Bloomenergy

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 400kW Fuel Cell Customer Side Distributed Resource at 25 Butler Street, Meriden, CT 06450

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 400 kilowatt fuel cell and associated equipment (the "Facility"). The Facility will be located on the site of the Frontier building at 25 Butler Street, Meriden, 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

Bloomenergy

STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

PETITION OF BLOOM ENERGY CORPORATION AS AGENT FOR FRONTIER COMMUNICATIONS CORP FOR A DECLARATORY RULING FOR THE LOCATION AND CONSTRUCTION OF A 400-KILOWATT FUEL CELL CUSTOMER-SIDE DISTRIBUTED RESOURCE AT 25 BUTLER STREET, MERIDEN, CONNECTICUT	:	PETITION NO. ____ October 17, 2016

PETITION OF BLOOM ENERGY CORPORTATION 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 two (2) new ES-5 Bloom Energy Servers solid oxide fuel cells and associated equipment (the "Facility"), providing 400-kilowatts ("kW") (net) of power to the Frontier building located at 25 Butler Street, Meriden, Connecticut (the "Site"). *See* Exhibit 1. The Facility will be installed, maintained and operated by Bloom and owned 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 65 megawatts ("MW") 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 Facility would be 400kW customer-side distributed resources consisting of two state-of-the-art Bloom Energy Servers and associated equipment. The Facility will be interconnected to the existing switchgear located inside the electrical room of the Frontier Communication Corp. building (the "Building"). *See* Exhibit 2.

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 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 corporate 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 367kW, roughly equivalent to the proposed 400kW 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 two Bloom solid oxide fuel cell Energy Servers and associated equipment. The dimensions of the Facility are approximately 70 feet long, 4 feet wide and 7 feet 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 400 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 Eversource's 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 Eversource will be provided from the existing switchgear located inside the electrical room. The Eversource interconnection application for the Facility was submitted and under review at the time this petition was filed. The Facility will be fueled by natural gas supplied by Eversource.

The Facility, and more specifically the inverters within, are UL1741/IEEE1547 compliant and thus will not operate without a stable utility voltage available. In the event of an outage the Facility will not automatically shut down, they will 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 require 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 11-101[1], the Emergency Response Plan provided to Frontier and its employees is shown in Exhibit 6.

The Facility 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. Bloom Energy Servers are 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

[1] An Act Adopting Certain Safety Recommendations of the Thomas Commission

are installed within the system. In accordance with Public Act 11-101[2], the fuel lines (pipe) cleaning procedure are to purge for 60 seconds with 10 blasts of on off prior to connecting to the Facility. The Facility will be installed in compliance with all applicable building, plumbing, electrical, and fire codes.

Bloom Energy Servers are installed in accordance with NFPA 853[3]. 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 the Energy Server 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. As stated above, any variation in heat outside of the operational parameters will trigger an automatic shutdown of the energy server.

C. Existing Environment

i. The Site

The Facility would be installed within the Frontier property located at 25 Butler Street, Meriden, Connecticut. Specifically, the Facility will be constructed on the 1.38-acre property ("the Site") that surrounds the Building. The Site is zoned as "Central Commercial" ("C-1") under the zoning regulations of the City of Meriden (the "City").

[2] Public Act 11-101, An Act Adopting Certain Safety Recommendations of the Thomas Commission,
[3] Standard for the Installation of Stationary Fuel Cell Power Systems, 2015 Edition

The majority of the surrounding areas are zoned under C-1, Central Commercial Design District ("CCDD") and Industrial ("M-3"). There are apartment complexes and a YMCA abutting the Site to the west and north respectively.

The Facility would be located on a concrete pad within an existing paved driveway and parking lot at the rear of the Building. The Building is over parked, which means there are more parking spaces than required by the City of Meriden ("City"). At the conclusion of the project, the Building will remain over parked. The location of Facility was strategically placed in proximity to the existing mechanical equipment, at the rear of the Building, and adjacent to an existing retaining wall to reduce visual impacts to the City and abutters. Panoramic photos of the proposed location and adjacent areas are provided in Exhibit 7.

ii. Wildlife, Habitat and Cultural Resources

A review of the publically available Natural Diversity Database (NDDB) has shown no known occurrences of state-listed species within the proposed Facility location. Furthermore, the proposed Facility will be located on a driveway and parking area that were previously developed and disturbed during construction of the Building. Therefore, the construction and operation of the Facility will not have a substantial adverse effect on wetlands, state-listed species, and cultural (archaeological and historical) resources.

iii. Flood 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 be located within an unshaded FEMA Zone X, an area determined to be outside the 500-year flood and protected by levee from 100-year flood. However, the southernmost portion of the

Site is within the 100-year flood zone area of the Harbor Brook. *See* Exhibit 8. Site work, such as grading and soil removal, would be limited to areas outside of the 100-year flood zone in the northern portions of the Site.

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 that 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. In this respect, the Bloom system differs from other systems which may have been reviewed by the Siting Council. Unlike the Bloom desulfurization canisters, other desulfurization containers are emptied at the site of the fuel cell. At that point, the integrity of the container is necessarily reduced and the applicable regulations change accordingly.

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). Specifically, the desulfurization containers are certified to the standards set by DOT, the United Nations, IATA, ICAO and IMO as meeting Hazardous Materials Distribution and Packaging requirements. 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 expect 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 240-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)[4]	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 Bloom fuel cells virtually eliminate NOx, SOx, CO, VOCs and particulate matter emissions from the energy production process. Similarly there are no CH_4, SF_6, HFC or PFC emissions. CH_4 is broken down in the reforming process. Reforming is the type of process where if you have sufficient catalyst, the

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

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) See note 1	735-832 lbs/MWh	Not Listed

Note 1: Carbon Dioxide is measured at Bloom's stated lifetime efficiency level of 53-60%

iii. Sound Levels

Bloom contracted Mei Wu Acoustics (MWA) to predict the sound levels produced by the proposed Facility. In addition, MWA conducted 24-hour sound level measurements at the Site to establish the existing ambient environmental sound levels in order to compare predicted noise levels with existing conditions and demonstrate compliance with the requirements. The report is provided in Exhibit 9.

The report indicates that the predicted noise level from the Facility exceed the criteria established by the State of Connecticut when considering the neighboring uses to the west as Class A[5]. However, the Site is considered a high background noise area[6] since the ambient level (52 dBA L90) exceeds the nighttime criteria for Class A receivers (45 dBA). Therefore the noise criteria for the proposed Facility is the lowest ambient level plus 5 dBA, i.e. 56.3 dBA (51.3 dBA + 5 dBA). Per MWA's recommendation, Bloom would construct the barrier as shown in Figure 5 of Exhibit 9. The barrier would be 5 feet higher than the current retaining wall and the approximate length of the proposed Facility. This would mitigate

[5] 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.
[6] Sec. 22a-69-3.6. High background noise areas

the expected noise levels at the nearest sensitive receptors to be compliant with the State of Connecticut regulations for the Control of Noise.

iv. Visual Effects

The overall visual effect would be mitigated by the proposed location at the rear of the Building, adjacent to an existing retaining wall, and in proximity to existing mechanical equipment.

E. Project Construction and Maintenance

During construction, appropriate erosion and sedimentation (E&S) controls will be installed and areas of disturbance will be promptly stabilized in order to minimize the potential for soil erosion and the flow of sediments off site or into the nearby flood zone and Harbor Brook. 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 and all disturbed areas have been stabilized. Ground disturbance, such as grading and soil removal, would be limited to areas outside of the 100-year flood zone. Construction equipment and materials will be staged outside of the flood zone. 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. The Facility will be located within an existing asphalt area behind the Building. The facility will not extend beyond the limits of the

existing asphalt area. All utilities will be installed within the asphalt area and along the rear face of the Building. All utility trenches will be restored in-kind.

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 9 and the corresponding abutters map is provided in Exhibit 11. Additionally, prior to filing this petition, representatives from Bloom briefly discussed the proposed Facility with Paul Dickson from the City of Meriden 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 12.

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

[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 16-50*l* of the Connecticut General Statutes]."

