



Doosan Fuel Cell America, Inc.
195 Governor's Highway
South Windsor, CT 06074
T - 860 727 2200

June 24, 2016

Proof of Notification-Update to PE 1236

RE: PE1236-(7/21/16 Notice) -Update to Notification List for officials and abutters to the New Britain High School

RE:Petition of Doosan Fuel Cell America, Inc. to the Connecticut Siting Council for a Declaratory Ruling for the Location and Construction of one 440 kW Fuel Cell at New Britain High School, 110 Mill Street, New Britain, CT.

Pursuant to Section 16-50j-40 of the Connecticut Siting Council's (the "Council") regulations, we are notifying you that Doosan Fuel Cell America, Inc. intends to file June 15, 2016 a petition for declaratory ruling with the Council. The petition will request the Council's approval of the installation of one (1) 440 kW Fuel Cell in support of a customer-side distribution resources project at the New Britain High School, 110 Mill St, New Britain, CT. Each of the Fuel Cell units is 28'-8" x 8'-4" x 9'-11"; in addition there will be ancillary equipment including cooling fans. Electricity generated by the facility will be consumed primarily at the site, and any excess electricity will be exported to the electric grid. The Fuel Cell will be fueled by natural gas.

If you have any questions regarding the proposed Facility, please contact any of the following:

Josh Abrams
195 Governor's Highway
South Windsor, CT 06074
(860) 727-2200
Josh.abrams@doosan.com

Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051 Telephone: (860) 827-2935

Sincerely,
Doosan Fuel Cell America, Inc.


Dawn Mahoney, Esq.
General Counsel
Doosan Fuel Cell America, Inc.

ORIGINAL

PROOF OF NOTICE	
This is to certify that on the 15th day of December 2016, the foregoing notice was sent via first class mail to the following officials and abutters:	
AGENCY	NAME/ADDRESS
Mayor of New Britain, CT	Erin Stewart-Mayor 27 West Main Street New Britain, CT 06051
Planning and Zoning	David D. Zajac Bldg Inspector/Zoning Enforcement Officer 27 West Main Street New Britain, CT 06051
Building Department Head	Sergio Lupo Director of Health/Director of L,P, I 27 West Main Street New Britain, CT 06051
State House	Elizabeth Boukus House District 22 43 Hollyberry Ln Plainville, CT 06062
State House	Rick Lopes House District 24 208 S. Mountain Dr New Britain, CT 06052
State House	Robert Sanchez House District 25 269 Washington St. New Britain, CT 06051
State House	Peter Tercyak House District 26 150 Belridge Rd New Britain, CT 06053
State Senate	Terry Gerratana State Senate District 6 674 Lincoln St. New Britain, CT 06052
United State Congressman	Elizabeth Esty 1 Grove Street, Suite 600 New Britain, CT 06053
United State Senator	Christopher S. Murphy One Constitution Plaza, 7th Floor Hartford, CT 06103
United State Senator	Richard Blumenthal 90 State House Square Hartford, CT 06103

(Continued)

State Department of Energy and Environmental Protection	Robert Klee, Commissioner 79 Elm Street Hartford, CT 06106
State Department of Public Health	Dr. Jewel Mullen Commissioner 410 Capitol Avenue Hartford, CT 06134
State Council on Environmental Quality	Susan Merrow, Chair 79 Elm Street Hartford, CT 06106
State Department of Agriculture	Steven K. Reviczky Commissioner 165 Capitol Avenue Hartford, CT 06106
Office of Policy and Management	Benjamin Barnes, Secretary 450 Capitol Avenue Hartford, CT 06106-1379
State Department of Economic and Community Development	Catherine Smith, Commissioner 505 Hudson Street Hartford, CT 06106-7106
Capitol Region Council of Governments	Lyle Wray-Executive Director CRCOG 241 Main Street Hartford, CT 06106
Attorney General	George Jepsen, Attorney General Office of the Attorney General 55 Elm Street Hartford, CT 06106
Public Utilities Regularity Authority	Arthur House, Chairman Public Utilities Regularity Authority Ten Franklin Square, New Britain, CT 06051
Department of Transportation	James P. Redeker, Commissioner Department of Transportation 2800 Berlin Turnpike, Newington, CT 06111
City of New Britain Conservation Commission	Patricia Johnson City of New Britain Inland Wetland Commission 27 West Main Street, Rm 313 New Britain, CT 06051
City of New Britain Inland Wetland Commission	Steven P. Schiller City of Shelton Inland Wetland Commission 54 Hill Street Shelton, CT 06484
Department of Emergency Services and Public Protection	Dora B. Schriro, Commissioner State of Connecticut Dept. of Emergency Services and Public Protection 1111 Country Club Road Middletown, CT 06457

Department of Cosumer Protection	Jonathan A. Harris, Commissioner Department of Cosumer Protection 165 Capitol Avenue Hartford, CT 06106-1630	*
Department of Administrative Services	Melody A. Currey, Commissioner Department of Administrative Services 165 Capitol Avenue, #491 Hartford, CT 06106	*
Connecticut Department of labor	Scott D. Jackson, Commissioner Connecticut Department of labor 200 Folly Brokk Boulevard Wethersfield, CT 06109	*

*Add to list and sent on June 23, 2016

(Continue to list of abutters)

New Britain High School-Notice and Abutter's List

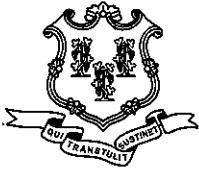
PROOF OF NOTICE	
This is to certify that on the 15th day of December 2016, the foregoing notice was sent via first class mail to the following officials and abutters:	
AGENCY	NAME/ADDRESS
Mayor of the Town of Berlin, CT	Mark H. Kaczynski, Mayor 240 Kensignton Rd Berlin, CT 06037

