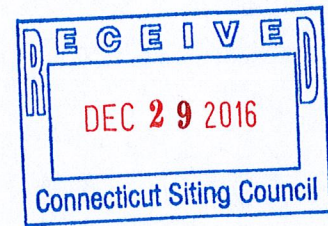




December 28, 2016

Justin Adams
Bloom Energy Corporation
1299 Orleans Drive
Sunnyvale, CA 94089

ORIGINAL



RE: PETITION NO. 1276 - Bloom Energy Corporation, as an agent for Stanley Black & Decker, petition for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the construction, operation and maintenance of a Customer-Side 200- Kilowatt Fuel Cell Facility to be located at the Stanley Engineered Fastening building, 4 Shelter Rock Lane, Danbury, Connecticut.

Dear Ms. Bachman,

We are submitting an original and fifteen (15) copies of the interrogatories response for Petition NO. 1276.

Sincerely

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

**4 Shelter Rock Lane
Danbury, CT
Interrogatories**

1. The scanned receipts have been provided to the Council via email to reduce the paper usage required to provide 16 copies of the receipts.
2. No, the net baseload output will be 200 kilowatts (kW). Bloom has revised Exhibit 5 to include the Specification Sheet specific to the proposed Facility.
3. The operational life is for the life of the 20 year contract.
4. Yes, the proposed Energy Server is UL Listed as a "Stationary Fuel Cell Power System" to ANSI/CSA FC 1-2014. It is UL Listed under UL Category IRGZ and UL File Number MH45102.
5. Bloom used a sound model to predict the noise output of the Facility. The nearest property boundary with a Class A noise zone¹ and where the Facility would not be shielded by the SB&D building is located approximately 480 feet to the north-northwest and across an undeveloped area that is heavily wooded. This boundary was selected because the noise produced from the proposed Facility would be higher than the other locations and the noise criteria set forth in the Connecticut and Danbury regulations would be the most restrictive. The results of the sound model predicting noise levels at this boundary are provided as Exhibit 9. The proposed Facility would be defined as "Scenario 1" in the model. Scenario 1 models noise for a Bloom Energy Server installed close to a building or tall wall which reflects the noise produced to the opposite side of the Energy Server and increases the noise levels. The results of the Scenario 1 sound model at 480 feet are 38.1dBA, which is in compliance with noise criteria set forth in Connecticut regulations for the Control of Noise² and the City of Danbury Code of Ordinances for the Regulation of Noise³.
6. No, the proposed Facility would not be enclosed by a fence. As shown in Exhibit 2, the Facility would be surrounded on three sides by bollards to provide protection from vehicles in the drive aisle and parking lot. The forth side of the Facility is shielded by the SB&D building.
7. The direction of the nearest residence is north-northwest of the proposed Facility.
8. The host property is zoned Light Industrial ("IL-40"). The properties adjacent to the host property to the west and south are also zoned IL-40. The properties adjacent to the north and west are zoned single family residential, defined by the City of Danbury as "RA-8" and "RA-20" respectively.

¹ Sec. 22a-69-2.3. Noise zone standards

² Sec. 22a-69-3.5. Noise zone standards

³ Sec. 12-14. - Regulation of noise.

9. The Sympaug Brook is located approximately 0.25 miles to the west of the proposed location. According to CTDEEP data, inland wetland soils (“Poorly Drained and/or Very Poorly Drained Soils”) are located approximately 500 feet to the south of the proposed location. See Exhibit 10.
10. No. According to CTDEEP GIS data, the nearest Aquifer Protection Area is located approximately 0.9-miles to the southeast of the proposed location.
11. Bloom has screened the proposed location for the presence of state listed species utilizing CTDEEP’s December 2016 GIS data. See Exhibit 11.
12. Danbury Municipal Airport is approximately 16,000 feet to the west of the proposed Facility. Bloom has completed the FAA Form 7460 and submitted to the FAA, the submission confirmation is provided in Exhibit 12.
13. The proposed facility will displace less efficient fossil fueled marginal generation on the NE ISO system. Based upon US EPA “eGrid” data the proposed facility is expected to reduce carbon emissions by more than 25% while essentially eliminating local air pollutants like NO_x, SO_x, and particulate matter.
14. Please refer to the datasheet, as it provides a range of emissions specific to the type of fuel cell for the proposed Facility. We have revised Table 1 to match the information provided in the datasheet.

Revised Table 1

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	<0.05
Carbon Dioxide (CO ₂)	1,650	679-833

15. Based upon US EPA “eGrid” data the proposed facility is expected to reduce carbon emissions by more than 25%.
16. The City of Danbury allows does not allow noise generated from commercial construction, demolition, excavation and building operations before 7:00 a.m. Monday through Friday, before 8:00 a.m. Saturday, before 10:00 a.m. Sunday, and after 8:00 p.m. any day.

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



Bloom anticipates work hours to only occur during allowable hours Monday – Friday, but may need to work Saturdays or Sundays if an expedited schedule is required.

