



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

VIA ELECTRONIC MAIL

October 11, 2019

Melissa Lauderdale-Ward
Assistant General Counsel for Retail Regulatory and Compliance
Exelon Corporation
Baltimore Headquarters
1310 Point Street, 8th Floor
Baltimore, MD 21231
Melissa.lauderdale@exeloncorp.com

RE: **Non-Compliance with Declaratory Ruling Conditions and Notification of Completion::**

PETITION NO. 1235 - Constellation New Energy, Inc. 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 Middletown High School, 200 La Rosa Lane, Middletown, Connecticut.

PETITION NO. 1236 - Constellation New Energy, Inc. 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.

PETITION NO. 1237 - Constellation New Energy, Inc. 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 Shelton High School, 120 Meadow Street, Shelton, Connecticut.

Dear Attorney Lauderdale-Ward:

Pursuant to Connecticut General Statutes §§ 4-176 and 16-50k, the Connecticut Siting Council (Council) is required to approve by Declaratory Ruling the construction and location of fuel cell facilities unless the Council finds a substantial adverse environmental effect.

To date, the Council is not in receipt of any communication that construction has been completed for the above-referenced facilities and hereby requests written notification on the status of these matters no later than December 16, 2019. Please include in your status update if there are any facilities that will not proceed with construction.

Please note that the Council routinely imposes standard conditions when issuing Declaratory Rulings, which may include compliance with Public Act 11-101, An Act Adopting Certain Safety Recommendations of the Thomas Commission.

Additionally, the Council may add site-specific conditions that require further effort of the petitioning entities to provide written confirmation to the Council that the conditions have been met. Decision letters for facilities that included site-specific conditions are enclosed for your review.

Please be advised that failure to comply with the conditions of any Declaratory Ruling may result in the Council refraining from considering any pending or future matters until full compliance is reached.



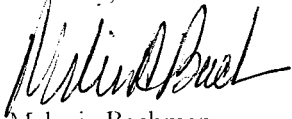
If the facility owner/operator has changed, please notify the Council with the contact information for the individual or representative responsible for management and operation of the facility.

Thank you for your anticipated cooperation. If additional time is needed to gather the requested information, please submit a written request for an extension of time prior to December 16, 2019.

If you have any questions or concerns, please call the Council's office at 860-827-2935.

Thank you for your attention to this matter.

Sincerely,

A handwritten signature in black ink, appearing to read 'Melanie Bachman', written in a cursive style.

Melanie Bachman
Executive Director

Enc. Decision Letters for Petition Nos. 1235, 1236, and 1237

MB/laf



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CERTIFIED MAIL RETURN RECEIPT REQUESTED

July 22, 2016

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

RE: PETITION NO. 1235 – 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 Middletown High School, 200 La Rosa Lane, Middletown, Connecticut.

Dear Mr. Abrams:

At a public meeting held on July 21, 2016, the Connecticut Siting Council (Council) considered and ruled that the above-referenced proposal would not have a substantial adverse environmental effect, and pursuant to Connecticut General Statutes § 16-50k would not require a Certificate of Environmental Compatibility and Public Need, with the following conditions:

1. Use of off-road construction equipment that meets the latest EPA or California Air Resources Board standards, or in the alternative, equipment with the best available controls on diesel emissions, including, but not limited to, retrofitting with diesel oxidation catalysts, particulate filters and use of ultra-low sulfur fuel;
2. Compliance with the provisions of Section 22a-174-18(b)(3)(C) of the Regulations of Connecticut State Agencies that limit the idling of mobile sources to 3 minutes;
3. Installation of an anti-climb security fence;
4. Approval of any minor project changes be delegated to Council staff;
5. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed within three years from the date of the mailing of the Council's decision, this decision shall be void, and the facility owner/operator shall dismantle the facility and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's decision shall not be counted in calculating this deadline. Authority to monitor and modify this schedule, as necessary, is delegated to the Executive Director. The facility owner/operator shall provide written notice to the Executive Director of any schedule changes as soon as is practicable;
6. Any request for extension of the time period to fully construct the facility shall be filed with the Council not later than 60 days prior to the expiration date of this decision and shall be served on all parties and intervenors, if applicable, and the Town of Middletown;
7. Within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;