*Add to list and sent on June 23, 2016

New Britain Abutters

Owner Name	Address Number	City	State	zip
1.) LATINA JAIME J	157 MILL ST	New Britain	CT	06051
2.) GONZALEZ CARMELO JR +	169 MILL ST	New Britain	CT	06051
3.) LOPEZ MELINA EXEC	93 PINEHURST AVE	New Britain	CT	06053
4.) NEW BRITAIN CITY OF - SCHOOL	PO BOX 1960	New Britain	CT	06051
5.) NEW BRITAIN CITY OF - SCHOOL	PO BOX 1960	New Britain	CT	06051
6.) SEVERINO JOSEPH ET AL	81 MILL ST	New Britain	CT	06051
7.) ORMAN JERZY J +	133 MILL ST	New Britain	CT	06051
8.) KIREJCZYK SCOTT R	85 MILL ST	New Britain	CT	06051
9.) YASKOLKA CHESTER D +	163 MILL ST	New Britain	CT	06051
10.) CRIOLLO LIBIA C +	41 LOGAN ST	New Britain	CT	06051
11.) HEREDIA ARTURO	129 MILL ST	New Britain	CT	06051
12.) GOLEC TADEUSZ +	137 MILL ST	New Britain	CT	06051
13.) HEREDIA ARTURO	129 MILL ST	New Britain	CT	06051
14.) SAMOJEDNY CLARA +	60 MILL ST	New Britain	CT	06051
15.) SALMON DUDLEY SR	149 MILL ST	New Britain	CT	06051
16.) AUSTIN NICOLA	141 MILL ST	New Britain	CT	06051
17.) NEW BRITAIN CITY OF - PARK	27 WEST MAIN ST	New Britain	CT	06051
18.) NEW BRITAIN CITY OF - PARK	27 WEST MAIN ST	New Britain	CT	06051
19.) NEW BRITAIN CITY OF - PARK	27 WEST MAIN ST	New Britain	CT	06051
20.) KING KEVIN M +	511 GLEN ST	New Britain	CT	06051





STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: siting.council@ct.gov

www.ct.gov/csc

June 22, 2016

Josh Abrams
Installation Manager
Doosan Fuel Cell America, Inc.
195 Governor's Highway
South Windsor, CT 06074

RE: PETITION NO. 1236 – Doosan Fuel Cell America, Inc. petition for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the construction, maintenance, and operation of a 440-kilowatt customer-side combined heat and power fuel cell facility to be located at New Britain High School, 110 Mill Street, New Britain, Connecticut.

Dear Mr. Abrams:

The Connecticut Siting Council (Council) received the petition for the above-referenced facility on June 16, 2016.

According to Section 16-50j-39a of the Regulations of Connecticut State Agencies, “no declaratory ruling shall be issued to any person until a complete petition containing all information relevant by the Council has been filed.” Staff has reviewed this petition for completeness and has identified the following deficiencies in the filing:

1. notice to the appropriate municipal officials of the Town of Berlin, which is within 2,500 feet of the proposed facility;
2. notice to the City of New Britain Conservation Commission;
3. notice to the Department of Emergency Management and Homeland Security, the Department of Labor, the Department of Consumer Protection, and the Department of Administrative Services; and
4. the lack of a clearly labeled abutters’ map that corresponds to the list of abutters provided.

Pursuant to Section 16-50j-40 of the Regulations of Connecticut State Agencies, “Prior 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 as 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. Proof of such notice shall be submitted with the petition for declaratory ruling.”

Therefore, the petition is incomplete at this time. The Council recommends that the petitioner provide proof of service of a copy of the petition for a declaratory ruling on the appropriate municipal officials of the Town of Berlin, the City of New Britain Conservation Commission, the Department of Emergency Management and Homeland Security, the Department of Labor, the Department of Consumer Protection, and the Department of Administrative Services; and provide to the Council a clearly labeled abutters’ map of the proposed site on or before July 5, 2016.

Thank you for your attention to this matter. Should you have any questions, please feel free to contact me at 860-827-2951.

Sincerely,



Melanie A. Bachman

Acting Executive Director/Staff Attorney

c: Dawn Mahoney, Esq., General Counsel, Doosan Fuel Cell America, Inc.
Council Members



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: siting.council@ct.gov

www.ct.gov/csc

COPY

June 22, 2016

Josh Abrams
Installation Manager
Doosan Fuel Cell America, Inc.
195 Governor's Highway
South Windsor, CT 06074

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Melanie A. Bachman

Acting Executive Director/Staff Attorney

c: Dawn Mahoney, Esq., General Counsel, Doosan Fuel Cell America, Inc.
Council Members



Doosan Fuel Cell America, Inc.
195 Governor's Highway
South Windsor, CT 06074
T - 860 727 2200

June 29, 2016

Responses to PE 1236-(6/23/16 Notice) Interrogatories

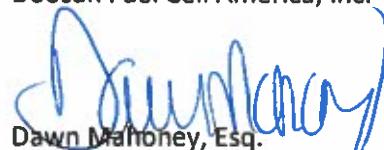
RE: Petition of Doosan Fuel Cell America, Inc. to the Connecticut Siting Council for a Declaratory Ruling for the Location and Construction of one 440 kW Fuel Cell at New Britain High School, 110 Mill St, New Britain, CT.

Please see the attached responses to the interrogatories with exhibits to the questions posed by the Connecticut Siting Council on 6/23/16 for PE 1236.

Address additional questions to:

Josh Abrams
195 Governor's Highway
South Windsor, CT 06074
(860) 727-2200
Josh.abrams@doosan.com

Sincerely,
Doosan Fuel Cell America, Inc.


Dawn Mahoney, Esq.
General Counsel
Doosan Fuel Cell America, Inc.

ORIGINAL

Petition No. 1236
Doosan Fuel Cell America, Inc.
New Britain High School
110 Mill Street
New Britain, CT
Responses to Interrogatories

I1. On page 2 of Doosan Fuel Cell of America, Inc.'s (Doosan) Petition (Petition) dated June 14, 2016, Doosan notes that the proposed fuel cell would provide backup power. In the event of a power outage, would the fuel cell first shut down and then automatically "black start" to restore power, or would it continue running seamlessly despite the loss of grid power (i.e. provide uninterruptible power)? Explain.

R1. A "dual mode" fuel cell normally operates 24/7 in Grid Connected mode. Upon loss of Utility Grid, the fuel cell continues to operate in "IDLE" (powering its own internal loads only) mode while it transfers to Grid Independent operating mode within a few (< 10 seconds, usually about 3) seconds. The mode transfer consists of disconnecting from the Utility Grid, running in "IDLE mode while disconnecting, and then re-connecting to the dedicated Grid Independent customer load. During the several seconds of transition between modes, customer loads are not powered so there is a short (about 3 second) outage during the mode transfer.