Bloom anticipates construction to start in the spring or early summer of 2017 with 6-8 weeks of total construction time (2 weeks of site prep, 2 weeks of installation, and 2 weeks of commissioning).

17. The options at the conclusion of the 20 year contract between Bloom and SB&D includes;
- i. SB&D renews the contract,
 - ii. SB&D returns the Facility at no cost, or
 - iii. SB&D buys the Facility at a fair market value.

If the Facility is to be removed at the end of the contract or if there is a default in the contract;

- i. the Energy Servers, associated equipment and components will be dismantled and removed,
- ii. the concrete pads will remain unless requested to be removed, and
- iii. the site will be restored as nearly as practicable to its effective original condition.

Revised Exhibit 5



Energy Server 5

Clean, Reliable, Affordable Energy



CLEAN, RELIABLE POWER ON DEMAND

Bloom Energy's 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 and maintained 24 hours per day, 365 days per year.

INNOVATIVE TECHNOLOGY

Utilizing patented solid oxide fuel cell (SOFC) technology, the Energy Server 5 produces combustion-free power at unprecedented efficiencies, meaning it consumes less fuel and produces less CO₂ than competing technologies. Additionally, no water is needed under normal operating conditions.

ALL-ELECTRIC POWER

The Energy Server 5, which operates at a very high electrical efficiency, eliminates the need for complicated and costly CHP systems. Combining the standard electrical and fuel connections along with compact footprint and sleek design, the Energy Server 5 is the most deployable fuel cell 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, 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-BA2AA0)

Outputs

Nameplate power output (net AC)	210 kW
Base load output (net AC)	200 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	13.6 tons
Dimensions (variable layouts)	14'9" x 8'8" x 7'0" or 29'4" 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
 An Energy Server is a Stationary Fuel Cell Power System. It is Listed by Underwriters Laboratories, Inc. (UL) as a 'Stationary Fuel Cell Power System' to ANSI/CSA FC1-2014 under UL Category IRGZ and UL File Number MH45102.

Additional Notes

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

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



Bloom Energy Corporation
 1299 Orleans Drive
 Sunnyvale CA 94089
 T 408 543 1500
 www.bloomenergy.com

Exhibit 9

Calculation of Yuma Sound Pressure Based On Distance

By Bob Hintz 1/16

All calculations are based on the following formula for sound pressure level (L_p):

$$L_p = L_w - \left| 10 \cdot \log \left(\frac{Q}{4\pi \cdot r^2} \right) \right|$$

Sound power value (L_w) attained from V1 Yuma linear in DE reported on Feb. 4, 2015 by Mei Wu.

Scenario 1

ES is installed close to a building or tall wall so noise from the ES is reflected off of the structure and added to the noise from the other side of the ES making it sound louder than normal. This is represented by a directivity factor $Q = 4$

$L_p = 38.1$ dB

Where:

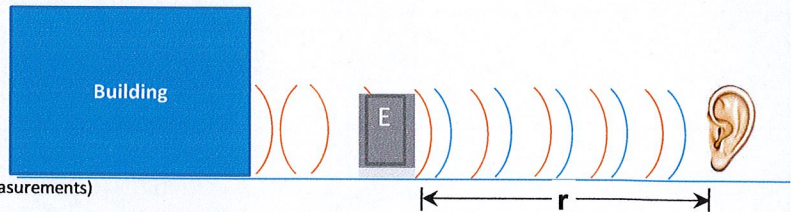
$L_w = 86.4$ dB
 $Q = 4$
 $r = 480$ Feet

ES sound power (Calc. from measurements)

Directivity factor

Enter value here for both Scenarios

Input various values for r to approximate the perceived sound pressure at that distance from the ES door



Scenario 2

ES is installed with no structures behind it to reflect sound from either side. This is represented by a directivity factor $Q = 2$

$L_p = 35.1$ dB

Where:

$L_w = 86.4$ dB
 $Q = 2$
 $r = 480$ Feet

ES sound power (Calc.)

Directivity factor

Input various values for r to approximate the perceived sound pressure at that distance from the ES door

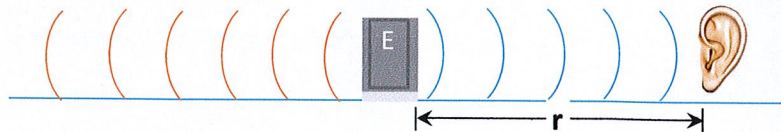


Exhibit 10

Wetlands and Watercourse Map



Waterbody Line 7

- Water
- Dam

Waterbody Poly 7


- Water
- Inland Wetland Soils
 - Poorly Drained and Very Poorly Drained Soils
 - Alluvial and Floodplain Soils

