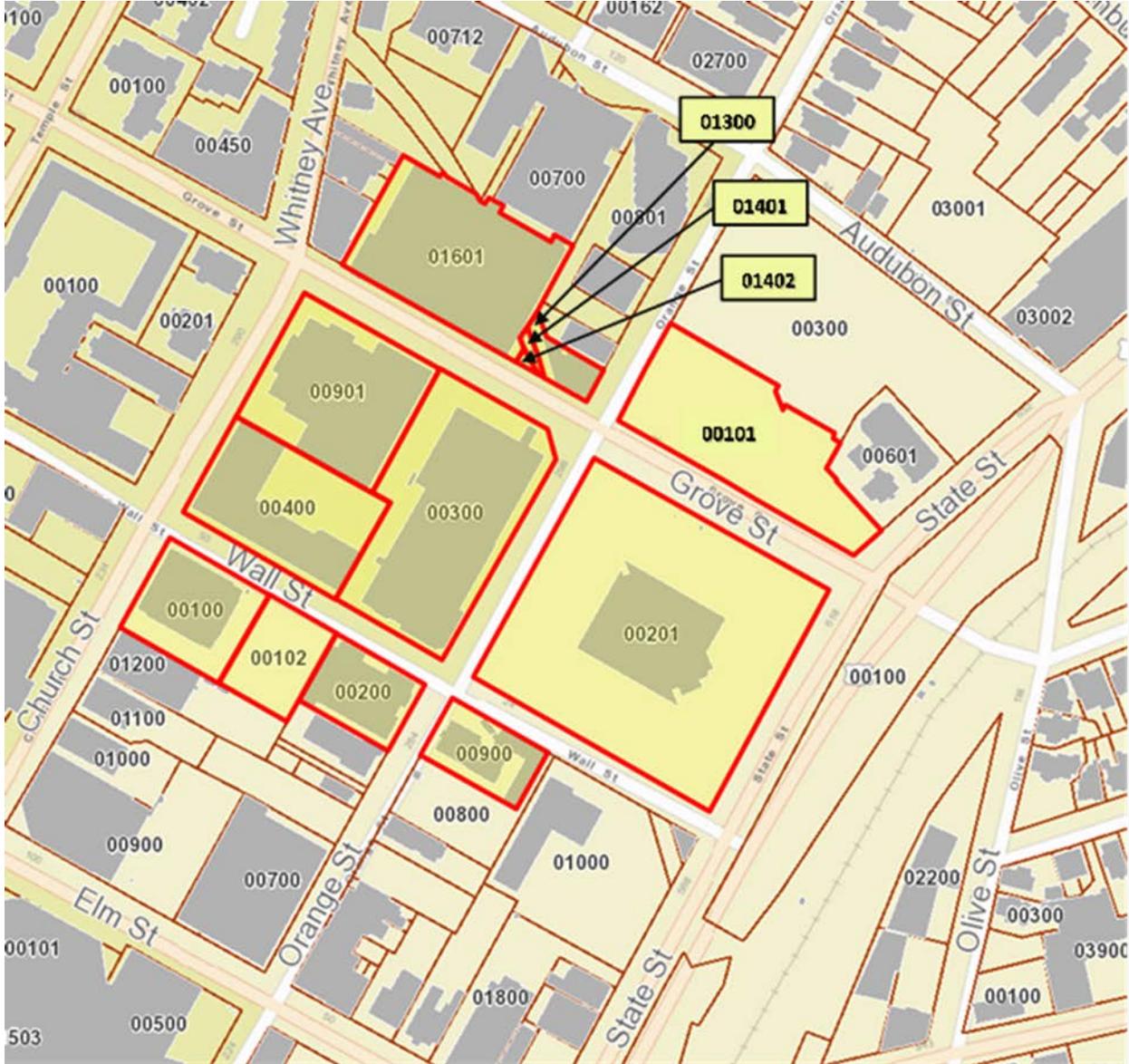


Exhibit 10



11/03/2016

Via certified mail
165 Church Street
New Haven, CT 06510

Attn: Toni Harp
RE: Bloom Energy Clean Energy Server Installation Ikea – 310 Orange Street, New Haven, CT

Mrs. Harp,

On behalf of Bloom Energy we would like to provide you with information pertaining to the proposed clean energy server installation project located at the 310 Orange Street, New Haven.

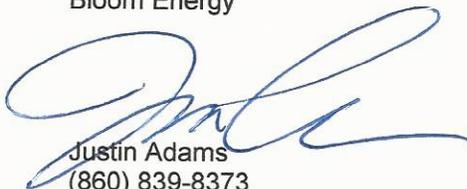
This project proposes to install six (6) new Bloom Energy Servers; a new class of distributed power generator which produces clean, reliable and affordable electricity at the customer site. The Bloom Energy Server contains solid oxide fuel cells which provide 1.4 megawatts of power, utilizing a non-combustive chemical process. Placement of the Clean Energy Server and related ancillary equipment is being proposed on the roof of the building (please see attached site plan). The purpose of the proposed project is to replace the average baseload of the Frontier facility with a Class I renewable energy source and improve reliability of electrical systems and equipment.

The Bloom equipment has been designed in compliance with Underwriters Laboratories (UL) in addition to various safety standards and requirements. There are no harmful off-gases or byproducts that will be produced by this equipment.

Please note that the energy server is monitored 24 hours a day, 7 days a week by Bloom Energy's communications network in Sunnyvale, CA with a back-up monitoring station in India. In the unlikely event the system will require attention, the system can be remotely shut off by Bloom. Additionally, the equipment will have several means to shut down the energy server locally.

We are submitting to the Connecticut Siting Council within the next two weeks and wanted to give you an opportunity to see the plans in advance. We would be happy to discuss any comments you may have either by phone or in person. Keeping the lines of communication open is an important part of our work in your community. If you have questions about this work, please contact me.

Thank you,
Bloom Energy



Justin Adams
(860) 839-8373
justin.adams@bloomenergy.com



11/03/2016

Via certified mail
165 Church Street, 5th Floor
New Haven, CT 06510

Attn: Anne Hartjen
RE: Bloom Energy Clean Energy Server Installation Ikea – 310 Orange Street, New Haven, CT

Mrs. Hartjen,

On behalf of Bloom Energy we would like to provide you with information pertaining to the proposed clean energy server installation project located at the 310 Orange Street, New Haven.

This project proposes to install six (6) new Bloom Energy Servers; a new class of distributed power generator which produces clean, reliable and affordable electricity at the customer site. The Bloom Energy Server contains solid oxide fuel cells which provide 1.4 megawatts of power, utilizing a non-combustive chemical process. Placement of the Clean Energy Server and related ancillary equipment is being proposed on the roof of the building (please see attached site plan). The purpose of the proposed project is to replace the average baseload of the Frontier facility with a Class I renewable energy source and improve reliability of electrical systems and equipment.

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We are submitting to the Connecticut Siting Council within the next two weeks and wanted to give you an opportunity to see the plans in advance. We would be happy to discuss any comments you may have either by phone or in person. Keeping the lines of communication open is an important part of our work in your community. If you have questions about this work, please contact me.

Thank you,
Bloom Energy

Justin Adams
(860) 839-8373
justin.adams@bloomenergy.com