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, 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:_____

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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: 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: Panoramic photos of the proposed location

Exhibit 8: FEMA Flood Map

Exhibit 9: Sound Analysis

Exhibit 10: Notice Pursuant to Conn. Agencies Regs. § 16-50j-40(a)

Exhibit 11: Abutters Map

Exhibit 12: Letters of Notice to Abutters, Mayor and City Planner

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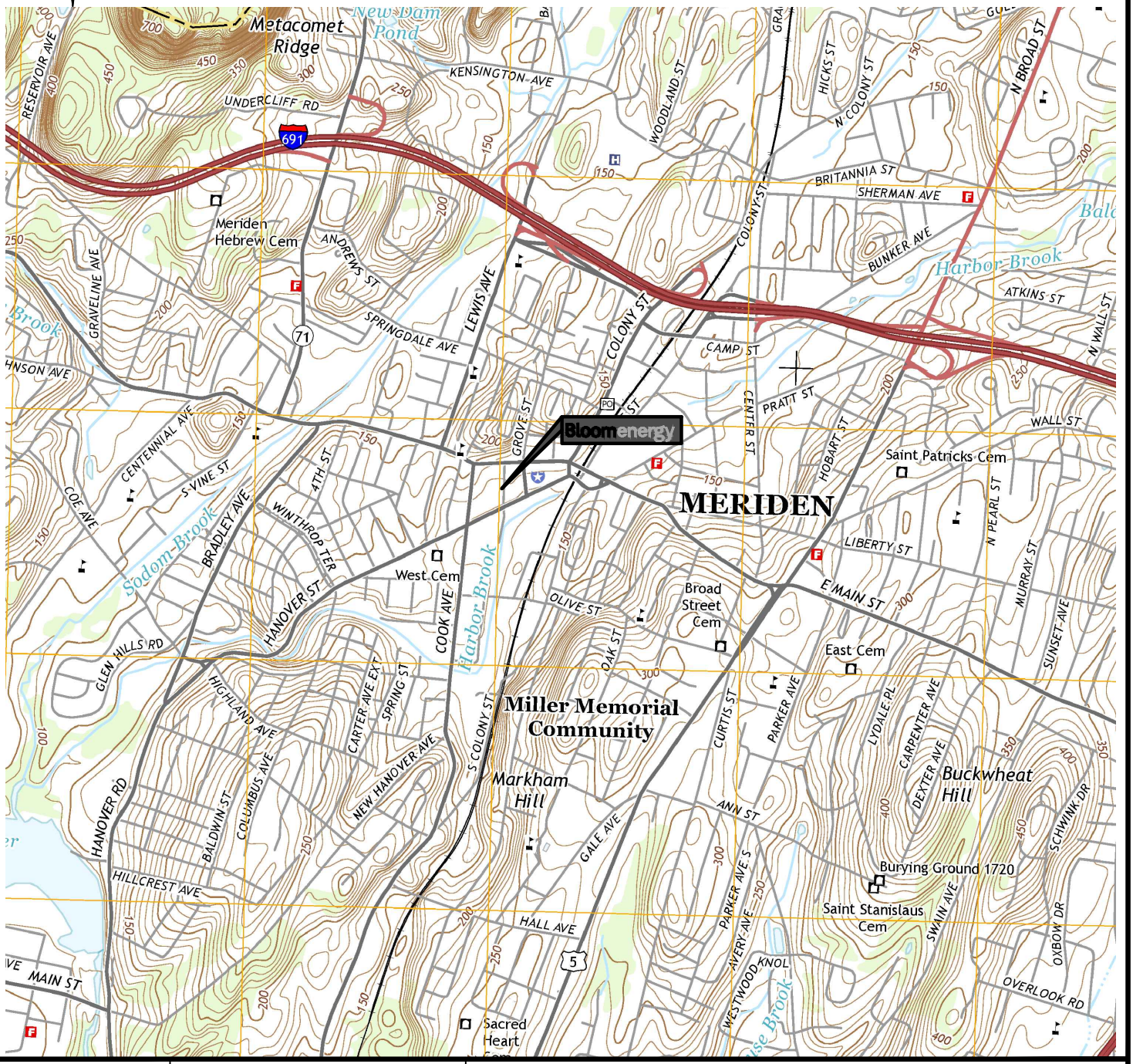
Exhibit 1



Job#:	BEC-21222
Scale:	1" ≈ 2,000'
Date:	10/11/2016
Drawn By:	MDS

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EXHIBIT 1 - SITE LOCATION MAP
USGS MAP (MERIDEN, CT)

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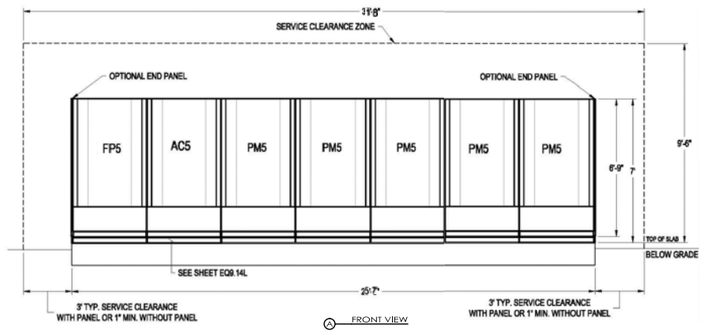
Exhibit 2