CONNECTICUT SITING COUNCIL

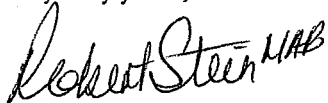
Affirmative Action / Equal Opportunity Employer

8. The facility owner/operator shall remit timely payments associated with annual assessments and invoices submitted by the Council for expenses attributable to the facility under Conn. Gen. Stat. §16-50v;
9. This Declaratory Ruling may be transferred, provided the facility owner/operator/transferor is current with payments to the Council for annual assessments and invoices under Conn. Gen. Stat. §16-50v and the transferee provides written confirmation that the transferee agrees to comply with the terms, limitations and conditions contained in the Declaratory Ruling, including timely payments to the Council for annual assessments and invoices under Conn. Gen. Stat. §16-50v; and
10. If the facility owner/operator is a wholly owned subsidiary of a corporation or other entity and is sold/transferred to another corporation or other entity, the Council shall be notified of such sale and/or transfer and of any change in contact information for the individual or representative responsible for management and operations of the facility within 30 days of the sale and/or transfer.

This decision is under the exclusive jurisdiction of the Council and is not applicable to any other modification or construction. All work is to be implemented as specified in the petition, dated June 14, 2016, and supplemental information dated June 24, 2016, and June 29, 2016, and in compliance with Public Act 11-101, An Act Adopting Certain Safety Recommendations of the Thomas Commission.

Enclosed for your information is a copy of the staff report on this project.

Very truly yours,

Handwritten signature of Robert Stein in cursive, with the initials "HAB" written to the right of the signature.

Robert Stein
Chairman

RS/RDM/cm

Enclosure: Staff Report dated July 21, 2016

c: The Honorable Daniel T. Drew, Mayor, City of Middletown
Michiel Wackers, AICP, Director of Planning, City of Middletown

Petition No. 1235
Doosan Fuel Cell America, Inc.
Middletown High School, 200 La Rosa Lane
Middletown, Connecticut

Staff Report
July 21, 2016

On June 16, 2016, the Connecticut Siting Council (Council) received a petition from Doosan Fuel Cell America, Inc. (Doosan) for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the installation of a 440-kilowatt (kW) combined heat and power fuel cell facility at the Middletown High School, located at 200 La Rosa Lane, Middletown, Connecticut. The proposed installation would replace an existing 200 kW fuel cell that was approved by the Council in 2007 under Petition No. 810.

Although Doosan indicated in the Petition that it provided notification to appropriate agencies, entities and abutting landowners, prior to submission of the Petition to the Council, the Council deemed the Petition incomplete because it did not include a clearly labeled abutters' map and did not include notice to certain agencies. On or about June 24, 2016, Doosan provided proper notice and corrected the noted filing deficiency. The Council has not received any comments regarding the project to date.

The existing 200 kW fuel cell was installed adjacent to the west side of the high school. Doosan would remove the old fuel cell and enlarge the footprint area to include two concrete pads to house the proposed 440 kW fuel cell (28.6 feet long by 8.3 feet wide by 9.9 feet high) and an associated cooling module (15.9 feet long by 7.8 feet wide by 6.0 feet high). The fuel cell and cooling module would be enclosed by a seven-foot tall chain link fence of two-inch mesh and would include bollard protection to prevent accidental vehicle impacts to fuel cell infrastructure. Utility connection to the fuel cell facility would extend underground between the fenced compound and the school building.

The fuel cell would provide some of the electric needs of the school as well as utilizing waste heat to heat the swimming pool and to preheat water entering the school's boiler system. In the event that school electric loads are light, the facility would be able to export surplus power to the local electric distribution network. The fuel cell would also provide backup power to the school during a power outage and would enable the City to use the school as an assembly area during emergencies.

The fuel cell uses non-combustion phosphoric acid technology that consumes natural gas as fuel and uses water for fuel processing to generate electrical power. The cooling module would remove waste heat from the fuel cell on an as needed basis. No hazardous wastes are created during the process. During consumption of natural gas, sulfur that is used as an odorant in the natural gas would be removed, creating zinc sulfide as a nonhazardous byproduct that is collected within a sealed vessel in the fuel cell unit. The vessel would be removed at the fuel cell unit's end life and shipped to the catalyst vendor for recycling.

