



STATE OF CONNECTICUT

CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

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www.ct.gov/csc

CERTIFIED MAIL RETURN RECEIPT REQUESTED

March 4, 2016

Jennifer D. Arasimowicz, Esq.
Vice President, Managing Counsel
FuelCell Energy, Inc.
3 Great Pasture Road
Danbury, CT 06810

RE: **PETITION NO. 1214** – Groton Fuel Cell 1, LLC petition for a Declaratory Ruling that no Certificate of Environmental Compatibility and Public Need is required for the construction, maintenance, and operation of a 5.6 megawatt fuel cell combined heat and power electric generating facility located at the Pfizer Groton campus, 445 Eastern Point Road, Groton, Connecticut.

Dear Attorney Arasimowicz:

At a public meeting held on March 3, 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:

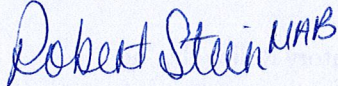
1. Unless otherwise approved by the Council, if the facility authorized herein is not fully constructed within three years from the date of the mailing of the Council's decision, this decision shall be void, and the facility owner/operator shall dismantle the facility and remove all associated equipment 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;
2. 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 Groton;
3. Within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;
4. 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;
5. 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

6. 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 January 25, 2016, and additional information received on February 25, 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 March 3, 2016

- c: The Honorable Marian Galbraith, Mayor, City of Groton
Barbara Goodrich, City Planner, City of Groton
David Rose, Chairman of Planning and Zoning Commission, City of Groton
Honorable Bruce Flax, Mayor, Town of Groton
Mark Oefinger, Town Manager, Town of Groton
Jonathan Reiner, Director of Planning, Town of Groton
Dmitriy Kamenetskiy, Project Manager, FuelCell Energy, Inc.
Pfizer, Inc., 445 Eastern Point Road, Groton, CT
Stephen W. Studer, Esq., Berchem, Moses & Devlin, P.C.
Robert L. Berchem, Esq., Berchem, Moses & Devlin, P.C.



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Petition No. 1214

Groton Fuel Cell 1, LLC

445 Eastern Point Road

Groton, Connecticut

Staff Report

March 3, 2016

On January 26, 2016, the Connecticut Siting Council (Council) received a petition from Groton Fuel Cell 1, LLC (GFC or Petitioner), a wholly owned subsidiary of FuelCell Energy, Inc. (FCE), for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the installation of two, 2.8 megawatt (MW) fuel cells for a total of 5.6 MW at Pfizer's Groton campus located at 445 Eastern Point Road, in the City of Groton, Connecticut. A field review of the project site was held on February 22, 2016. Council member James J. Murphy, Jr.; Council staff member Michael Perrone; S. Derek Phelps, FCE; Kirk Arneson, FCE; Jennifer Arasimowicz, Esq., FCE (representing the Petitioner); Dmitriy Kemenetskiy, FCE; Len Mediavilla, Groton Utilities (GU); Richard C. Buturla, Esq., Berchem, Moses & Devlin, P.C. (representing GU); Aaron Brook, GU; Hollis McKee, GU; Brad Mondschein, Esq., Pullman and Comley (representing Pfizer); James Turner, Pfizer; and Paul Wiseman, Pfizer attended the field review.

On January 5, 2016, representatives from Pfizer presented an overview of the proposed project to members of the City of Groton Conservation Commission and to Carlton Smith, the City of Groton Zoning and Building Official. Subsequently, GFC mailed notification of the project to abutting property owners, the City of Groton, the Town of Groton, and required state agencies and officials on or about January 25, 2016. The City of Groton submitted its request to the Council for party status dated February 11, 2016. On February 18, 2016, the Council granted the City of Groton's request for party status. The Council has not received any comments to date regarding the proposed project.

Pfizer is located in an industrial area of Groton. The subject property and all surrounding properties to a distance of over 500 feet are industrial. To the east and slightly north, approximately 900 feet from the proposed site, homes are located on Shennecossett Road. To the south, approximately 650 feet away, homes are located at the end of the Shennecossett Parkway cul-de-sac. The site is a grass area with existing trees to the north, east, and west, and a building to south.