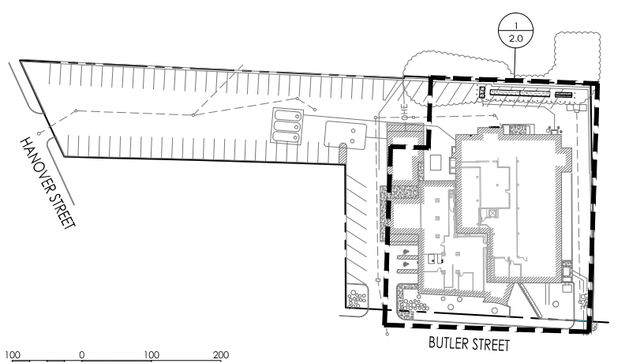
TYP ELEV OF ONE ES5 BLOOMENERGY ES UNIT

SCALE: 1" = 5'-0" | 2

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

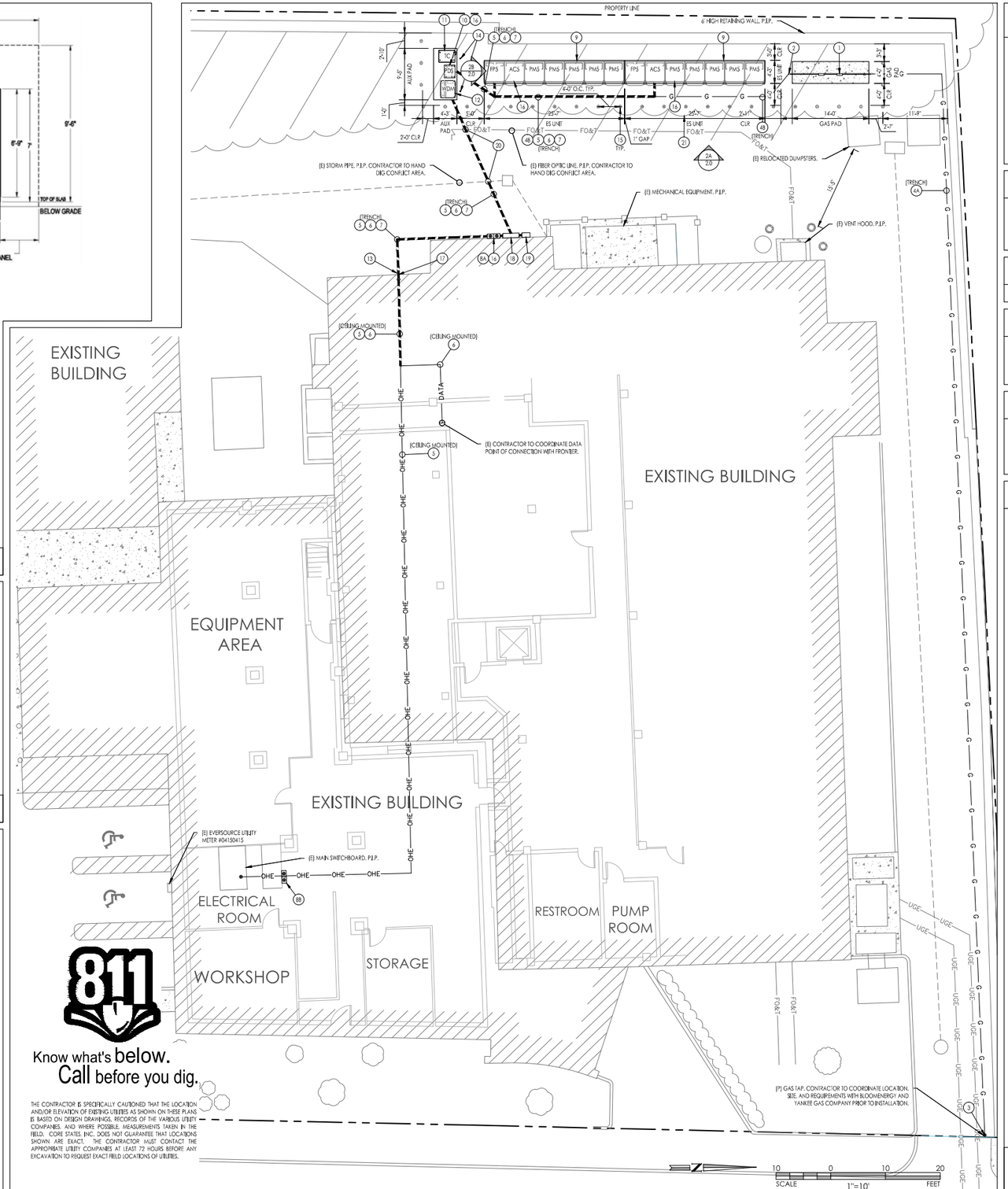
BLOOMENERGY ES5-BAAA0 SPECIFICATIONS

SCALE: NTS | 3



OVERALL AREA PLAN

SCALE: 1"=60' | 4



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.

SITE PLAN

SCALE: 1"=10'-0" | 1

RESPONSIBILITY NOTES

1. 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)
   - SIGNAGE (SEE SAFETY SIGNAGE)
   - SITE KIT (SEE SITE KIT NOTES)
2. 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
   - PRECAST SUPPORT PADS
3. CONTRACTOR TO REFER TO ELECTRICAL PLANS FOR ASSOCIATED WORK.

SITE KIT NOTES

1. BLOOMENERGY TO PROVIDE AND DELIVER THE SITE KIT.
2. ELECTRICAL AND PLUMBING CONTRACTOR TO INSTALL SITE KITS, CONSISTING OF PAD PLUMBING AND BUS BARS, ON THE PRECAST CONCRETE PAD PER MANUFACTURE SPECIFICATIONS.
3. PWM DEFLECTORS ARE NOT REQUIRED AT THIS SITE.

UTILITIES

GAS: YANKEE GAS COMPANY (YGC)
ELECTRIC: EVERSOURCE

CONDUIT & PIPE LENGTHS

TYPE	TOTAL DISTANCE FROM TRENCH TO FURTHERMOST ES UNIT (LINEAR)
GAS PIPE	330'
ELECTRICAL CABLE (TO T.I.P.)	280'
DATA CONDUIT	280'
WATER PIPE	125'

LEGEND OF UTILITY LINES

- DATA — DATA LINE
- FO&T — FENCE LINE / FIBER OPTICS & PHONE
- G — GAS LINE
- JOINT UTILITY RUN
- OHE — OVERHEAD ELECTRICAL
- SA — SANITARY LINE
- ST — STORM LINE
- TV — TELEVISION LINE
- UGE — UNDERGROUND ELECT.
- W — WATER LINE

KEYNOTES

1. (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 IGNITION SOURCES. CONTRACTOR TO PROVIDE CAST-IN-PLACE CONCRETE PAD.
2. (N) PRIVATE GAS RISER FOR CLEAN ENERGY SERVER. COORDINATE LOCATION & LOCATION REQUIREMENTS WITH BLOOMENERGY PRIOR TO INSTALLATION. MAINTAIN MINIMUM 3'-0" CLEARANCE FROM ALL IGNITION SOURCES.
3. (N) GAS SERVICE TAP BY UTILITY COMPANY. EXACT LOCATION TO BE COORDINATED WITH UTILITY & BLOOMENERGY. SEE(S) & TRENCHING REQUIREMENTS PER UTILITY COMPANY.
4A. (N) GAS PIPE FROM (N) GAS TAP TO TERMINATE AT (N) UTILITY MSA INSTALLED BY UTILITY COMPANY. SEE(S) & TRENCHING REQUIREMENTS PER UTILITY COMPANY.
4B. (N) GAS PIPE, DATA CONDUIT & CABLE (WHERE NEEDED) FROM (N) UTILITY GAS MSA TO TERMINATE AT (N) ES UNIT INSTALLED BY CONTRACTOR.
5. (N) ELECTRICAL CONDUIT & WIRES FROM (N) ES UNIT TO (N) PDS TO (N) DISCONNECT TO (N) CT CABINENT TO (N) UREC METER WITH FINAL TERMINATION AT (E) MAIN SWITCH BOARD.
6. (N) DATA CONDUIT & CABLE FROM (N) UREC METER TO TERMINATE AT (E) DATA POINT OF CONNECTION. LOCATION TO BE COORDINATED WITH FRONTIER.
7. (N) WATER PIPE FROM BUILDING DOMESTIC WATER SYSTEM TO (N) WDM. CONNECT TO EXISTING WATER SPIGOT. CONTRACTOR TO ENSURE MIN PRESSURE OF 35 PSI.
8A. (N) DISCONNECT SWITCH & NEMA 3R ENCLOSURE. MOUNT TO THE BUILDING WALL PER MANUFACTURER SPECIFICATIONS. ENSURE LOCATION MEETS ALL REQUIRED N.E.C. CLEARANCES. PROVIDE MODEL NUMBER ON THE OUTSIDE OF THE FRONT PANEL.
8B. (N) DISCONNECT SWITCH , MOUNT TO THE (E) UNISTRUT LOCATED ALONG WALL PER MANUFACTURER SPECIFICATIONS. ENSURE LOCATION MEETS ALL REQUIRED N.E.C. CLEARANCES. PROVIDE MODEL NUMBER ON THE OUTSIDE OF THE FRONT PANEL.
9. (N) BLOOMENERGY ES-5 ENERGY SERVER.
10. (N) POWER DISTRIBUTION SECTION (PDS). CAST-IN-PLACE PAD AND MOUNTING SPECIFICATIONS PER GRADING PLAN. CONDUIT STUB-UP LOCATIONS PER ELECTRICAL CONDUIT PLAN.
11. (N) TELEMETRY CABINET (TC) WITH FACTORY WIRED CLEAN ENERGY SERVER EMERGENCY POWER-OFF SWITCH (EPO). CAST-IN-PLACE PAD AND MOUNTING SPECIFICATIONS PER GRADING PLAN. CONDUIT STUB-UP LOCATIONS PER ELECTRICAL CONDUIT DETAILS.
12. (N) WATER DEIONIZATION MODULE (WDM). CAST-IN-PLACE PAD AND MOUNTING SPECIFICATIONS PER GRADING PLAN. PIPE & CONDUIT STUB-UP LOCATIONS PER PIPE PLAN & DETAILS & ELECTRICAL CONDUIT DETAILS.
13. (N) WATER TAP. CONNECT TO EXISTING WATER SPIGOT. CONTRACTOR TO ENSURE MIN PRESSURE OF 35 PSI.
14. (N) 10'-0" COPPER GROUNDING RODS 6'-0" APART. SPECIFICATIONS PER ONE LINE DIAGRAM.
15. (N) BOLLARD (TYP). TYPE, SIZE AND LOCATION PER IMPACT PROTECTION PLAN. ENSURE SLEEVE IS FLUSH WITH GRADE AND NO ANGLES OR HOOKS EXIST THAT IMPEDE FORKLIFT ACCESS.
16. (N) PROVIDE SECURITY BOXES OF CONDUIT & WIRE AT ALL ELECTRICAL STUB UP LOCATIONS.
17. CORE CONDUIT AND/OR PIPE THROUGH WALL. SCAN WALL PRIOR TO CORING.
18. (N) UTILITY APPROVED CT CABINET IN NEMA 3R ENCLOSURES. MOUNT TO THE BUILDING WALL 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.
19. (N) UTILITY APPROVED UREC METER. MOUNT TO BUILDING WALL 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.
20. CONTRACTOR TO INSTALL (N) UTILITIES WITHOUT DAMAGING (E) UTILITIES. (N) UTILITIES ARE TO BE INSTALLED MAINTAINING MINIMUM CLEARANCES TO (E) UTILITIES AS IDENTIFIED IN TRENCHING DETAILS. HAND DIG ALL CONFLICT AREAS.
21. APPROXIMATE EXTENT OF (E) TREE LINE CANOPY. CONTRACTOR TO TRIM (E) TREE LINE TO MAINTAIN 10'-0" CLEARANCE BETWEEN ANY BRANCH TO ES UNITS VENT & 6'-0" CLEARANCE BETWEEN ANY BRANCH AND EDGE OF ES UNITS.