The facility would be remotely monitored by Doosan on a 24/7 basis to detect abnormalities in operation. The fuel cell facility is designed in accordance with American National Standards Institute and Canadian Standards Association America FC 1-2004 for stationary fuel cell power systems and includes extensive safety control systems, including both automatic and manual shutdown mechanisms that comply with pertinent engineering standards. The Petition includes a facility Emergency Response Plan.

The fuel cell facility would comply with all applicable Department of Energy and Environmental Protection (DEEP) water quality standards. The project would not be located within a DEEP-designated Aquifer Protection Area. The proposed site is located outside of designated 100-year and 500-year flood zones. The proposed project is located in paved parking area and would not impact any wetlands or any species listed on the DEEP Natural Diversity Database.

Due to its low emission profile, and pursuant §22a-174-42 of the Regulations of Connecticut State Agencies (RCSA), the proposed fuel cell facility is exempt for Connecticut air permitting requirements. Air emissions produced during fuel cell operation are as follows:

Comparison of the Fuel Cell Facility with RCSA Criteria		
Compound	Fuel Cell Facility (lbs/MWh)	
NO _x	0.01	
PM ₁₀	Negligible	
CO ₂	495 with waste heat recovery	1,049 Without waste heat recovery
		Emissions standards(lbs/MWh)
		0.15
		0.03
		1,650

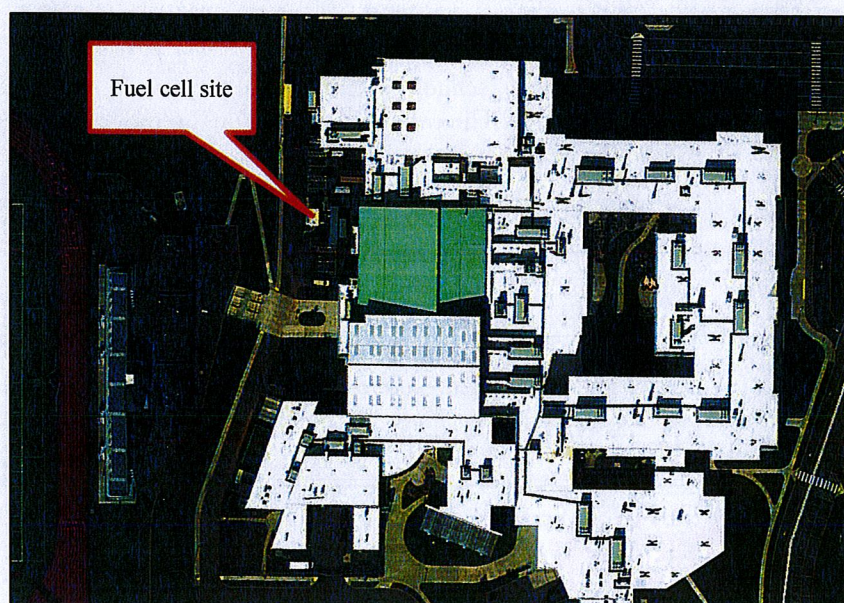
The project would result in a net carbon dioxide reduction for the environment because it would displace some of the need for baseload generation which includes traditional fossil-fueled generation. In total, the proposed facility would reduce net CO₂ emissions for the environment by roughly 120 metric tons per year. With regard to non-CO₂ greenhouse gases, as defined in RCSA Section 22a-174-1(49), the proposed facility would emit no methane (CH₄), sulfur hexafluoride (SF₆), hydrofluorocarbons or perfluorocarbons.

Visual impact from the proposed facility would be minimal due to its low height and location adjacent to the school building. The proposed facility would comply with DEEP noise regulations during operation.

Doosan anticipates construction commencing in early August 2016 with completion by the end of January 2017. Construction work hours would be coordinated with the school.

If the Petition is approved, staff suggests including the following conditions:

- Use of off-road construction equipment that meets the latest EPA or California Air Resources Board standards, or in the alternative, equipment with the best available controls on diesel emissions, including, but not limited to, retrofitting with diesel oxidation catalysts, particulate filters and use of ultra-low sulfur fuel;
- Compliance with the provisions of Section 22a-174-18(b)(3)(C) of the Regulations of Connecticut State Agencies that limit the idling of mobile sources to 3 minutes;
- Installation of an anti-climb security fence; and
- Approval of any minor project changes be delegated to Council staff.



Proposed location of fuel cell.