I2. Would the fuel cell facility also include the cooling module as indicated on back of the specifications sheet (Attachment B of the Petition)? Would the cooling module release the waste heat when it is not being used for supplementing the building's heating? Was the cooling module factored into the noise analysis on page 5 of the Petition?

R2. The cooling module is included as part of the fuel cell facility. The cooling module releases heat the high school does not utilize and provides a means to maintain optimal temperatures within the fuel cell operating system. The noise analysis on page 5 includes both the fuel cell plant and the cooling module.

I3. Page 5 of the Petition notes that "The closest neighbor/residence is across Meadow Street..." Was "Mill Street" intended?

R3. Correct—Mill Street.

I4. On pages 3 and 4 of the Petition, Doosan estimates that the facility would reduce annual carbon dioxide emissions by over 120 metric tons when compared to the marginal emissions rate in the Northeast grid utility system. Is this based on the fuel cell's electricity output displacing grid power only? If yes, is it correct to say the total carbon dioxide reduction would be even higher because utilizing the fuel cell's waste heat would reduce the run time of the building's boilers?

R4. The reduced annual carbon dioxide emissions, over 120 metric tons, are included in the projected utilization of the fuel cell's waste heat for the building's boilers. Factors affecting the avoided

carbon dioxide include the severity of the winters and how the building's interior temperatures are managed.

I5. Please provide an Emergency Response Plan for the proposed facility in accordance with Public Act 11-101, An Act Adopting Certain Safety Recommendations of the Thomas Commission.

R5. Please see attached Exhibit NB-1-Emergency Response Plan.

I6. Please identify media to be used for pipe cleaning procedures at the proposed facility in accordance with Public Act 11-101, An Act Adopting Certain Safety Recommendations of the Thomas Commission.

R6. Piping is flushed with clean tap water from the building and then blown clear with a high pressure water and air cleaner.

I7. Would bollards be used to protect the fuel cell facility from being accidentally struck by vehicles? Would the fuel cell be installed on a concrete pad? Is a fence proposed around the fuel cell? If yes, while the typical mesh size for chain link fences is two-inch, has Doosan considered a mesh size of less than two inches as anti-climbing measure?

R7. As noted in the site plan, Exhibit NB-2-New Britain Site Plan, bollards will protect the fuel cell facility from being accidentally struck by vehicles. The fuel cell system is set on a concrete pad and surrounded by a locked 7'-0" chain link fence. We have specified 2" fence fabric—we have not had issues at any sites with the 2". If there is a concern, please let us know.

I8. Provide a site plan to depict the proposed fuel cell's location, utility connections and other items such as cooling module, bollards, fencing, etc., if applicable.

R8. Please see attached NB-2-New Britain Site Plan.

I9. Attachment A of the Petition shows the fuel cell facility on a grass area. Is it correct to say that no trees would be removed to construct the facility, and the facility would not be located in wetlands?

R9. No trees will be removed during the installation of the fuel cell facility and it will not be located in wetlands.

I10. Would the proposed fuel cell be located within a 100-year or 500-year flood zone? If yes, estimate the 100-year and 500-year flood elevations and provide the proposed flood mitigation (e.g. elevate unit one foot above 100-year flood elevation).

R10. Please see attached NB-3-Flood Zone Map: The fuel cell facility will not be located in a designated flood zone.

I11. What statutes and/or regulations govern fuel cell emissions for the proposed facility?

R11. The Model 400 is certified to FC 1-2012, American National Standard for Stationary Fuel Cell Power Systems. It is also certified by the California Air Resources Board (CARB) to meet the Distributed Generation Regulation 2007 Fossil Fuel Emission Standard.

I12. Provide a table showing state criteria thresholds and projected emissions from the proposed facility for all greenhouse gasses listed in the Regulations of Connecticut State Agencies Section 22a-174-1(49).

R12. Please see the table below.

The Model 400 is certified by the CARB to meet the Distributed Generation Regulation 2007 Fossil Fuel Emission Standard.

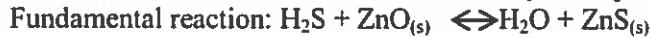
Table 2-5. PureCell® Model 400 Emissions Data

	<i>lb/MWh</i>	<i>PPMtd @ 15.4% O₂</i>
NO _x	0.01	0.32
CO	0.02	0.67
VOC	0.02	1.36
CO ₂	1050	

I13. Natural gas has sulfur dioxide injected as an odorant. Please submit a desulfurization plan narrative for the proposed fuel cell facility containing the following information:

- a) Chemical reaction overview concerning what substances are produced from the desulfurization process, as well as plans for their containment and transport;

R13a. The Model 400 desulfurizer system removes sulfur used as an odorant in natural gas, and, by design, creates zinc-sulfide—a non-toxic hazard which is sealed in an inaccessible vessel within the fuel cell. The sulfur cleanup system is designed to last for the 10 year life of the unit without need for maintenance or waste removal. At end of 10 years of life (or longer should the customer wish to keep the unit running), the entire ILS unit is removed and sent back to the manufacturer for refurbishment and catalyst recharge. The waste zinc sulfide is removed and returned to the catalyst vendor for reclaim at their facility or disposal at a licensed vendor.



- b) How much solid sulfur oxide would result from the desulfurization process, and methods and locations for containment, transport, and disposal;

R13b. There is no solid sulfur oxide produced from the desulfurization process—The Model 400 was designed not generate or retain solid sulfur oxide. This question applies to a competing technology and not to Doosan Fuel Cell's approach to desulfurization; all natural gas odorant, as noted above, converts to zinc-sulfide and remains sealed within the fuel cell. The desulfurization unit is transported back to the manufacturing facility in its sealed and inaccessible vessel. It is safe for transport per DOT requirements.

- c) Whether any of these desulfurization substances are considered hazardous, and if so, plans for the containment, transport, and disposal of hazardous substances;

R13c. The byproduct, zinc-sulfide, is non-hazardous. As noted above, when the desulfurized system is overhauled, it is sealed and transported back to the manufacturing facility for recycling.

d) Anticipated method of disposal for any other desulfurization substances; and

R13d. As noted above, the by product is zinc-sulfide, which is transported back to the manufacturing facility in its sealed and inaccessible vessel. It is safe for transport per DOT requirements.

e) Whether any gaseous substances resulting from desulfurization can be expected to vent from the fuel cells, as well as the applicable DEEP limits regarding discharge of these gasses.

