Bloomenergy

January 26, 2017

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

RE: **PETITION NO. 1279 -** Bloom Energy Corporation, as an agent for The TJX Companies Inc., 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 500-Kilowatt Fuel Cell Facility to be located at the TJX building, 1415 Blue Hills Avenue, Bloomfield, Connecticut.

Dear Ms. Bachman,

We are submitting an original and fifteen (15) copies of the interrogatories response for Petition NO. 1279.

Sincerely,

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

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Petition No. 1279
Bloom Energy Corporation
The TJX Companies,
Bloomfield, CT Interrogatories

1. Bloom provided notice to the abutting property owners, state agencies, and state and local public officials via US mail. Bloom has subsequently provided notice via certified mail, the letter is attached as an amendment to Exhibit 8. The receipts have been emailed to the Council to reduce the paper usage required to provide 16 copies.

2. The operational life is for the life of the 20 year contract. The solid oxide media in the fuel cells are exchanged at roughly 5 year intervals.

3. The Petition states that the closest off-site structure is a commercial building (Pepperidge Farms) located approximately 600 feet from the Facility and across Blue Hills Avenue. There are no residential properties in proximity. The anticipated sound levels of 47 dBA were predicted for the closest property boundary, approximately 120 feet to the north-northeast. This is a property boundary with Blue Hills Avenue, which was selected because the noise produced from the proposed Facility would be higher than other locations. Since there are no receptors located at this location, Bloom has rerun the model for the closest receptor. Pepperidge Farms, a Class B receptor[1], is located approximately 600 feet to the north. The results of both of the sound models predicting noise levels at the specified distances are provided as Exhibit 11. The proposed Facility would be defined as "Scenario 2" in the model. Scenario 2 models noise for a Bloom Energy Server installed with no structures behind it to reflect sound from either side. The results of the Scenario 2 sound model at 120 and 600 feet are 47.2 and 33.2dBA. Both values are in compliance with noise criteria set forth in Connecticut regulations for the Control of Noise[2].

4. The distance to the nearest residence is 0.33 miles to the west of the proposed Facility.

5. The Energy Server has redundant safety features and in-system checks to ensure personnel safety. While the actual fuel cells operate at high temperatures, these components do not move and are contained within many layers of insulation. It is safe to stand adjacent to the equipment as all moving parts and hot surfaces are protected by the locked outer panels. The parking area around the proposed location is monitored by security cameras mounted to the light poles. Additionally, pedestrian traffic on Blue Hill Avenue is light to non-existent. Therefore, Bloom does not have safety or security concerns associated with this proposed location.

6. Dudley Town Pond is located approximately 0.25 miles to the south-southeast of the proposed location. According to CTDEEP data, inland wetland soils ("Poorly Drained and/or

[1] Sec. 22a-69-2.3. Noise zone standards
[2] Sec. 22a-69-3.5. Noise zone standards

Very Poorly Drained Soils") are located approximately 0.25 miles to the west of the proposed location. See Exhibit 12.

7. No, according to CTDEEP GIS data, the nearest Aquifer Protection Area is located approximately 3-miles to the west-northwest of the proposed location.

8. 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 NOx, SOx, and particulate matter.

9. 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)[3]**	**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

10. No gaseous substances are released or vented at any point during the desulfurization process.

11. The options at the conclusion of the 20 year contract between Bloom and The TJX Companies (TJX) includes;

    i. TJX renews the contract,
    ii. TJX returns the Facility at no cost, or
    iii. TJX 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

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

iii. the site will be restored as nearly as practicable to its effective original condition.

12. No, 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.

13. Bloom spoke by telephone and provided a copy of the site plan via email to José Giner, Director of Planning & Economic Development for the Town of Bloomfield on November 29, 2016. A copy of the email confirming receipt of the site plans is provided as Exhibit 13. There were no concerns expressed during or as a follow-up to these communications.

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Revised Exhibit 8

Bloomenergy

VIA FIRST CLASS MAIL

12/19/2016

RE: Application for Bloom Energy, as Agent for The TJX Companies, Inc., for the construction of two (2) new ES-5 Bloom Energy Servers solid oxide fuel cell which would provide 500 kilowatts of Customer-Side Distributed Resource at – 1415 Blue Hills Avenue, Bloomfield, CT

Dear Ladies and Gentlemen:

Pursuant to Section §16-50j-40 of the Connecticut Siting Council's (the "Council") regulations, we are notifying you that The TJX Companies, Inc.("TJX") filed on December 13, 2016, a petition for declaratory ruling with the Council. The petition requests the Council's approval of the location and construction of a 500 kilowatt Bloom Energy Corporation fuel cell and associated equipment at the TJX Homegoods facility at 1415 Blue Hills Avenue, Bloomfield, Connecticut. 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 purpose of the proposed Facility is to replace the average baseload of the building with a renewable energy source[i] and improve reliability of electrical systems and equipment.