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CERTIFIED MAIL RETURN RECEIPT REQUESTED

July 22, 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:

At a public meeting held on July 21, 2016, the Connecticut Siting Council (Council) considered and ruled that the above-referenced proposal would not have a substantial adverse environmental effect, and pursuant to Connecticut General Statutes § 16-50k would not require a Certificate of Environmental Compatibility and Public Need, with the following conditions:

1. Use of off-road construction equipment that meets the latest EPA or California Air Resources Board standards, or in the alternative, equipment with the best available controls on diesel emissions, including, but not limited to, retrofitting with diesel oxidation catalysts, particulate filters and use of ultra-low sulfur fuel;
2. Compliance with the provisions of Section 22a-174-18(b)(3)(C) of the Regulations of Connecticut State Agencies that limit the idling of mobile sources to 3 minutes;
3. Installation of an anti-climb security fence;
4. Approval of any minor project changes be delegated to Council staff;
5. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed within three years from the date of the mailing of the Council's decision, this decision shall be void, and the facility owner/operator shall dismantle the facility and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's decision shall not be counted in calculating this deadline. Authority to monitor and modify this schedule, as necessary, is delegated to the Executive Director. The facility owner/operator shall provide written notice to the Executive Director of any schedule changes as soon as is practicable;
6. Any request for extension of the time period to fully construct the facility shall be filed with the Council not later than 60 days prior to the expiration date of this decision and shall be served on the City of New Britain;
7. Within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;



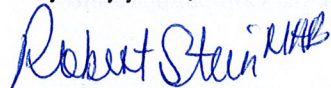
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8. The facility owner/operator shall remit timely payments associated with annual assessments and invoices submitted by the Council for expenses attributable to the facility under Conn. Gen. Stat. §16-50v;
9. This Declaratory Ruling may be transferred, provided the facility owner/operator/transferor is current with payments to the Council for annual assessments and invoices under Conn. Gen. Stat. §16-50v and the transferee provides written confirmation that the transferee agrees to comply with the terms, limitations and conditions contained in the Declaratory Ruling, including timely payments to the Council for annual assessments and invoices under Conn. Gen. Stat. §16-50v; and
10. If the facility owner/operator is a wholly owned subsidiary of a corporation or other entity and is sold/transferred to another corporation or other entity, the Council shall be notified of such sale and/or transfer and of any change in contact information for the individual or representative responsible for management and operations of the facility within 30 days of the sale and/or transfer.

This decision is under the exclusive jurisdiction of the Council and is not applicable to any other modification or construction. All work is to be implemented as specified in the petition, dated June 14, 2016, and additional information received on July 1, 2016, and in compliance with Public Act 11-101, An Act Adopting Certain Safety Recommendations of the Thomas Commission.

Enclosed for your information is a copy of the staff report on this project.

Very truly yours,



Robert Stein
Chairman

RS/MP/lm

Enclosure: Staff Report dated July 21, 2016

- c: The Honorable Erin Stewart, Mayor, City of New Britain
Sergio Lupo, Director of License Permit & Inspections, City of New Britain
Honorable Mark Kaczynski, Mayor, Town of Berlin
Denise McNair, Town Manager, Town of Berlin
Maureen Giusti, Zoning Enforcement Officer, Town of Berlin
Dawn Mahoney, Esq., General Counsel, Doosan Fuel Cell America, Inc.
New Britain High School, 110 Mill Street, New Britain



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Petition No. 1236

Doosan Fuel Cell America, Inc.

New Britain High School, 110 Mill Street

New Britain, Connecticut

Staff Report

July 21, 2016

On June 16, 2016, the Connecticut Siting Council (Council) received a petition from Doosan Fuel Cell America, Inc. (Doosan or Petitioner) for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the installation of an 440-kilowatt (kW) combined heat and power fuel cell facility at New Britain High School, located at 110 Mill Street, New Britain, Connecticut. A field review of the project site was held on July 11, 2016. Council member Phil Ashton; Michael Perrone of the Council staff; Josh Abrams, Installation Manager, Doosan; and Robert Smedley, Energy Manager, CSDNB attended the field review.

Doosan provided formal notification of the project to abutting property owners, local and state officials, and State agencies and officials on or about June 14, 2016. By letter dated June 22, 2016, the Council deemed the Petition incomplete because it did not include a clearly labeled abutters' map and did not include notice to some local and State officials.