CLIENT APPROVAL: _____ DATE

BLOOMENERGY APPROVAL: _____ DATE

Bloomenergy
1252 Orleans Drive, Sunnyvale, CA, 94089
Tel: 408 543 1500
Fax: 408 543 1501
www.bloomenergy.com

PROPRIETARY & CONFIDENTIAL

Frontier COMMUNICATIONS

NEW CONSTRUCTION OF
CLEAN ENERGY SERVER
25 BUTLER STREET
MERIDEN, CT 06451

CORE STATES GROUP
55 STATION TERRACE ROAD
SUITE 300
MILLINGTON, NJ 07059
cmsullivan@corestategroup.com

SEAL

ISSUE	DATE	DESCRIPTION
-	10/6/16	PRELIM. SUBMISSION
1	10/7/16	REV. PER BE COMMENTS

PROJECT INFORMATION

JOB #	BEC-21222
DATE:	10-06-16
DRAWN BY:	MP
CHECKED BY:	MDS

MODEL: (2) ES5-BABAA0

SHEET TITLE: SITE PLAN

SHEET NUMBER: 2.0

Drawing File: Bloom Energy\BEC-21222- Frontier Meriden, CT\Drawings\BEC-21222- Frontier Meriden, CT • 2.0 Site Plan.dwg, Site Plan
User: mpatel
Last Modified: Oct. 07, 16 - 11:33
Plot Date/Time: Oct. 07, 16 - 19:53:31

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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 reformate 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 CO_2 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.

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.

September 12, 2012

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

Date

60906902 V1-WORKSITEUS-029819/0002

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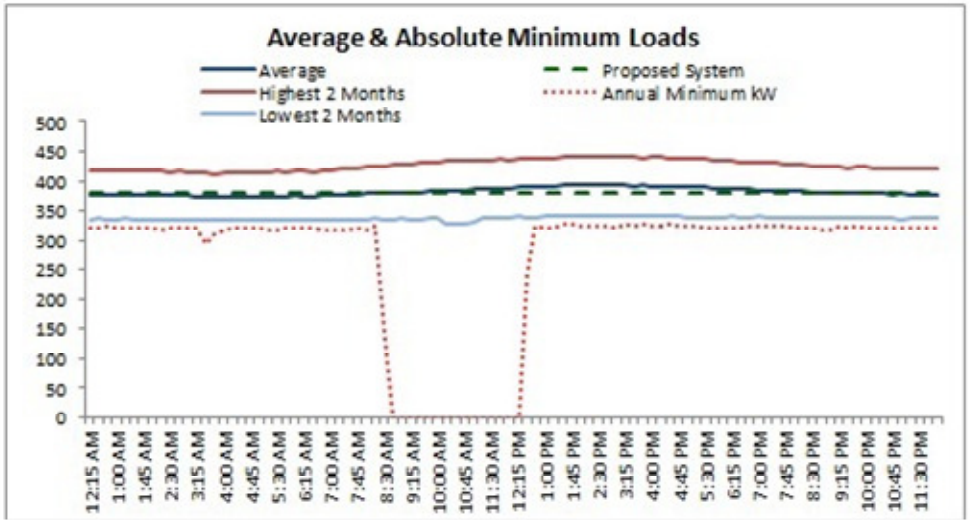
Exhibit 4

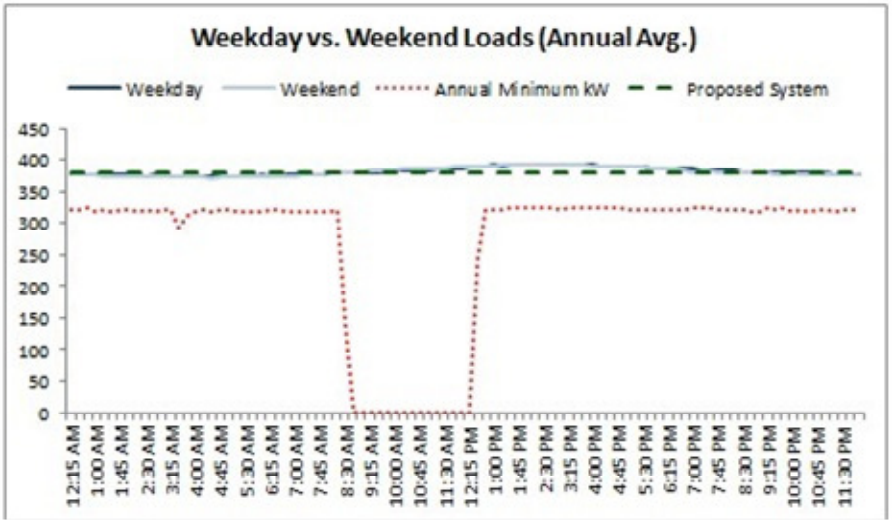
Baseload Analysis - Meter Interval Data Analysis

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

Absolute Minimum kW	*0*	*kW*
Recurring Minimum Bas	*326*	*kW*
Average Baseload	*367*	*kW*
*Proposed System Size**	*400*	*kW*

SYSTEM DETAILS		
% Exported	4.1%	
% of Load Offset	95%	
Utility Exports		
Peak Hours	*38,965*	*kWh*
Partial Peak Hours	*0*	*kWh*
Off-Peak Hours	*96,516*	*kWh*
Total kWh Exported	*135,279*	*kWh*
CUSTOMER DETAILS		
Total Days of Data	365	
Annual Load Factor	97%	
Total Customer Usage	3,345,649	kWh
Average Hourly kWh	382	kWh
Daily Avg. Peak Demand	406	kW





Bloomenergy

Exhibit 5

Bloomenergy®

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 CO_2 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	
NOx	< 0.01 lbs/MWh
SOx	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

Bloomenergy®

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Sunnyvale CA 94089
T 408 543 1500
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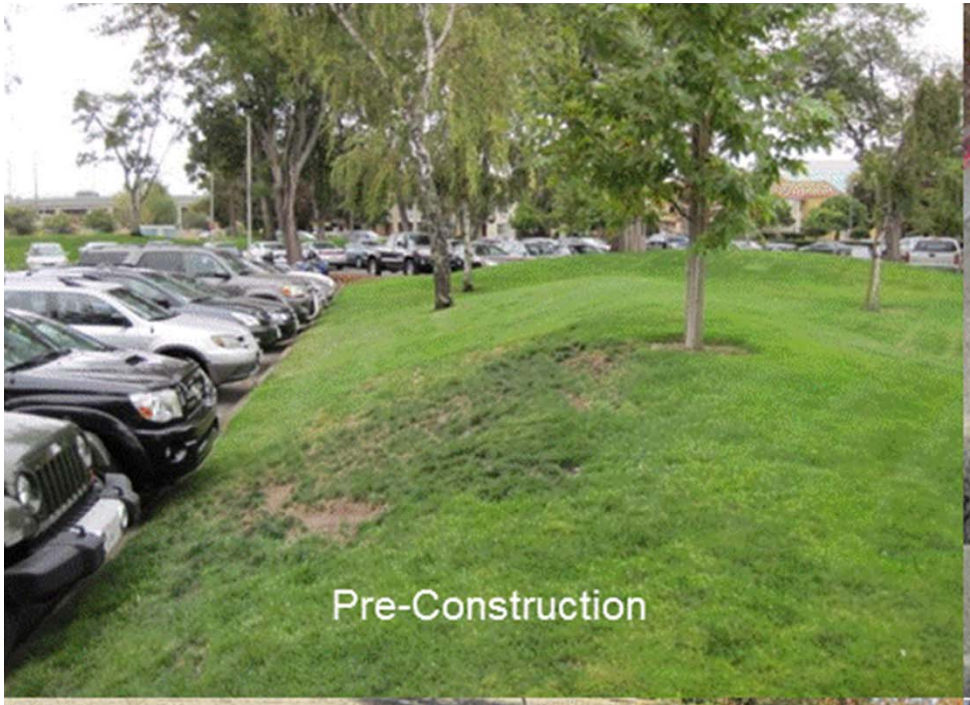
Bloom Energy Server


Pre-Construction


Install Preparations – Trenching &
Underground Utility


Set Pads


Site Completion

Bloom Energy Server Installation

Representative Installations

Bloomenergy

Bloomenergy

Exhibit 6

Bloomenergy™

Fire Prevention and Emergency Planning

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

Table of Contents

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.