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

Respectfully,

Justin Adams
justin.adams@bloomenergy.com

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

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Exhibit 11

Calculation of **Yuma** Sound Pressure Based On Distance

By Bob Hintz 1/16

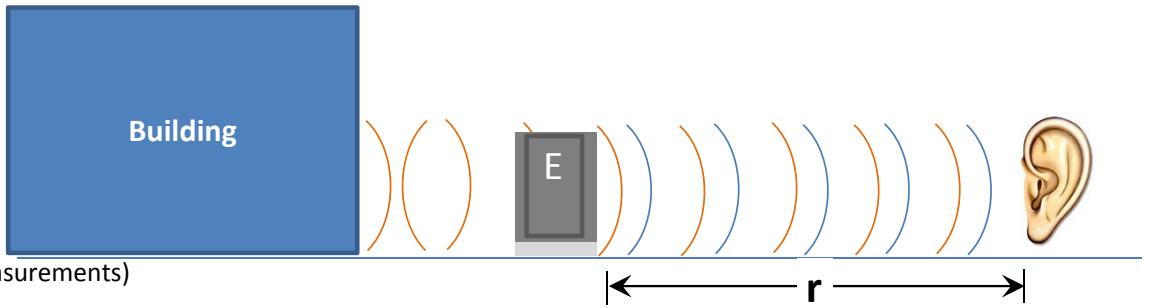
All calculations are based on the following formula for sound pressure level (L_P):

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

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 =	**50.2** dB

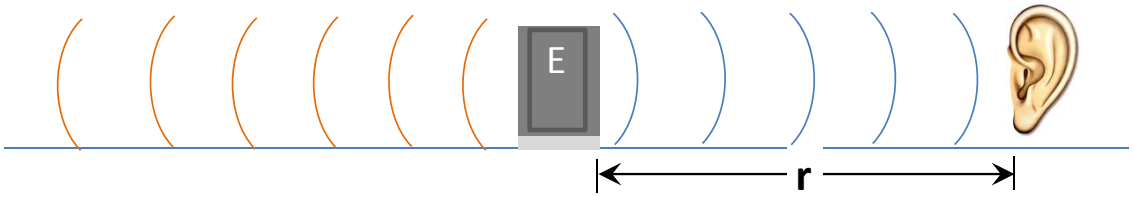
Where:

L_W =	86.4 dB	ES sound power (Calc. from measurements)
Q =	4	Directivity factor
r =	120 Feet	**Enter value here for both Scenarios**

Input verious values for r to approximate the percieved 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 =	**47.2** dB

Where:

L_W =	86.4 dB	ES sound power (Calc.)
Q =	2	Directivity factor
r =	120 Feet	

Input verious values for r to approximate the percieved sound pressure at that distance from the ES door

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):

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

Scenario 1

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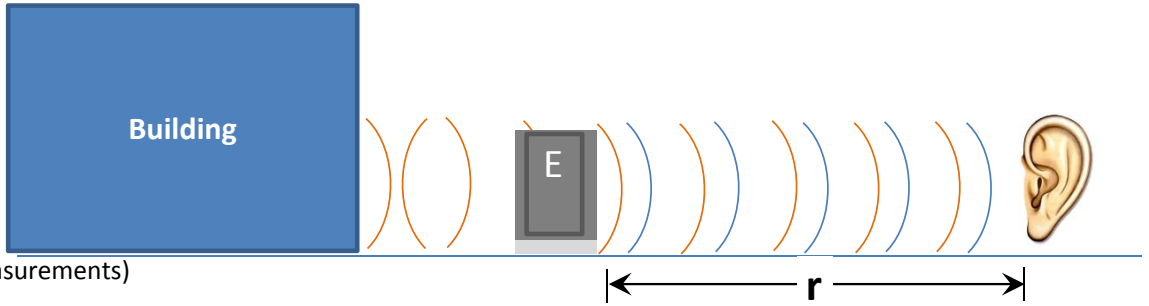


L_P = 36.2 dB

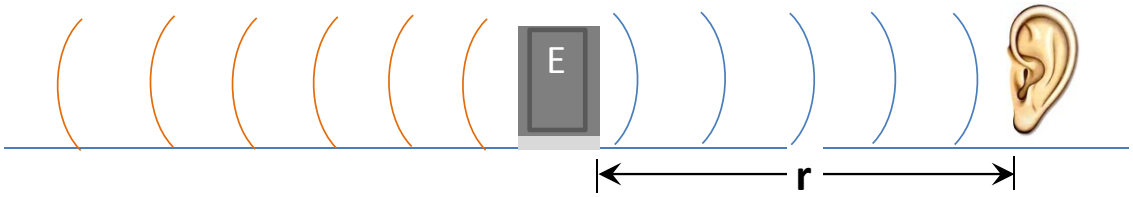
Where:

L_W =	86.4 dB	ES sound power (Calc. from measurements)
Q =	4	Directivity factor
r =	600 Feet	**Enter value here for both Scenarios**

Input verious values for r to approximate the percieved 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 = 33.2 dB

Where:

L_W =	86.4 dB	ES sound power (Calc.)
Q =	2	Directivity factor
r =	600 Feet	

Input verious values for r to approximate the percieved sound pressure at that distance from the ES door

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Exhibit 12

Map

Address Candidates

Waterbody Line 7

Water

Dam

Waterbody Poly 7

Water

Inland Wetland Soils

Poorly Drained and Very Poorly Drained Soils

Alluvial and Floodplain Soils

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Exhibit 13

Justin Adams

From: Jose Giner <jginer@bloomfieldct.org>
Sent: Tuesday, November 29, 2016 9:09 AM
To: Justin Adams
Subject: RE: Justin Adams has shared a file with you

Justin,

I received your e-mail and was able to download the file from your link.
I added your e-mail to my safe senders list just in case.
José

José Giner, AICP
Director of Planning & Economic Development
Town of Bloomfield
800 Bloomfield, Ave.
Bloomfield, CT 06002
jginer@bloomfieldct.org
860-769-3515

From: Justin Adams [mailto:notify@egnyte.com]
Sent: Tuesday, November 29, 2016 8:51 AM
To: Jose Giner <jginer@bloomfieldct.org>
Cc: Justin.Adams@bloomenergy.com
Subject: Justin Adams has shared a file with you

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I've shared a file with you

Jose,

I have had my emails bounce and was wondering if the firewall for Bloomfield is preventing the email attachment to go through. Let me know if you get this.

Thanks,

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

TJX001.0_Detail Design Review_2016-11-23_122849-.pdf[bloomenergy.egnyte.com]