On or about June 23, 2016, Doosan corrected these deficiencies and provided notice to the respective local and State officials. The Council has not received any comments to date.

The fuel cell site is located on a grass area adjacent to the maintenance parking area for New Britain High School (NBHS). NBHS is located south of Mill Street. To the north and east is residential. To the west is wooded with residential properties located farther to the west. Located to the south of the site is New Britain Stadium, the Berlin Town Line and Route 571 (in Berlin).

The proposed fuel cell uses non-combustion phosphoric acid technology that consumes natural gas as fuel and uses water for fuel processing to generate electrical power. The fuel cell would provide a portion of the electrical requirements of the school. In the event that internal school electric loads are light, the export of surplus power to the grid is possible. The fuel cell would also provide backup power to designated loads, as determined by the school, when the grid power is down. The waste heat from the fuel cell facility would supplement the building's heating by pre-heating return heating lines for the building's boilers.

The proposed fuel cell unit would be 28-feet 8-inches long by 8-feet 4-inches wide by 9-feet 11-inches high. The fuel cell would be placed on a concrete pad with dimensions of approximately 27-feet 4-inches long by 10-feet 4-inches wide. The fuel cell would have a cooling module with dimensions of approximately 15-feet 11-inches long by 7-feet 10-inches wide by 6 feet high and located on a separate concrete pad east of the fuel cell and within the fenced area. The concrete pad for the cooling module would have dimensions of 14-feet 7-inches long by 8-feet 7-inches wide. The cooling module would reject the waste heat when it is not being used for the school's internal use.

The facility would be surrounded by a 7-foot chain link security fence. Utilities would be run underground to reach the fenced compound and would be aboveground inside the compound.

While a two-inch mesh size is common for chain link fences, Doosan has considered a smaller mesh size as an anti-climbing measure. However, Doosan believes two-inch mesh is adequate for its security needs.

The fuel cell facility would comply with all applicable Department of Energy and Environmental Protection (DEEP) water quality standards. In addition, the project would not be located within a DEEP-designated Aquifer Protection Area. The fuel cell facility does not discharge water under normal operating conditions. The fuel cell facility would only consume water when the ambient temperature exceeds 85 degrees Fahrenheit. Water consumption will be minimal under such conditions and roughly 0.2 to 0.4 gallons per minute.

The proposed site is located outside of the 100-year and 500-year flood zones. Thus, no flood mitigation measures are proposed.

Air emissions produced during fuel cell operation would be below the DEEP applicable limits, as shown in the table below – thus, no air permit is required.

Comparison of the Fuel Cell Facility with RCSA Criteria *		
Compound	Fuel Cell Facility (lbs/MWh)	Emissions standards (lbs/MWh)
NO _x	0.01	0.15
PM ₁₀	Negligible	0.03
CO ₂	495 With waste heat recovery	1,650
CO ₂	1,049 Without waste heat recovery	1,650

* Regulations of Connecticut State Agencies Section 22a-174-42(b)(3)(C); 22a-174-42(d)(2)(B)(ii) & Table 42-2

The project would result in a net carbon dioxide reduction for the environment because it would displace the existing generation portfolio which includes traditional fossil-fueled generation. Furthermore, when the waste heat is being used, the fuel cell's CO₂ emissions rate is roughly cut in half, and by supplementing the building's boilers, the net CO₂ emissions for the environment is further cut. In total, the proposed facility would reduce net CO₂ emissions for the environment by roughly 120 metric tons per year.

The proposed facility would emit no methane (CH₄), sulfur hexafluoride (SF₆), hydrofluorocarbons (HFCs) or perfluorocarbons (PFCs), which are greenhouse gases defined in Regulations of Connecticut State Agencies Section 22a-174-1(49).

The proposed fuel cell would remove sulfur that is used as an odorant in natural gas and create zinc sulfide. The zinc sulfide would collect in a sealed vessel within the fuel cell. The zinc sulfide storage vessel is designed to last for 10 years. At the end of the life of the zinc sulfide storage vessel, it would be removed and shipped to the catalyst vendor for reclaim at their facility or disposal at a licensed vendor. The sealed vessel is deemed safe for transport in accordance with U.S. Department of Transportation requirements.