R13e. No gaseous substances resulting from desulfurization are expected to vent from the fuel cell—as noted above, the desulfurization process is sealed within the fuel cell system. The fuel cells conform to CARB emissions requirements.

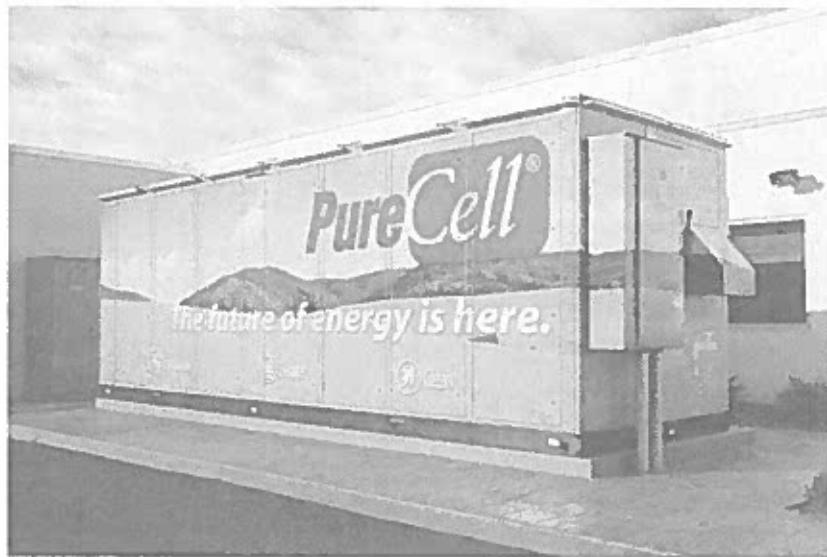
I14. If this project is approved by the Council on July 21, 2016, approximately when would construction commence and be completed? Provide the projected construction hours and days of the week, e.g. Monday through Friday 7:00 a.m. to 5:00 p.m.

R14. We plan to start work by early August in order to get a lot of the underground completed before major school activities begin. The work is to be completed and commissioned by the end of January 2017. Work hours are as permitted by the school: Monday through Friday 7:00am to 5:00pm—to adjust as the school requires.



Doosan Fuel Cell America, Inc. Fuel Cell Emergency Response Guide

New Britain High School
110 Mill Street
New Britain, CT



DISCLAIMER

Doosan Fuel Cell America reserves the right to change or modify, without notice, the design or equipment specifications of the PureCell® system Model 400 without obligation with respect to equipment either previously sold or to be sold. This guide is provided by Doosan Fuel Cell America, and no liability will accrue to Doosan Fuel Cell America based on the information or specifications included herein. No warranties or representations are made by this guide and no warranties or representations shall apply to the equipment except as stated in Doosan Fuel Cell America's standard terms and conditions of sale applicable at the time of purchase, a copy of which will be provided upon request. The Model 400 is designed to provide safe and reliable service when operated within design specifications, according to all applicable instructions, and with the appropriate operating materials. When operating this equipment, use good judgment and follow safety precautions to avoid damage to equipment and property or injury to personnel. Be sure to understand and follow the procedures and safety precautions contained in all applicable instructions, operating materials, and those listed in this guide. All information in this document is as of May 30, 2015.

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Policy

The following plan has been developed to minimize the severity of damage to human health, the environment, and property in the event of an unexpected failure.

Scope

This Emergency Response Guide shall be integrated into the site Emergency Response Plan. Information contained in this document shall be customized to meet local requirements and shall be shared with local responders as necessary. This guide is only a template and in no way assumes or transfers liability or ownership. Doosan Fuel Cell America should be contacted if clarification is needed.

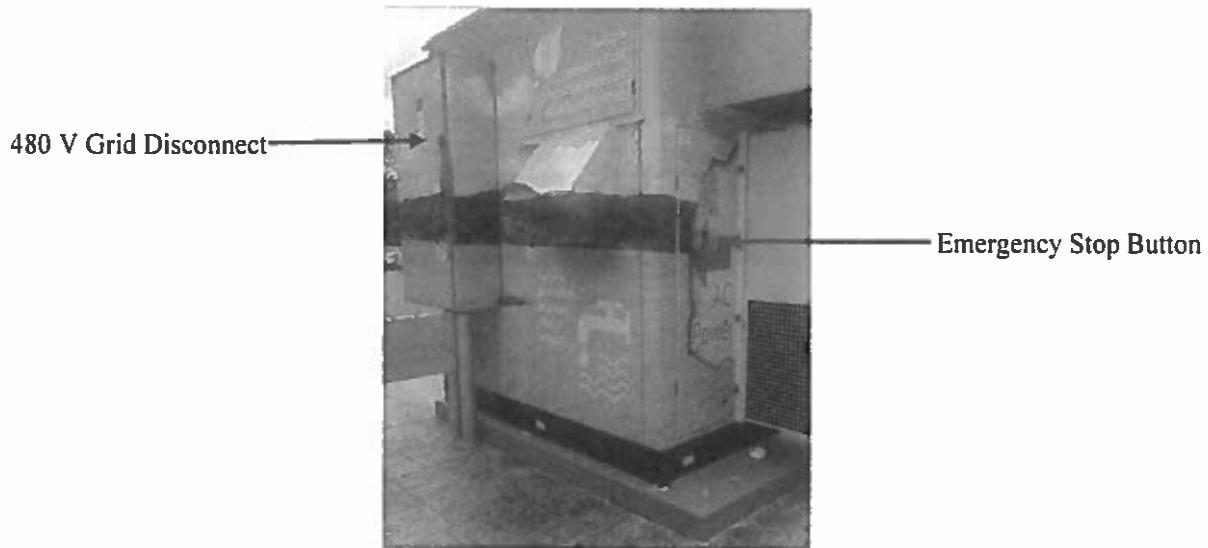
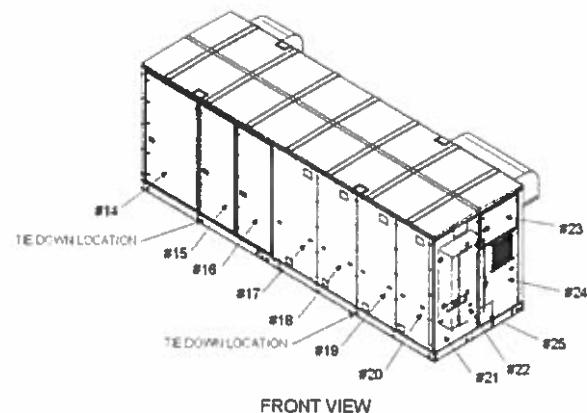
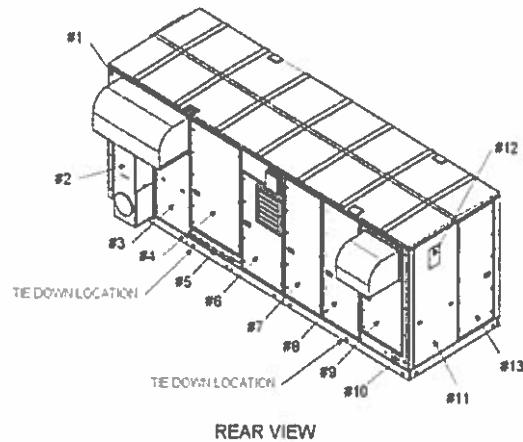
Emergency Contacts and Numbers