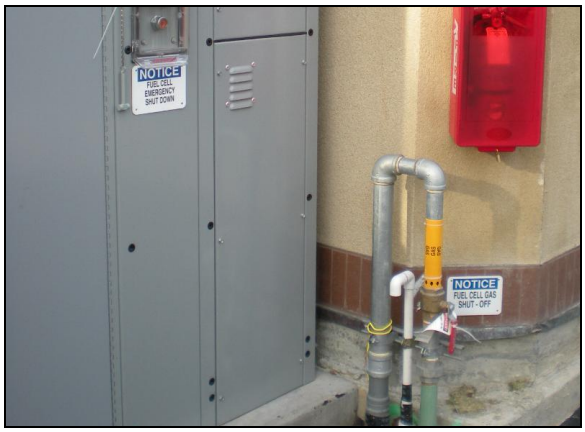


Figure 3: Manual Natural Gas Valve

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

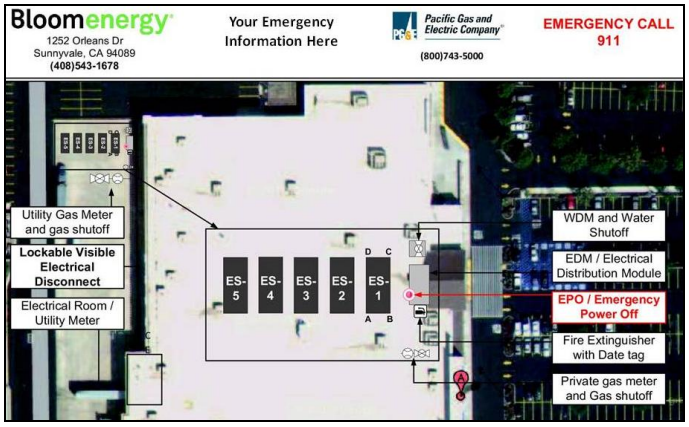


Figure 4: Sample Site Map

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.

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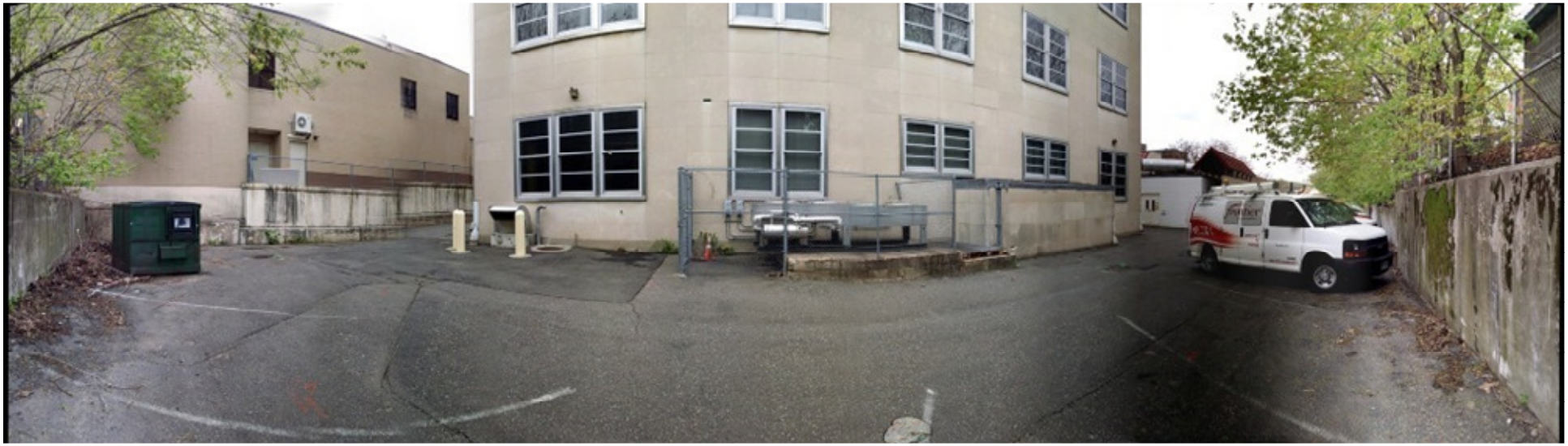
Exhibit 7



Panoramic views of installation location

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Exhibit 8

FEMA Flood Zones

Harbor Brook

Bloomenergy

Exhibit 9

Mei Wu Acoustics

Experts in acoustics, noise and vibration

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 17, 2016**	
Subject:	**Bloom Energy – Frontier Communications - Meriden, CT**	
	MWA Project – 16079	

Mei Wu Acoustics (MWA) has predicted the sound levels produced by the proposed fuel cell energy server system at 27 Butler St, Meriden, CT. In addition, MWA conducted 24-hour sound level measurements at the site to establish the existing ambient environmental sound levels in order to compare predicted noise levels with existing conditions and demonstrate compliance with the code requirements.

1. Project Overview

The proposed equipment will consist of two (2) ES-5 energy servers. The following figure provides a site plan showing the fuel cells' proposed location at the northwestern corner of the property.

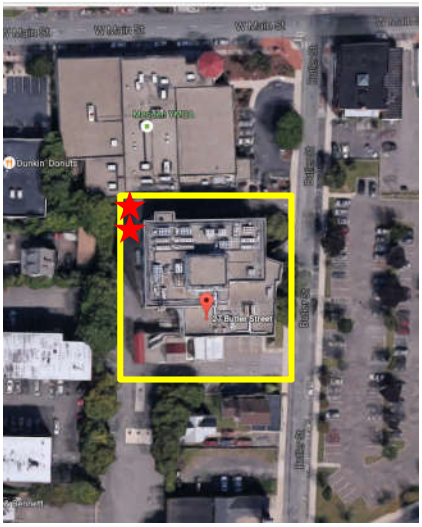


Figure 1: Site plan showing location of fuel-cells (red stars) and property outline (yellow outline).

2. Noise Criteria

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

2.1. Meriden Municipal Code

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

Chapter 141 – Noise

Sec. 141-2- Definitions

When used in this chapter, the terms below shall have the following meanings:

AMBIENT NOISE or BACKGROUND NOISE - Noise of a measurable intensity which exists at a point as a result of a combination of many distant sources individually indistinguishable.

COMMERCIAL ZONE - Those areas designated as commercial districts in Chapter 213, Zoning, of the City Code.[1]

CONTINUOUS NOISE - Ongoing noise, the intensity of which remains at a measurable level (which may vary) without interruption over an indefinite period or a specified period of time.

DAYTIME HOURS - The hours between 7:00 a.m. and 9:00 p.m. Monday through Saturday and the hours between 9:00 a.m. and 9:00 p.m. on Sunday.

DECIBEL - A unit of measure of the sound level, the symbol for which is "dB."

EXCESSIVE NOISE - Any sound, the intensity of which exceeds the standards set forth in § 141-5.

IMPULSE NOISE - Sound of short duration, usually less than one second, with an abrupt onset and rapid decay, the level of which is measured with a sound-level meter, which shall conform to ANSI S127-1986 (R1993).

INDUSTRIAL ZONE - Those areas designated as industrial districts in Chapter 213, Zoning, of the City Code.[2]

NIGHTTIME HOURS - The hours between 9:00 p.m. and 7:00 a.m. Sunday evening through Saturday morning, between 9:00 p.m. and 9:00 a.m. Saturday evening through Sunday morning, and between 9:00 p.m. and 7:00 a.m. Monday through Friday.

NOISE - Any sound, the intensity of which exceeds the standards as set forth in this chapter.

NOISE LEVEL - The sound-pressure level as measured with a sound-level meter.

NOISE LEVEL, A-WEIGHTED - The sound-pressure level as measured with a sound-level meter using the A-weighting network. The sound level is designated "dBA."

PEAK SOUND-PRESSURE LEVEL (SPL) - The absolute maximum value of the instantaneous sound-pressure level occurring in a specified time period.

PROPERTY LINE - 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 and controlled by another person and which separates real property from the public right-of-way.