Visual impact from the proposed project would be minimal because of existing trees to the south and east, the school maintenance parking area and building to the west, and additional trees to north of the parking area.

The facility would meet DEEP noise regulations without the need for sound remediation.

The proposed project would be located outside of the shaded area of the DEEP Natural Diversity Database. There are no wetlands at the site. The site is grass, and no trees would be removed.

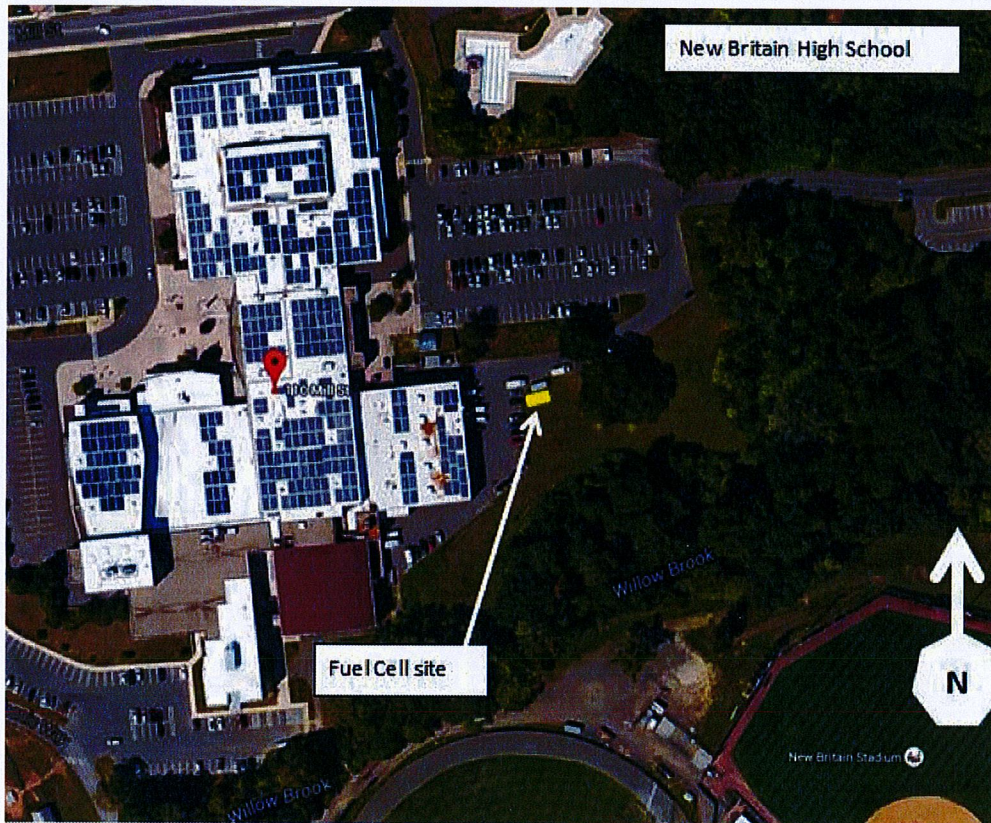
With regard to safety, bollards would be used on the west side of the fenced area to protect the fuel cell facility from being accidentally struck by a vehicle. The facility would be remotely monitored by Doosan on a 24/7 basis to detect abnormalities in operation. The fuel cell facility is designed in accordance with American National Standards Institute and Canadian Standards Association (ANSI/CSA) America FC 1-2004 for stationary fuel cell power systems and includes extensive safety control systems, including both automatic and manual shutdown mechanisms that comply with pertinent engineering standards. An Emergency Response Plan has been developed and submitted by Doosan.

If approved by the Council, construction would commence in early August 2016 in order to complete much of the underground work before major school activities begin. The project would be completed and commissioned by the end of January 2017. The projected work hours would be Monday through Friday 7:00 a.m. to 5:00 p.m., subject to the school's requirements. Noise related to construction would be exempt per DEEP noise regulations.

The proposed installation would not have any substantial adverse environmental effect. It would reduce the emission of air pollutants that contribute to smog and acid rain, and to a lesser extent, global climate change.