Local Emergency Number	911
Doosan Fuel Cell America Control Center	(860) 727-2847
Clean Harbors Emergency Cleanup Response	(800) 645-8265
Fire Department – Non-emergency number	New Britain Fire Company (860) 223-4052
Hospital – Non-emergency number	New Britain General Hospital 100 Grand St, New Britain, CT 06050 (860) 225-6244
Electric Utility Name: Eversource Energy	800-286-5000
Gas Utility Name: Connecticut Natural Gas	860-727-3000 *Gas Leaks Only: <u>877-944-5325</u>
Local Oil & Chemical Spill Response Division	800-645-8265
EPA - Environmental Protection Agency Region 1	(800) 424-8802 Environmental Emergency
OSHA - Occupational Safety and Health Admin. Emergency Number	(800) 321-6742 National Emergency Number
Poison Control Center	(800) 222-1222 National Emergency Number

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Fuel Cell Hazard Overview



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Rear View Panel	Primary Hazard	Front View Panel	Primary Hazard
1 (Computer Terminal)	Electrical = 120 VAC	14 (Reformer)	Electrical = 480 VAC Chemical = Air sensitive catalyst / combustibles Thermal = 600°F Reformer Pressure = 150 psi steam
2 (Air Conditioner)	Electrical = 480 VAC Chemical = Refrigerant	15 (Reformer)	Electrical = 480 VAC Chemical = Air sensitive catalyst / combustibles Thermal = 600°F Reformer Pressure = 150 psi steam
3 (Swing Door)	Electrical = 480 VAC	16 (Reformer)	Electrical = 480 VAC Chemical = Air sensitive catalyst / combustibles Thermal = 600°F Reformer Pressure = 150 psi steam
4 (Mechanical Entry)	Electrical = 480 VAC Chemical = Propylene Glycol Thermal = 350°F Steam Pressure = 150 psi Steam	17 (DC Cell Stack)	Electrical = 300 VDC Chemical = Solid phosphoric acid / combustibles
5 (Mechanical Entry)	Chemical = Propylene Glycol Thermal = 350°F Steam Pressure = 150 psi Steam	18 (DC Cell Stack)	Electrical = 300 VDC Chemical = Solid phosphoric acid / combustibles
6 (TMS)	Electrical = 480 VAC Chemical = Propylene Glycol / Deionized Water / Resin Thermal = 350°F Steam Pressure = 150 psi Steam	19 (DC Cell Stack)	Electrical = 300 VDC Chemical = Solid phosphoric acid / combustibles
7 (ILS)	Electrical = 480 VAC Chemical = Air sensitive catalyst / combustibles Thermal = 600°F Reformer Pressure = 150 psi steam	20 (DC Cell Stack)	Electrical = 300 VDC Chemical = Solid phosphoric acid / combustibles
8 (Fuel Processing Area)	Electrical = 480 VAC Chemical = Air sensitive catalyst / combustibles Thermal = 600°F Reformer Pressure = 150 psi steam	21	Not accessible
9 (Fuel Processing Area)	Electrical = 480 VAC Chemical = Air sensitive catalyst / combustibles Thermal = 600°F Reformer Pressure = 150 psi steam	22 (Grid Connect Disconnect)	Electrical = 480 VAC
10 (Gas/Nitrogen Inlet)	Chemical = combustibles	23 (Blower 110)	Electrical = 300 VDC Mechanical = Blower
11 (Reformer)	Electrical = 480 VAC Chemical = Air sensitive catalyst / combustibles Thermal = 600°F Reformer Pressure = 150 psi steam	24 (Inverter)	Electrical = 1400 VDC / 480 VAC
12 (Reformer)	Electrical = 480 VAC Chemical = Air sensitive catalyst / combustibles Thermal = 600°F Reformer Pressure = 150 psi steam	25 (Grid Independent Circuit)	Electrical = 480 VAC
13 (Reformer)	Electrical = 480 VAC Chemical = Air sensitive catalyst / combustibles Thermal = 600°F Reformer Pressure = 150 psi steam	ALL Roof Panels	Multiple Hazards DO NOT WALK ON ROOF!