PUBLIC RIGHT-OF-WAY - Any street, avenue, boulevard, highway, sidewalk, alley, park, waterway, railroad or similar place which is owned or controlled by a government entity, over which the public in general has a right of passage.

RESIDENTIAL ZONE - Those areas so designated in the Zoning Regulations of the City of Meriden.[3]

SOUND - A transmission of energy through solid, liquid or gaseous media in the form of vibrations which constitute alteration in pressure or position of particles in the medium and which, in air, evoke physiological sensations, including but not limited to an auditory response when impinging on the ear.

SOUND-LEVEL METER - An instrument used to measure sound levels. A sound-level meter shall conform, at a minimum, to the American National Standards Institute operation specifications for sound-level meters SI. 4-1983 (R 1994).

SOUND-PRESSURE LEVEL (SPL) - Equals 20 times the logarithm to the base 10 of the ratio of the sound pressure in question to the standard reference pressure of 20 micro pascals expressed in decibel (dB) units.

SOUND-PRESSURE LEVEL, A-WEIGHTED - The A-weighted sound-pressure level expressed in decibels (dBA), measured on a sound-level meter.

Sec. 141-3 Noise Measurement Procedures

For the purpose of determining noise levels as set forth in this chapter, the following guidelines shall be applicable:

A. A person conducting sound measurement shall be trained in the current techniques and principles of sound measuring equipment and instrumentation.

B. Instruments used to determine sound-level measurement shall be sound-level meters and analyzers as defined by this chapter.

C. The following steps should be taken when preparing to take sound-level measurements:

(1) The instrument manufacturer's specific instructions for the preparation and use of the instrument shall be followed.

(2) If using a sound-level meter, it shall be calibrated before and after each set of measurements.

(3) If using a sound-level meter, it shall be placed at an angle from the sound source as specified by the manufacturer's instructions and at least four feet above the ground. It shall be placed at that location so as not to be interfered with by individuals conducting measurements.

(4) Measurements to determine compliance with § 141-5 shall be taken at a point that is located more or less than one foot beyond the property line of the noise emitter's premises and within the noise receptor's premises.

(5) While measurements are being recorded, a continual visual and aural surveillance of extraneous sound sources shall be made to ensure that the measurements are due to the sound being investigated. The sound levels of extraneous sound sources shall be recorded.

(6) The intentional moving or rendering inaccurate or inoperative of any sound-monitoring device or instrument positioned or used by or for the City of Meriden, provided that such device or the immediate area is clearly labeled to warn of the potential illegality, shall be a violation of this chapter.

Sec. 141-4 Classification of Noise Zones

Noise zones within the City of Meriden shall be classified as to zoning applicable for the parcel or tract of land and the surrounding parcels or tracts. Noise zones specified herein shall correspond to the following zoning descriptions in the Zoning Regulations and Zoning Map of the City of Meriden:

Zone	***Actual or Intended Use***
Class A	***Residential***
Class B	***Commercial***
Class C	***Industrial***

Sec. 141-5 Noise Zone Standards

A. No person shall, except as provided in this chapter, allow or permit the creation, continuance or maintenance of any noise beyond the property line of his/her premises in excess of the noise levels established in these regulations.

B. It shall be unlawful for any person to emit or cause to be emitted any noise beyond the property lines or boundaries of his/her premises in excess of the following noise levels:

Emitter Noise Zone	*C (dBA)*	*B (dBA)*	*A-Day (dBA)*	*A-Night (dBA)*
Class C	*70*	*66*	*61*	*51*
Class B	*62*	*62*	*55*	*45*
Class A	*62*	*55*	*55*	*45*

C. Impulse noise standards.

(1) Class A receptor, nighttime. It shall be unlawful for any person to emit or cause to be emitted any impulse noise beyond the property lines of his/her premises to a Class A receptor noise zone during nighttime hours in excess of 80 dB peak sound-pressure level.

(2) Any receptor, at any time. It shall be unlawful for any person to emit or cause to be emitted any impulse noise beyond the property lines of his/her premises to any receptor noise zone at any time in excess of 100 dB peak sound-pressure level.

D. High background noise levels and impulse noise.

(1) 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 levels by five dBA, provided that no source subject to the provisions of this chapter shall emit noise in excess of 80 dBA at any time and provided that this section does not decrease the permissible levels of other sections of this chapter.

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

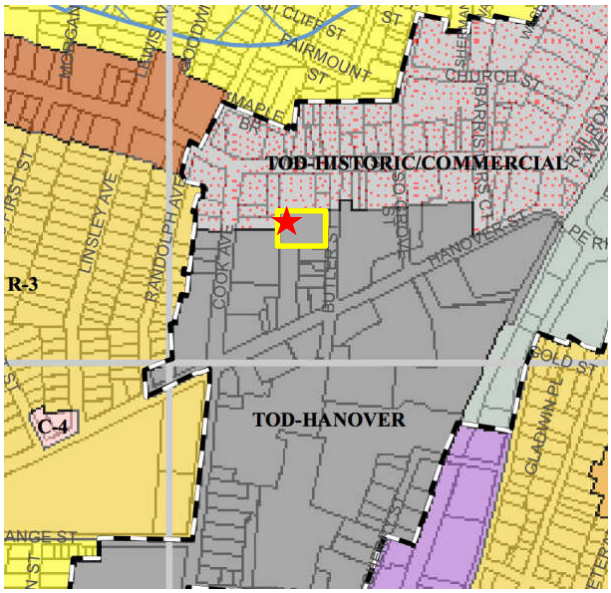
(3) No person shall cause or allow the emission of impulse noise in excess of 100 dB peak sound-pressure level at any time to any zone

2.2. Meriden City Plan

MWA has reviewed the Meriden City 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. Meriden Zoning Map

The following figure provides a zoning map of the areas surrounding the project site. As shown, the project site is zoned TOD-Hanover, a Transit Oriented Development District, which is considered business/commercial. To the north and east is another transit oriented district, considered business/commercial in this analysis. However we note that the actual land uses to the east of the project site appear to be residential.



TOD-Historic/Commercial – Transit Oriented Development District
TOD-Hanover – Tranist Oriented Development District

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

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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 exceprt 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. The neighboring uses are also within the Transit Oriented Development Districts: Historic/Commercial or Hannover. However the actual land uses to the west appear to be residential.
- Section 22a-69-2.2 of the DEEP regulations specifies that when multiple uses exist within a given zone, that the least restrictive Land Use Category shall apply for the emitter and receiver. This would qualify residential uses within the business/commercial district as Class B receivers, subject to the criteria of 62 dBA maximum noise level at the property line.
- If this interpretation is not taken, the high background noise area exception will apply. This permits the project to emit a level which exceeds the local ambient by not more than 5 dBA.
- **DEEP Requirements**
    - According to the Noise Zone Standards, the neighboring receiving uses are Class B (to the north and south) and Class A (to the west). Therefore, the noise level at neighboring commercial properties should not exceed 62 dBA, and residential should not exceed 55 dBA during the daytime and 45 dBA during the nighttime.
    - 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).
- **Meriden City Requirements**
    - The Meriden municipal code requirements are similar to the DEEP requirements – refer to summary above.
    - Meriden does not have a Noise Element in their General Plan.

3. Environmental Ambient Sound Level Measurements

3.1. Site visit details

MWA personnel: Joshua Marcley
Date and time: 9/27/2016 12:00 PM – 9/28/2016 10:30 AM
Equipment used: Cesva SC160, Type II sound level meter

3.2. Measurement procedure

A sound level meter was installed on a tree on the edge of the southern property line (the nearest adjacency to residential use). Ambient sounds were comprised primarily of traffic from in the downtown Meriden area.

The sound level meter recorded A-weighted L_{eq}, L_1, L_5, L_{10}, L_{50}, L_{90}, L_{95}, and L_{99} levels every one (1) minute for the time period described above. The meter was equipped with a windscreen. The measurement was aborted after 22 hours, 20 minutes due to weather concerns. The last 20 minutes of collected data is averaged and extrapolated to represent the entire final hour of the measurement.

3.3. Measurement Period Weather Conditions

The following table provides the weather conditions during the measurement period.