Staff suggests including the following conditions:

- a) Use of off-road construction equipment that meets the latest EPA or California Air Resources Board standards, or in the alternative, equipment with the best available controls on diesel emissions, including, but not limited to, retrofitting with diesel oxidation catalysts, particulate filters and use of ultra-low sulfur fuel;
- b) Compliance with the provisions of Section 22a-174-18(b)(3)(C) of the Regulations of Connecticut State Agencies that limit the idling of mobile sources to 3 minutes;
- c) Installation of an anti-climb security fence; and
- d) Approval of any minor project changes be delegated to Council staff.





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Dear Mr. Abrams:

At a public meeting held on July 21, 2016, the Connecticut Siting Council (Council) considered and ruled that the above-referenced proposal would not have a substantial adverse environmental effect, and pursuant to Connecticut General Statutes § 16-50k would not require a Certificate of Environmental Compatibility and Public Need, with the following conditions:

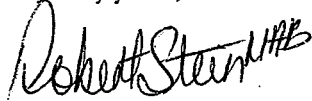
1. Use of off-road construction equipment that meets the latest EPA or California Air Resources Board standards, or in the alternative, equipment with the best available controls on diesel emissions, including, but not limited to, retrofitting with diesel oxidation catalysts, particulate filters and use of ultra-low sulfur fuel;
2. Compliance with the provisions of Section 22a-174-18(b)(3)(C) of the Regulations of Connecticut State Agencies that limit the idling of mobile sources to 3 minutes;
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4. Approval of any minor project changes be delegated to Council staff;
5. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed within three years from the date of the mailing of the Council's decision, this decision shall be void, and the facility owner/operator shall dismantle the facility and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made. The time between the filing and resolution of any appeals of the Council's decision shall not be counted in calculating this deadline. Authority to monitor and modify this schedule, as necessary, is delegated to the Executive Director. The facility owner/operator shall provide written notice to the Executive Director of any schedule changes as soon as is practicable;
6. Any request for extension of the time period to fully construct the facility shall be filed with the Council not later than 60 days prior to the expiration date of this decision and shall be served on all parties and intervenors, if applicable, and the City of Shelton;
7. Within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;

8. The facility owner/operator shall remit timely payments associated with annual assessments and invoices submitted by the Council for expenses attributable to the facility under Conn. Gen. Stat. §16-50v;
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10. If the facility owner/operator is a wholly owned subsidiary of a corporation or other entity and is sold/transferred to another corporation or other entity, the Council shall be notified of such sale and/or transfer and of any change in contact information for the individual or representative responsible for management and operations of the facility within 30 days of the sale and/or transfer.

This decision is under the exclusive jurisdiction of the Council and is not applicable to any other modification or construction. All work is to be implemented as specified in the petition, dated June 14, 2016, and supplemental information dated June 24, 2016 and June 29, 2016, and in compliance with Public Act 11-101, An Act Adopting Certain Safety Recommendations of the Thomas Commission.

Enclosed for your information is a copy of the staff report on this project.

Very truly yours,

A handwritten signature in black ink, appearing to read "Robert Stein" with a stylized flourish at the end.

Robert Stein
Chairman

RS/RDM/cm

Enclosure: Staff Report dated July 21, 2016

c: The Honorable Mark A. Lauretti, Mayor, City of Shelton
Richard Schultz, Planning Administrator, City of Shelton

Petition No. 1237
Doosan Fuel Cell America, Inc.
Shelton High School, 120 Meadow Street
Shelton, Connecticut

Staff Report
July 21, 2016

On June 16, 2016, the Connecticut Siting Council (Council) received a petition from Doosan Fuel Cell America, Inc. (Doosan) for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the installation of an 440-kilowatt (kW) combined heat and power fuel cell facility at the Shelton High School, located at 120 Meadow Street, Shelton, Connecticut. A field review of the project site was held on July 12, 2016 and attended by Council member Larry Levesque, Council staff member Robert Mercier, and Doosan representative Josh Abrams.

Although Doosan indicated in the Petition that it provided notification to appropriate agencies, entities and abutting landowners, prior to submission of the Petition to the Council, the Council deemed the Petition incomplete because it did not include a clearly labeled abutters' map and did not include notice to certain agencies. On or about June 24, 2016, Doosan provided proper notice and corrected the noted filing deficiency. The Council has not received any comments regarding the project to date.