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Conditional Assessment

Normal Condition	Potential Abnormal Condition	Response
<u>Fuel Cell</u> White steam exiting power plant at exhaust chimney, above panel #6 (It can be a large amount of white steam depending on ambient conditions)	Dark colored smoke exiting chimney or any other part of enclosure	1. Establish safe perimeter 2. Contact Doosan Fuel Cell America Control Center (860) 727-2847
	Observable fire or heavy smoke at any point on fuel cell	1. Press Fuel Cell 'Stop Button' – Only if safely accessible! 2. Dial 911 or Local Emergency Response Number 3. Establish safe perimeter 4. Contact Doosan Fuel Cell America Control Center (860) 727-2847
<u>Fuel Cell</u> Moderate humming, clicking and fan sounds	Grinding or loud intermittent noises	1. Contact Doosan Fuel Cell America Control Center (860) 727-2847
	Observable fire or heavy smoke at any point on fuel cell	1. Press Fuel Cell 'Stop Button' – Only if safely accessible! 2. Dial 911 or Local Emergency Response Number 3. Establish safe perimeter 4. Contact Doosan Fuel Cell America Control Center (860) 727-2847
<u>Cooling Module</u> Fan humming	Smoke or fire coming from module	1. Press Fuel Cell 'Stop Button' – Only if safely accessible! 2. Dial 911 or Local Emergency Response Number 3. Establish safe perimeter 4. Contact Doosan Fuel Cell America Control Center (860) 727-2847
	Grinding or loud noise coming from fans	1. Contact Doosan Fuel Cell America Control Center (860) 727-2847
<u>Cooling Module</u> No leaking from cooling loop piping or coils	Small leak dripping from joint, valve or connection	1. Contact Doosan Fuel Cell America Control Center (860) 727-2847
	Medium to large leak	1. Follow local spill response protocol or contact Clean Harbors Emergency Cleanup Response (800) 645-8265 2. Contact Doosan Fuel Cell America Control Center (860) 727-2847
<u>Mechanical Hi/Lo Grade Piping</u> Small amounts of condensate dripping from piping	Small leak dripping from joint, valve or connection	1. Contact Doosan Fuel Cell America Control Center (860) 727-2847
	Medium to large leak	1. Follow local spill response protocol or contact Clean Harbors Emergency Cleanup Response (800) 645-8265 2. Contact Doosan Fuel Cell America Control Center (860) 727-2847
<u>Disconnects/Other Equipment</u> No leaks or smoke	Smoke or fire coming from equipment	1. Dial 911 or Local Emergency Response Number 2. Establish safe perimeter 3. Contact Doosan Fuel Cell America Control Center (860) 727-2847

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Compressed Gas Manifold (N2/H2) No leaks, May hear intermittent gas flow during purges	Leaks – may be able to hear hissing sound.	<ol style="list-style-type: none">1. If Indoors – Evacuate Immediately! Dial 911 or Local Emergency Response Number2. Establish safe perimeter3. Contact Doosan Fuel Cell America Control Center (860) 727-2847
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Fuel Cell Related Material Safety Data Sheets (MSDS)

1. Propylene Glycol – DowFrost®
2. Phosphoric Acid – Solid
3. Reformer/ILS Catalysts
4. Anion/Cation Resin
5. Nitrogen / Hydrogen Compressed Gas Mixture (non-flammable)

Inspections

Inspection Type	Equipment Requirements	Frequency Required
General Maintenance	Laptop, Service Vehicle	Monthly
General Housekeeping	N/A	Monthly
Waste and Chemical Storage*	N/A	Weekly
Internal Combustible Gas Monitor	AT-160 Calibration Kit	Annual
Fire Prevention	N/A	Monthly

*When applicable

Fuel Cell operation is monitored and controlled remotely 24 hours a day 7 days a week by the Doosan Fuel Cell America Control Center. Upset or abnormal occurrences outside of normal operating parameters are immediately identified and service technicians are dispatched within 24 hours to respond when required.

Emergency Procedures

Alarms	There are no audible or visual alarms on Fuel Cell. Alarm conditions are relayed immediately to the Doosan Fuel Cell America Control Center. The Doosan Fuel Cell America Control Center will then contact the appropriate site personnel on the site's emergency contact list.
Emergency Shut Down Onsite	Actuate Fuel Cell Stop Button
Emergency Area Egress - Gas Odor	Evacuate 330 Feet in all directions
Emergency Area Egress - Fire	Evacuate 330 Feet in all directions – CV000 automatic natural gas supply shut off
Emergency Egress - General	Fuel cell is unmanned remotely monitored and controlled. No Doosan Fuel Cell America employees attending unit unless service or maintenance is required.

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Signage and Labeling

External service lines will be clearly identified. Labeling will be in accordance with ANSI A13.1. Labeling will be similar to example below:



Perimeter fencing will have signage clearly identifying that "No smoking, no ignition sources" on every side of the fence. Signage will be similar to the sign below:





General

Safety Hazard Analysis

The PureCell® Model 400 fuel cell system has been designed to meet strict ANSI/CSA safety standards to protect against risks from electrical, mechanical, chemical, and combustion safety hazards. The following items are a few of the safety measures incorporated into the design.

Fire Detection and Protection:

The power plant design incorporates a combustible gas sensor as well as thermal fuses located throughout the power module cabinet to detect fire. The detection of a potential flammable gas mixture, a fire, or the failure of this detection circuit will result in a power plant shutdown and a subsequent inert gas (nitrogen) purge of the fuel cell stack and fuel processing system. This event will also result in an alarm callout notification to Doosan Fuel Cell America service personnel. The power plant is designed with an integral emergency-stop button on the outside of the enclosure to enable immediate shutdown in the event of an emergency. There is also a gas shut-off valve and electrical disconnect switch easily accessible to emergency personnel. There are no restrictions for type of fire suppression equipment.

Gas Leak:

Augmenting the internal combustible gas sensor, the power plant also monitors the flow rate of natural gas. If the gas flow rate exceeds the equivalent power production of the power plant then a shutdown will result. The largest possible accumulation from a leak prior to shutdown is below combustible limits. Fuel valves inside the power plant are "fail safe" and will return to their normally closed position upon loss of power. The power plant is designed to have a physical barrier that separates the equipment handling combustible gases (fuel compartment) from electrical or potential spark-creating equipment (motor compartment). The fuel compartment is kept at a negative pressure to contain and remove any potential gas leaks, whereas the motor compartment is pressurized by a fan source to prevent combustible gases from entering.

Hydrogen:

Hydrogen is lighter than air and thus does not pool like other fuels and will readily dissipate with proper ventilation making it less likely to ignite. Although hydrogen has low self-ignition characteristics, the fuel in the power plant is not pure hydrogen. Also, the power plant is not producing or storing hydrogen, it consumes hydrogen-rich gas equal to what it requires to produce power. The fuel cell stack is wrapped in a fire retardant blanket. There are no materials inside the unit that would sustain a flame. There is no large volume of gas or any ignition that occurs within the cell stack.