Date	9/27/2016	9/28/2016
Mean Temp.	66° F	59° F
Max Temp.	73° F	66° F
Min Temp.	57° F	54° F
Avg. Humidity	80%	84%
Avg. Wind Speed	5 mph [W]	7 mph [NE]
Precipitation	0.42 in	0.00 in

Table 1: Measurement weather conditions

3.4. Measurement Results

The following table provides the hourly average sound level measurements. All measurements indicated are given in dBA (A-weighted). LAeq is the average measured level for the entire 1-hour measurement period. L1/10/L90/L99 are statistical averages – for example, L10 indicates the level that was present for 10% of the time, whereas L90 indicates the level present for 90% of the measurement period. L99 & L90 are considered representative of the steady background sound levels, whereas L1 & L10 may suggest more infrequent and transient activities in the environment (door slams, car alarms, dog barking, etc.). The quietest 1-Hour L90 was **51.3 dBA**, measured from 12–1PM.

Hour	L1	L10	L90	L99	LAeq
12:00 PM	63.4	56.3	51.3	50.7	54.5
1:00 PM	59.8	55.3	51.4	50.8	53.4
2:00 PM	62.5	55.6	51.9	51.3	54.2
3:00 PM	68.5	61.2	52.2	51.5	58.0
4:00 PM	69.7	62.4	52.6	51.9	59.4
5:00 PM	65.6	58.8	52.0	51.5	56.0
6:00 PM	70.8	64.1	52.3	51.6	60.4
7:00 PM	56.4	54.4	52.2	51.7	53.2
8:00 PM	61.4	56.5	52.3	51.7	54.5
9:00 PM	54.4	53.1	51.9	51.5	52.5
10:00 PM	55.9	53.4	51.8	51.5	52.6
11:00 PM	56.7	53.5	52.0	51.6	52.8
12:00 AM	56.7	54.2	51.8	51.5	52.9
1:00 AM	54.5	53.1	51.9	51.5	52.5
2:00 AM	58.2	54.9	52.3	51.9	53.6
3:00 AM	64.7	57.5	53.2	52.7	55.7
4:00 AM	60.1	56.5	53.9	53.4	55.3
5:00 AM	62.5	57.2	54.3	53.9	55.9
6:00 AM	73.9	66.0	54.8	54.1	62.4
7:00 AM	63.9	58.8	54.4	53.8	56.9
8:00 AM	62.1	58.0	53.8	53.2	56.0
9:00 AM	62.8	59.9	54.4	53.7	57.4
10:00 AM	63.1	56.8	52.1	50.9	54.5
				CNEL	**63.1**

Table 2: Hourly environmental sound level measurements – 9/27 – 9/28/2016 (dBA)

The following figure plots the 1-minute average measurements for the duration of the measurement period, showing the difference between the L01/L99 percentiles and the LAeq average.

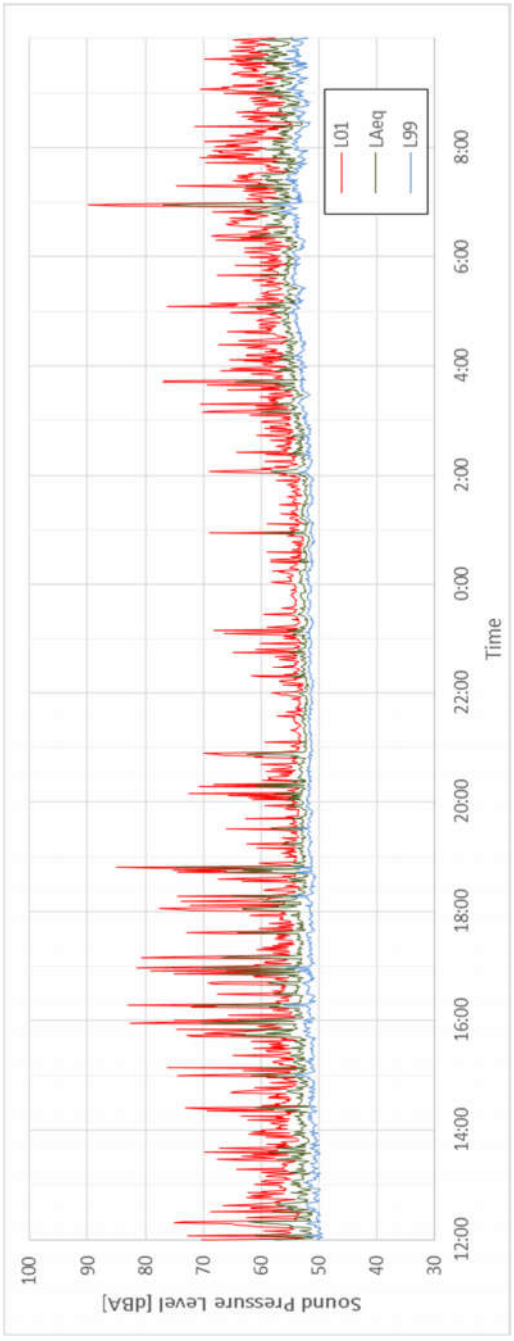

Figure 3: 1-minute average measurements plotted over the measurement period.

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

Sound power levels for the energy server 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 units (above x2), reflections from surrounding buildings and structures, and distance attenuation. There is a retaining wall running along the rear of the property. Though it was not measured during our measurement, the calculation assumes that the height of the retaining wall is 2 feet shorter than the top of the fuel cells. Additionally, the fuel cells do not radiate sound uniformly; the sides and rear of the fuel cells are significantly quieter than the top and front intakes. Therefore, the analysis assumes that the rear of the fuel cells is arranged to be facing the rear of the property, thereby minimizing the noise tranmission to the nearest property line. The following figure provides the predicted sound pressure level at the nearest adjacent properties.

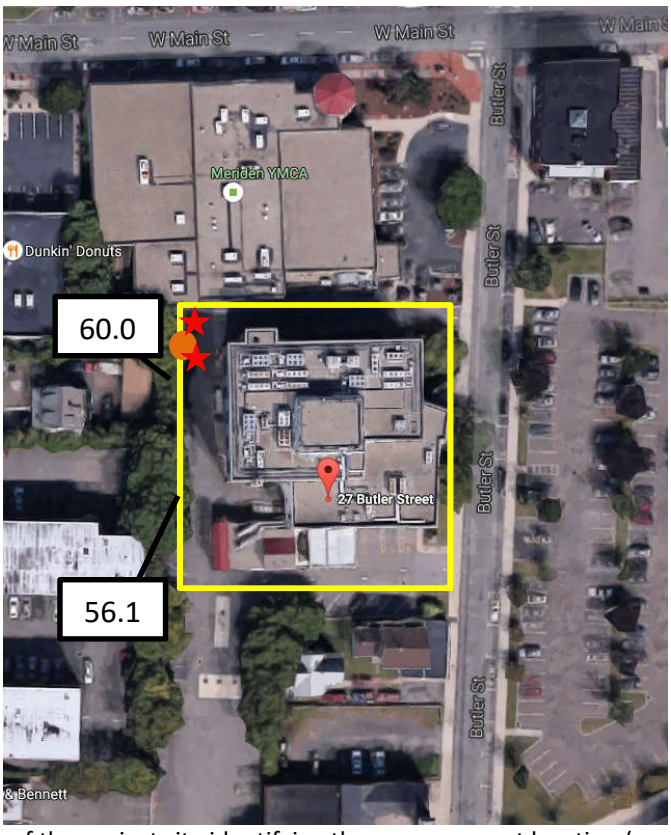

Figure 4: Satellite view of the project site identifying the measurement location (orange); the proposed location of the fuel cells (red stars). Numbers indicate the predicted sound pressure level due to the fuel cell (in dBA).

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5. Code Interpretations

Following the code interpretation which treats all adjacent land uses as Class B:

The predicted noise level from the fuel cells is compliant with this interpretation of the code without the need for the implementation of noise reduction measures. However, the ambient noise level at the neighboring properties will be raised significantly, from the current L90 of approximately **52-54 dBA**, to an expected level of **61 dBA** at the receiver nearest to the fuel cells and **57 dBA** at the receiver to the south. This may interfere with a "good neighbor policy" if one exists.

Following the code interpretation which is more stringent:

The predicted noise level from the fuel cells exceeds the criteria established when considering the neighboring uses to the west as Class A. This is considered a high background noise area since the ambient level (52 dBA L90) exceeds the nighttime criteria for Class A receivers (45 dBA). Therefore the noise criteria for the project under this interpretation is the lowest ambient level plus 5 dBA, i.e. **56.3 dBA** (51.3 dBA + 5 dBA).