Doosan proposes to install the fuel cell and an associated cooling module on concrete pads in the school maintenance area parking lot. The maintenance area is located on the north east side of the school, opposite of the main entrance area. The fuel cell and cooling module would be enclosed by a seven-foot tall chain link fence of two-inch mesh and would include bollard protection to prevent accidental vehicle impacts to fuel cell infrastructure. Utility connection to the fuel cell facility would extend underground between the fenced compound and the school building.

The fuel cell would provide approximately 30 to 40 percent of the electrical requirements of the school when the school is in full use. Waste heat would be utilized for space heating and to preheat water entering the school's boiler system. In the event that school electric loads are light, the facility would be able to export surplus power to the local electric distribution network. The fuel cell would also provide backup power to designated loads, as determined by the school, if grid power is down.

The proposed fuel cell unit would be 28.6 feet long by 8.3 feet wide by 9.9 feet high. The associated fuel cell cooling module would be approximately 15.9 feet long by 7.8 feet wide by 6.0 feet high. The cooling module would remove waste heat from the fuel cell unit when the fuel cell is not in waste heat recovery mode.

The fuel cell uses non-combustion phosphoric acid technology that consumes natural gas as fuel and uses water for fuel processing to generate electrical power. The cooling module would remove waste heat from the fuel cell on an as needed basis. No hazardous wastes are created during the process. During consumption of natural gas, sulfur that is used as an odorant in the natural gas would be removed, creating zinc sulfide as a nonhazardous byproduct that is collected within a sealed vessel in the fuel cell unit. The vessel would be removed at the fuel cell unit's end life and shipped to the catalyst vendor for recycling.

The facility would be remotely monitored by Doosan on a 24/7 basis to detect abnormalities in operation. The fuel cell facility is designed in accordance with American National Standards Institute and Canadian Standards Association (ANSI/CSA) America FC 1-2004 for stationary fuel cell power systems and includes extensive safety control systems, including both automatic and manual shutdown mechanisms that comply with pertinent engineering standards. An Emergency Response Plan has been developed by Doosan.

The fuel cell facility would comply with all applicable Department of Energy and Environmental Protection (DEEP) water quality standards. The project would not be located within a DEEP-designated Aquifer Protection Area. The proposed site is located outside of designated 100-year and 500-year flood zones. The proposed project is not near any mapped DEEP Natural Diversity Database areas. There are no wetlands near the site.

Due to its low emission profile, and pursuant §22a-174-42 of the Regulations of Connecticut State Agencies (RCSA), the proposed fuel cell facility is exempt for Connecticut air permitting requirements. Air emissions produced during fuel cell operation are as follows:

Comparison of the Fuel Cell Facility with RCSA Criteria		
Compound	Fuel Cell Facility (lbs/MWh)	
NO _x	0.01	
PM ₁₀	Negligible	
CO ₂	495 with waste heat recovery	1,049 Without waste heat recovery
		1,650

The project would result in a net carbon dioxide reduction for the environment because it would displace some of the need for baseload generation which includes traditional fossil-fueled generation. In total, the proposed facility would reduce net CO₂ emissions for the environment by roughly 120 metric tons per year. With regard to non-CO₂ greenhouse gases, as defined in RCSA Section 22a-174-1(49), the proposed facility would emit no methane (CH₄), sulfur hexafluoride (SF₆), hydrofluorocarbons or perfluorocarbons.

Visual impact from the proposed facility would be minimal due to its location adjacent to the school building and a vegetative barrier at the edge of the parking lot. The proposed facility would comply with DEEP noise regulations during operation.

Doosan anticipates construction commencing in early August 2016 with completion by the end of January 2017. Construction work hours would be coordinated with the school.

The proposed installation would not have any substantial adverse environmental effect. It would reduce the emission of air pollutants that contribute to smog and acid rain, and to a lesser extent, global climate change.

If the Petition is approved, staff suggests including the following conditions:

- Use of off-road construction equipment that meets the latest EPA or California Air Resources Board standards, or in the alternative, equipment with the best available controls on diesel emissions, including, but not limited to, retrofitting with diesel oxidation catalysts, particulate filters and use of ultra-low sulfur fuel;
- Compliance with the provisions of Section 22a-174-18(b)(3)(C) of the Regulations of Connecticut State Agencies that limit the idling of mobile sources to 3 minutes;
- Installation of an anti-climb security fence; and
- Approval of any minor project changes be delegated to Council staff.