Phosphoric Acid:

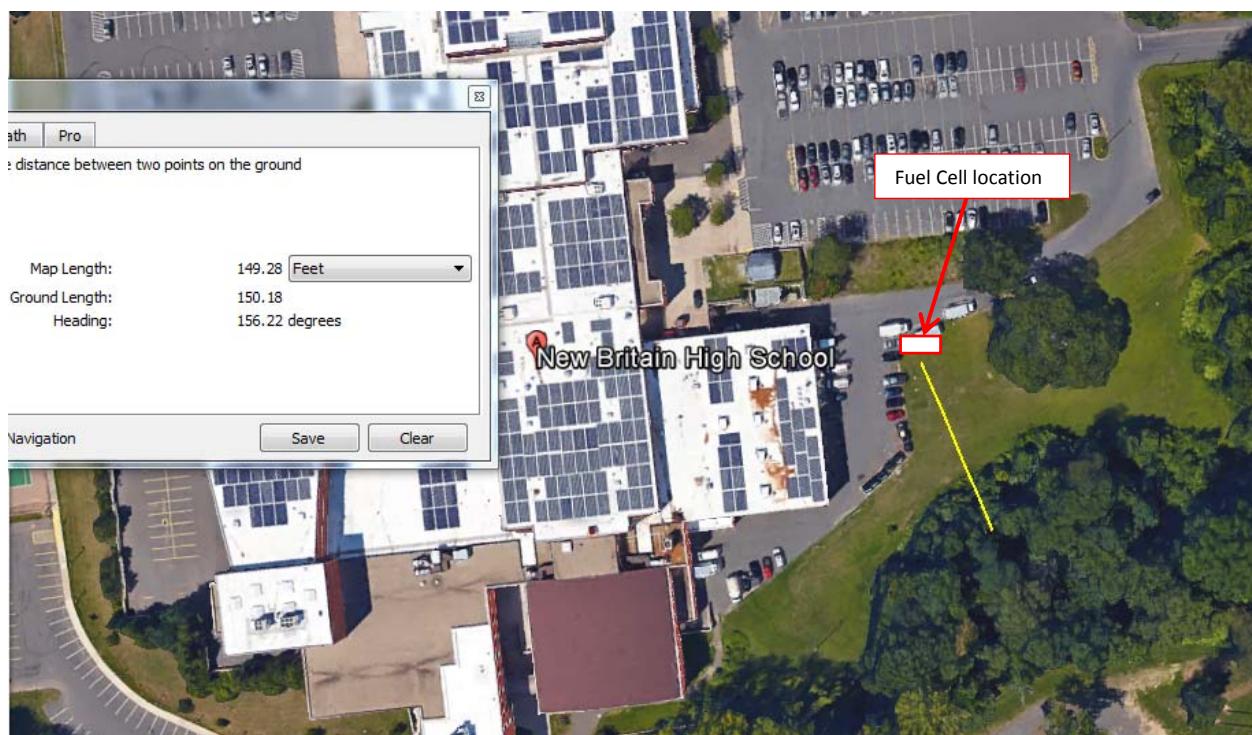
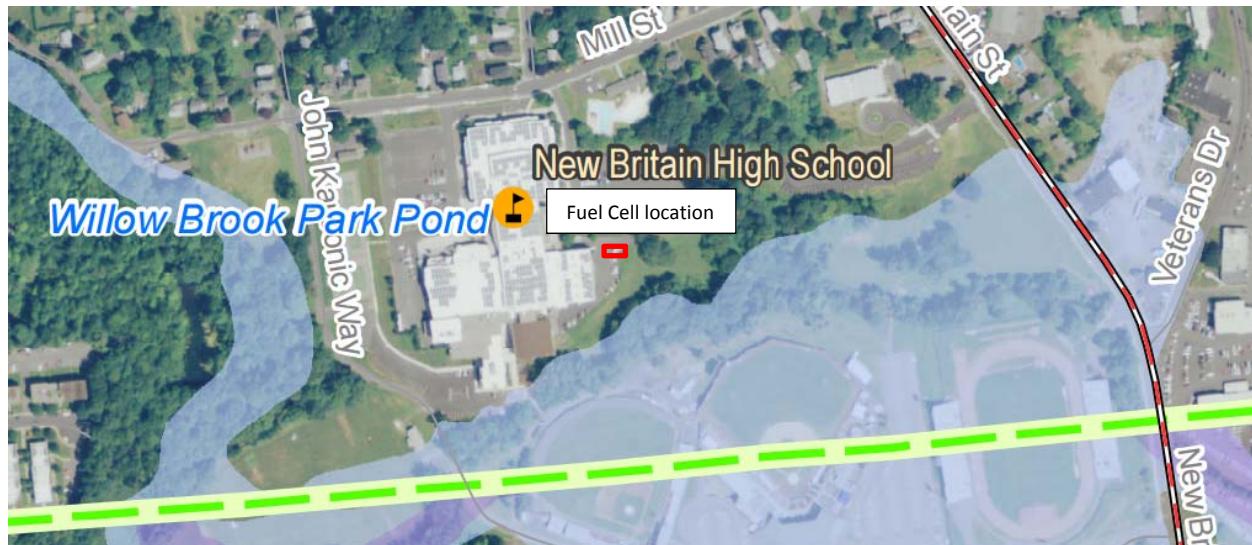
Phosphoric acid is integral part of the fuel cell system, acting as the electrolyte within the fuel cell stack. Phosphoric acid is a surprisingly common substance that is contained in common cola drinks. A leak of phosphoric acid is not possible because phosphoric acid is not in liquid form once applied in the equipment. There is no reservoir of liquid. Phosphoric acid is contained in the porous structure of the fuel cell stack material by capillary action, similar to how ink is absorbed into a blotter.

Fluid Leak:

The only fluid source is water. All pressurized water vessels are designed to ASME boiler codes and inspected annually. All piping, welds, etc. meet pressurized piping standards. Water produced through the electrochemical process is "pure" water and is reclaimed and reused by the process. The other source of water is water used in the external cooling module, which is mixed with a polypropylene glycol and a rust inhibitor to prevent rust and freezing in colder climates.

Hazardous Waste:

The fuel cell does not produce any hazardous waste. Standard Material Safety Data Sheets (MSDS) are available upon request.



Q3 Flood Zone Data New Britain, CT

Legend

- 100 Year Flood Zone
- 100 Year Flood Zone, COBRA
- 500 Year Flood Zone
- 500 Year Flood Zone, COBRA
- Floodway in Zone AE

Explanation

The Q3 Flood Data are derived from Flood Insurance Rate Maps, (FIRMs). They offer floodplain management, mitigation and provide insurance information for the National Flood Insurance Program (NFIP). 100 Year Flood Zones indicate that there is 1 out of 100 chances that the area will be flooded every year, while 500 Year Flood Zones indicate that there is 1 out of 500 chances that the area will be flooded every year. NOTE: The Q3 Flood Data is the best flood zone mapping data available statewide. However, it is dated and may not represent current flood zone mapping. It is available for all towns except Windham. More accurate flood zone mapping data may be available for this town from FEMA. Refer to the National Flood Hazard Layer (NFHL) Database, which supercedes the Q3 Flood Data. The NFHL Database is not available for every county.