A noise barrier which is 5 ft higher than the current retaining wall, constructed along the red line in Figure 5 will be sufficient to mitigate the noise emissions to the nearest receptor to 45 dBA. Additionally, absorptive panels should be installed to cover at least 50% of the area indicated by the blue line. The panels should be installed between the heights of 5 and 15 ft and should be evenly distributed.

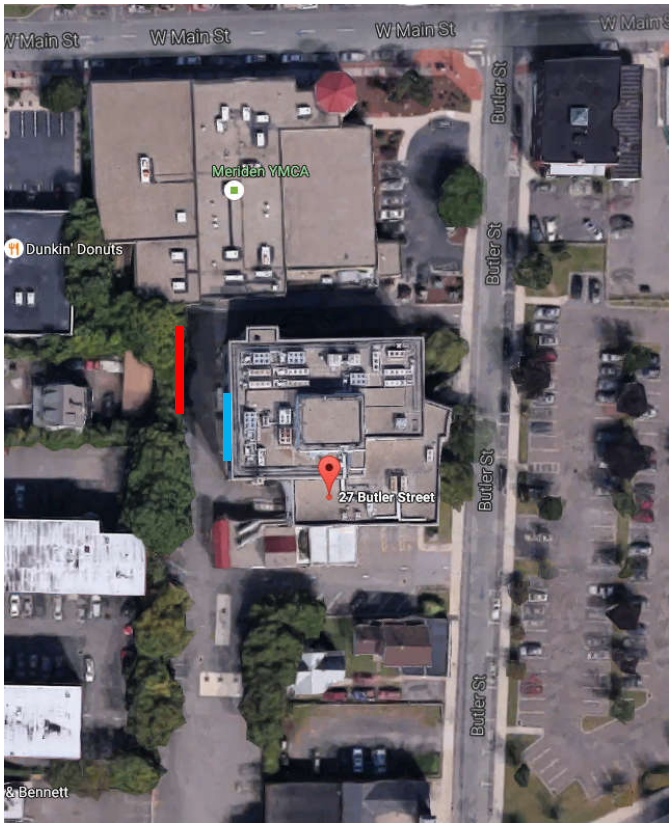

Figure 5: Satellite view of the project site identifying the location of recommended noise reduction measures to mitigate project noise emissions to nearby residential uses to 45 dBA.

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6. Summary & Conclusion

The calculations show that the noise level at the location closest to the fuel cell along the property line is expected to be **60.0 dBA** and **56.1 dBA**, at the property lines of the two nearest receivers (see Figure 4). The calculation is valid assuming that the retaining wall at the rear of the property is 2 feet shorter than the top of the fuel cells, or taller, and that the fuel cells be aligned such that the rear of the fuel cells face the rear of the property.

Please refer to Section 5 for our comments regarding the code interpretations for this site.

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

* * *

Bloomenergy

Exhibit 10

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
Scarpati	Kevin	Mayor, City of Meriden	142 E Main Street	Meriden	CT	06450
Seale	Robert	City Planner	142 E Main Street	Meriden	CT	06450
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
Esty	Elizabeth	U.S. Representative	1 Grove Street, Suite 600	New Britain	CT	06053
Altobello	Emil	State Representative, 82nd	Legislative Office Building, Room 4015	Hartford	CT	06106
Abercrombie	Catherine	State Representative, 83rd	Legislative Office Building, Room 2002	Hartford	CT	06106
Santiago	Hilda	State Representative, 84th	Legislative Office Building, Room 4000	Hartford	CT	06106
Bartolomeo	Dante	State Senator, 13th	State Capital, Room 011	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
House	Arthur	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

Abutter Properties

Map ID Number	Name	Address	City	State	Zip
30	MERIDEN CITY OF PARKING LOT	142 E MAIN ST	MERIDEN	CT	06450
88	HOUSING AUTHORITY OF THE CITY	22 CHURCH ST	MERIDEN	CT	06450
9	MERIDEN CITY OF	142 E MAIN ST	MERIDEN	CT	06450
110	MERIDEN CITY OF	142 E MAIN ST	MERIDEN	CT	06450
122	MERIDEN CITY OF	142 E MAIN ST	MERIDEN	CT	06450
20	MCINVALLE HOUSTON	18 OXFORD DR	MIDDLEFIELD	CT	06455
32	LEV REALTY LLC	619 EASTERN PKWY	BROOKLYN	NY	10016
48	BEECHER & BENNETT INC	48 COOK AVE	MERIDEN	CT	06451
131	BEECHER & BENNETT INC	48 COOK AVE	MERIDEN	CT	06451
136	ONE THIRTY EIGHT HANOVER LLC	273 WEST MAIN ST	MERIDEN	CT	06451
124	124 HANOVER LLC	1739 SAINT PETERS AVE	BRONX	NY	10461
109	DEVRIES KURT	14 E HADDAM COLCHESTER TPKE	MOODUS	CT	06469
43	DEVRIES KURT	14 E HADDAM COLCHESTER TPKE	MOODUS	CT	06469
41	HALLOCK THOMAS W	41 BUTLER ST RR	MERIDEN	CT	06451
39	PATRUCCO JON	39 BULER ST	MERIDEN	CT	06451
35	SOUTHERN NEW ENGLAND TEL CO	401 MERRIT 7	NORWALK	CT	06851

Bloomenergy

Exhibit 11

Abutters Map - Meriden GIS

Bloomenergy

Exhibit 12

Bloomenergy

VIA FIRST CLASS MAIL

10/11/2016

RE: Application for Bloom Energy, as Agent for Frontier Communications, for the construction of two (2) new ES-5 Bloom Energy Servers solid oxide fuel cells which provide 400 kW of Customer-Side Distributed Resource at – 25 Butler Street, Meriden, Connecticut

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 October 17, 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 400 kilowatt Bloom Energy Corporation fuel cell facility and associated equipment (the "Facility"), located at the site of the Frontier Communications building at 25 Butler Street, Meriden, 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 fuel cells is at the rear of the building where existing mechanical equipment are currently located. In total, the proposed facility will be approximately 70 feet long, 4 feet wide, and 7 feet high.

If you have any questions regarding the proposed Facility, please contact the undersigned or the Council.

Respectfully,

Justin Adams
justin.adams@bloomenergy.com

Bloomenergy

10/11/2016

Via certified mail
142 East Main Street
Meriden, CT 06450

Attn: Robert Seale
RE: Bloom Energy Clean Energy Server Installation Frontier Communication – 25 Butler Street, Meriden, CT

Mr. Seale,

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 Frontier Communications, 25 Butler Street.

This project proposes to install two (2) new ES-5 Bloom Energy Servers; a new class of distributed power generator which produces clean, reliable and affordable electricity at the customer site. Bloom Energy Server contains solid oxide fuel cells which provide 400 kW of power, utilizing a non-combustive chemical process. Each Clean Energy Server is mounted onto a 25'7" x 4'3" precast concrete pad. As shown in the attached draft plan set, the placement of the Bloom Energy Servers and associated equipment is proposed to be installed at the rear of the building where existing mechanical equipment are currently located. In total the facility will be approximately 70 feet long, 4 feet wide and 7 feet tall.

The ES-5 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. 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 in the near future and want to give you an opportunity to review the proposed site plans. We would be happy to discuss any comments you may have either by phone or in person. If you have any questions or need further information, please feel free to call at (860) 839-8373.

Respectfully,

Justin Adams
justin.adams@bloomenergy.com

Bloomenergy

10/11/2016

Via certified mail
142 East Main Street
Meriden, CT 06450

Attn: Kevin Scarpati, Mayor of Meriden
RE: Bloom Energy Clean Energy Server Installation Frontier Communication – 25 Butler Street, Meriden, CT

Mr. Scarpati,

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 Frontier Communications, 25 Butler Street.

This project proposes to install two (2) new ES-5 Bloom Energy Servers; a new class of distributed power generator which produces clean, reliable and affordable electricity at the customer site. Bloom Energy Server contains solid oxide fuel cells which provide 400 kW of power, utilizing a non-combustive chemical process. Each Clean Energy Server is mounted onto a 25'7" x 4'3" precast concrete pad. As shown in the attached draft plan set, the placement of the Bloom Energy Servers and associated equipment is proposed to be installed at the rear of the building where existing mechanical equipment are currently located. In total the facility will be approximately 70 feet long, 4 feet wide and 7 feet tall.

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Respectfully,

Justin Adams
justin.adams@bloomenergy.com