GFC is an indirect, wholly-owned subsidiary of FCE created for financing purposes. Pfizer and GFC have entered into a power purchase agreement (PPA) whereby GFC would design, install, operate and maintain two FCE DFC3000 fuel cell power plants nominally rated at 2.8 MW each, for a total of 5.6 MW. FCE will be responsible for the construction and long term service under contract to GFC for the term of the PPA, which is 20 years.

The proposed fuel cell uses non-combustion molten carbonate technology that consumes natural gas as fuel and uses water for fuel processing to generate electrical power. The fuel cell would be interconnected to Pfizer's electrical system to provide about 50 percent of Pfizer's baseload electrical needs. Each DFC3000 unit would include FCE's standard load leveler product option. This option allows the unit to serve the load during stand-alone, islanded operation. This configuration also provides uninterruptable power in the event that Pfizer's electrical system loses power. Thermal energy produced by the project would be provided for use in Pfizer's existing thermal distribution system.



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Affirmative Action / Equal Opportunity Employer

The proposed project consists of multiple skids involving major subsystems. The mechanical balance of plant (MBOP) is comprised of the desulfurization system, the main process skid, and the water treatment system skid. The MBOP supplies fresh air, cleans and heats fuel and water, and includes the power plant control system. The electrical balance of plant (EBOP) has two inverters, two transformers, and one switchgear for grid connection. The EBOP converts the fuel cell direct current (DC) power into utility grade alternating current (AC) power. Each DFC3000 power plant includes two DFC modules. The DFC module performs the electrochemical conversion of the continuous fuel supply into DC electric power. Each DFC3000 would have a heat recovery steam generator (HRSG). Each HRSG would be housed in a separate building next to the fuel cell.

The fuel cell facility would be installed within a 190-foot by 74-foot compound enclosed by a six-foot high chain link fence with two-inch mesh. The tallest structure is the top of the fuel cell exhaust transition that sends the exhaust to the steam generator, which is about 25 feet tall. The HRSG building is approximately 16 feet tall. The power plant exhaust stacks, which exit the roofs of the HRSG buildings, would be about 24 feet tall.

Utility service to the fuel cell facility such as water, gas, wastewater drainage, etc., would be underground. The fuel cell's output of electricity and steam would be above-ground to reach an adjacent building at a higher elevation. The site has existing access. A new access drive would not have to be constructed.

The fuel cell facility would comply with all applicable Department of Energy and Environmental Protection (DEEP) water quality standards. The Petitioner would register the project under DEEP's Miscellaneous Sewer Compatible Discharges general permit for the discharge of wastewater resulting from fuel cell operations.

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	0.00002	0.03
CO ₂	520-680 With waste heat recovery	1,650
CO ₂	980 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

While the facility would emit 24,037 tons of carbon dioxide per year, the electric power it would generate would displace higher carbon emitting conventional generation in the utility grid. In addition, the heat recovery would prevent the need to burn natural gas (and emit more carbon dioxide) in a conventional gas-fired boiler. In total, the net carbon dioxide impact of the facility is a reduction of 8,241 tons per year of carbon dioxide. Overall, the fuel cell facility's net carbon reduction would be equivalent to planting 3,200 acres or about five square miles of trees.

The only other greenhouse gas that would be emitted would be methane. Approximately 1.4 tons per year would be emitted. This is less than the State of Connecticut threshold of 100 tons per year per the Regulations of Connecticut State Agencies Section 22a-174-1 (49).

Visual impact from the proposed project would be minimal given the industrial nature of Pfizer campus as well as a building to the south and existing trees on the north, east, and west sides that would screen the views of the fuel cell. Approximately three trees greater than six inches diameter would be removed for the proposed project. However, tree removal would not materially affect the visibility of the project.

The facility would meet DEEP noise regulations at the boundaries of the subject property. The Petitioner submitted a Project Review Cover Form to the State Historic Preservation Office. However, to date, a response from SHPO has not been received. By letter dated January 15, 2016, DEEP has reviewed the Natural Diversity Database and notes that no impacts to State-listed species are expected.

The facility would be remotely monitored by FCE 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 FCE would discuss the project with the Groton Fire Department and the Pfizer campus fire department prior to operation of the facility.

Sulfur dioxide is added to natural gas as an odorant. The sulfur dioxide is removed from the gas in a process called desulfurization so the gas can be used in the fuel cell. Desulfurization materials would be contained and disposed of in accordance with all applicable 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. The project would also be consistent with the goals of the Comprehensive Energy Strategy.