Data Sources

Q3 FLOOD DATA - Provided by the Federal Emergency Management Agency (FEMA).

BASE MAP DATA - Based on data originally from 1:24,000-scale USGS 7.5 minute topographic quadrangle maps published between 1969 and 1992. It includes political boundaries and important geographic places and names. Streets and street names are from Tele Atlas copyrighted data. Base map information is neither current nor complete.

MAPS AND DIGITAL DATA - Visit the CT ECO website for this map and a variety of others. Visit the NRCS soils website for the soils data shown on this map. Visit the CT DEP website to download the base map digital spatial data shown on this map.



STATE OF CONNECTICUT
DEPARTMENT OF
ENVIRONMENTAL PROTECTION
79 Elm Street
Hartford, CT 06106-5127

Map prepared by CT DEP
September 2010
Map is not colorfast
Protect from light and moisture





STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

Phone: (860) 827-2935 Fax: (860) 827-2950

E-Mail: siting.council@ct.gov

www.ct.gov/csc

COPY

VIA ELECTRONIC MAIL

June 23, 2016

Josh Abrams
Doosan Fuel Cell America, Inc.
195 Governor's Highway
South Windsor, CT 06074

RE: **PETITION NO. 1236** – Doosan Fuel Cell America, Inc. petition for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the construction, maintenance, and operation of a 440-kilowatt customer-side combined heat and power fuel cell facility to be located at New Britain High School, 110 Mill Street, New Britain, Connecticut.

Dear Mr. Abrams:

The Connecticut Siting Council (Council) requests your responses to the enclosed questions no later than July 7, 2016. To help expedite the Council's review, please file individual responses as soon as they are available.

Please forward an original and 15 copies to this office, as well as send a copy via electronic mail. In accordance with the State Solid Waste Management Plan and in accordance with Section 16-50j-12 of the Regulations of Connecticut State Agencies the Council is requesting that all filings be submitted on recyclable paper, primarily regular weight white office paper. Please avoid using heavy stock paper, colored paper, and metal or plastic binders and separators. Fewer copies of bulk material may be provided as appropriate.

Yours very truly,

Melanie Bachman
Acting Executive Director

MB/MP

c: Dawn Mahoney, Esq., General Counsel, Doosan Fuel Cell America, Inc.
Council Members

Petition No. 1236
Doosan Fuel Cell America, Inc.
110 Mill Street
New Britain, CT
Interrogatories

1. On page 2 of Doosan Fuel Cell of America, Inc.'s (Doosan) Petition (Petition) dated June 14, 2016, Doosan notes that the proposed fuel cell would provide backup power. In the event of a power outage, would the fuel cell first shut down and then automatically "black start" to restore power, or would it continue running seamlessly despite the loss of grid power (i.e. provide uninterrupted power)? Explain.
2. Would the fuel cell facility also include the cooling module as indicated on back of the specifications sheet (Attachment B of the Petition)? Would the cooling module release the waste heat when it is not being used for supplementing the building's heating? Was the cooling module factored into the noise analysis on page 5 of the Petition?
3. Page 5 of the Petition notes that "The closest neighbor/residence is across Meadow Street..." Was "Mill Street" intended?
4. On pages 3 and 4 of the Petition, Doosan estimates that the facility would reduce annual carbon dioxide emissions by over 120 metric tons when compared to the marginal emissions rate in the Northeast grid utility system. Is this based on the fuel cell's electricity output displacing grid power only? If yes, is it correct to say the total carbon dioxide reduction would be even higher because utilizing the fuel cell's waste heat would reduce the run time of the building's boilers?
5. Please provide an Emergency Response Plan for the proposed facility in accordance with Public Act 11-101, An Act Adopting Certain Safety Recommendations of the Thomas Commission.
6. Please identify media to be used for pipe cleaning procedures at the proposed facility in accordance with Public Act 11-101, An Act Adopting Certain Safety Recommendations of the Thomas Commission.
7. Would bollards be used to protect the fuel cell facility from being accidentally struck by vehicles? Would the fuel cell be installed on a concrete pad? Is a fence proposed around the fuel cell? If yes, while the typical mesh size for chain link fences is two-inch, has Doosan considered a mesh size of less than two inches as anti-climbing measure?

8. Provide a site plan to depict the proposed fuel cell's location, utility connections and other items such as cooling module, bollards, fencing, etc., if applicable.
9. Attachment A of the Petition shows the fuel cell facility on a grass area. Is it correct to say that no trees would be removed to construct the facility, and the facility would not be located in wetlands?
10. Would the proposed fuel cell be located within a 100-year or 500-year flood zone? If yes, estimate the 100-year and 500-year flood elevations and provide the proposed flood mitigation (e.g. elevate unit one foot above 100-year flood elevation).
11. What statutes and/or regulations govern fuel cell emissions for the proposed facility?
12. Provide a table showing state criteria thresholds and projected emissions from the proposed facility for all greenhouse gasses listed in the Regulations of Connecticut State Agencies Section 22a-174-1(49).
13. Natural gas has sulfur dioxide injected as an odorant. Please submit a desulfurization plan narrative for the proposed fuel cell facility containing the following information:
 - a) Chemical reaction overview concerning what substances are produced from the desulfurization process, as well as plans for their containment and transport;
 - b) How much solid sulfur oxide would result from the desulfurization process, and methods and locations for containment, transport, and disposal;
 - c) Whether any of these desulfurization substances are considered hazardous, and if so, plans for the containment, transport, and disposal of hazardous substances;
 - d) Anticipated method of disposal for any other desulfurization substances; and
 - e) Whether any gaseous substances resulting from desulfurization can be expected to vent from the fuel cells, as well as the applicable DEEP limits regarding discharge of these gasses.
14. If this project is approved by the Council on July 21, 2016, approximately when would construction commence and be completed? Provide the projected construction hours and days of the week, e.g. Monday through Friday 7:00 a.m. to 5:00 p.m.