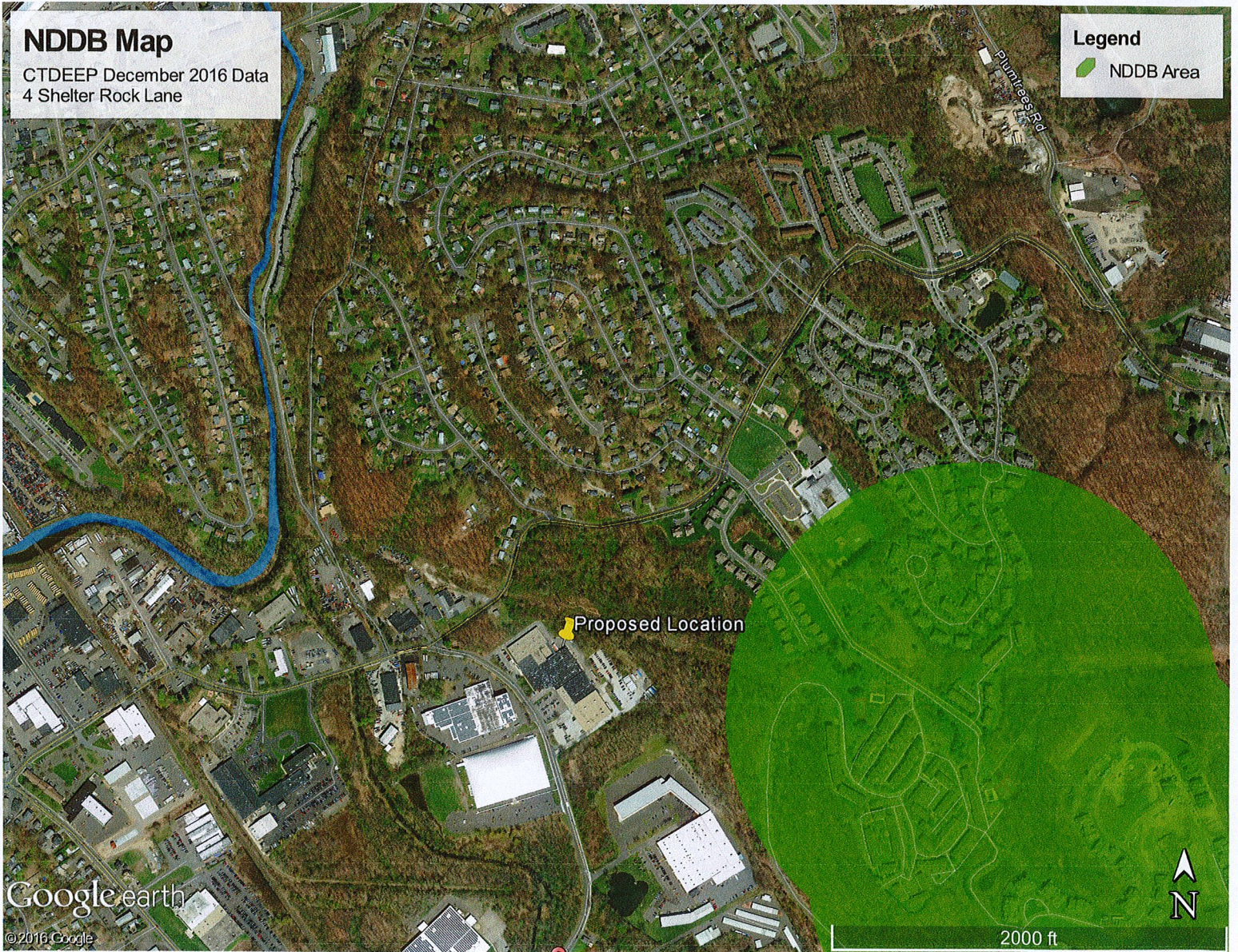
Exhibit 11

NDDB Map

CTDEEP December 2016 Data
4 Shelter Rock Lane

Legend

 NDDB Area



Google earth

© 2016 Google

2000 ft



Exhibit 12



Federal Aviation
Administration

Note: Effective 10/28/2016, the format of the FAA Determination of No Hazard to Air Navigation for Temporary Structure letter has changed. Please be sure to review all pages of the determination issued for your ASN and adhere to all conditions stated in the letter.

<< OE/AAA

Project Submission Success
Project Name: BLOOM-000396676-16

Project BLOOM-000396676-16 has been submitted successfully to the FAA.

Your filing is assigned Aeronautical Study Number (ASN):
2016-ANE-4895-OE

Please refer to the assigned ASN on all future inquiries regarding this filing.

Please return to the system at a later date for status updates.

It is the responsibility of each e-filer to exercise due diligence to determine if coordination of the proposed construction or alteration is necessary with their state aviation department. Please use the link below to contact your state aviation department to determine their requirements:

[State Aviation Contacts](#)

To ensure e-mail notifications are delivered to your inbox please add noreply@faa.gov to your address book. Notifications sent from this address are system generated FAA e-mails and replies to this address will NOT be read or forwarded for review. Each system generated e-mail will contain specific FAA contact information in the text of the message.