



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
Web Site: www.ct.gov/csc

**CERTIFIED MAIL
RETURN RECEIPT REQUESTED**

March 27, 2020

Steve Pearson
Green Energy Financing Executive
VFS, LLC
5827 Terex
Clarkston, MI 48346

RE: **PETITION NO. 1394** – VFS, LLC petition for a declaratory ruling, pursuant to Connecticut General Statutes §4-176 and §16-50k, for the proposed construction, maintenance and operation of a 460-kilowatt customer-side fuel cell facility and associated equipment to be located at the Town of Montville Water Pollution Control Facility, 83 Pink Row, Montville (Uncasville), Connecticut.

Dear Mr. Pearson:

At a public meeting held on March 26, 2020, the Connecticut Siting Council (Council) considered and ruled that the above-referenced proposal meets air and water quality standards of Department of Energy and Environmental Protection and 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. Approval of any minor project changes be delegated to Council staff;
2. Submit a copy of the post-construction facility operational noise study, and a noise mitigation plan, if necessary;
3. The use of natural gas as a fuel system cleaning medium during fuel cell construction, installation or modification shall be prohibited;
4. Submit the following information to the Council 15 days prior to any fuel pipe cleaning operations related to fuel cell construction, installation, or modification:
 - a. Identification of the cleaning media to be used;
 - b. Identification of any known hazards through use of the selected cleaning media;
 - c. Description of how known hazards will be mitigated, including identification of any applicable state or federal regulations concerning hazard mitigation measures for such media;
 - d. Identification and description of accepted industry practices or relevant regulations concerning the proper use of such media;
 - e. Provide detailed specifications (narratives/drawings) indicating the location and procedures to be used during the pipe cleaning process, including any necessary worker safety exclusion zones;

- f. Identification of the contractor or personnel performing the work, including a description of past project experience and the level of training and qualifications necessary for performance of the work;
 - g. Contact information for a special inspector hired by the project developer who is a Connecticut Registered Engineer with specific knowledge and experience regarding electric generating facilities or a National Board of Boiler and Pressure Vessel Inspector and written approval of such special inspector by the local fire marshal and building inspector; and
 - h. Certification of notice regarding pipe cleaning operations to all state agencies listed in General Statutes § 16-50j(h) and to the Department of Consumer Protection, Department of Labor, Department of Public Safety, Department of Public Works, and the Department of Emergency Management and Homeland Security;
5. Compliance with the following codes and standards during fuel cell construction, installation or modification, as applicable:
 - a. NFPA 54
 - b. NFPA 853; and
 - c. ASME B31;
6. 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;
7. 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 Montville;
8. Within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;
9. 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;
10. This Declaratory Ruling may be transferred, provided the facility owner/operator/transferee 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
11. 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 February 18, 2020 and additional information received March 3, 2020, 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.

Sincerely,

s/ Melanie A. Bachman

Melanie A. Bachman
Executive Director

MAB/RDM/emr

Enclosure: Staff Report dated March 26, 2020

c: The Honorable Ronald K. McDaniel, Mayor, Town of Montville
Marcia Vlaun, Town Planner, Town of Montville



**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

Web Site: www.ct.gov/csc

**Petition No. 1394
VFS, LLC
Fuel Cell Installation - 83 Pink Row, Montville**

**Staff Report
March 26, 2020**

Introduction

On February 18, 2020, the Connecticut Siting Council (Council) received a petition from Vending Funding Specialists, LLC (VFS) for a declaratory ruling, pursuant to Connecticut General Statutes §4-176 and §16-50k, for the proposed construction, maintenance and operation of a customer-side 460-kilowatt (kW) fuel cell facility and associated equipment to be located at the Town of Montville (Town) Water Treatment Plant (WTP) at 83 Pink Row in Montville, Connecticut. VFS would own and operate the facility.

On February 19, 2020, the Council sent correspondence to the Town stating that the Council has received the Petition and invited the Town to contact the Council with any questions or comments by March 19, 2020. Also on February 19, 2020, and pursuant to Regulations of Connecticut State Agencies §16-50j-40, the Council notified all state agencies listed therein, requesting comments regarding the proposed project be submitted to the Council by March 19, 2020. The Council did not receive any comments from the Town or any state agencies.

The Council issued interrogatories to VFS on March 3, 2020. VFS provided responses to the Council's interrogatories on March 5, 2020.

Prior to submitting the Petition to the Council, VFS obtained a building permit from the Town. After obtaining the permit, VFS proceeded with site construction in early 2020. On March 10, 2020, the Council issued a letter to VFS requesting that all construction at the site cease until the Council, under its exclusive jurisdiction over energy facilities in the State of Connecticut pursuant to CGS §16-50k, rendered a decision on the matter. On March 11, 2020, VFS responded by stating all construction work has ceased and the surrounding areas stabilized with erosion and sediment controls. The work appeared to be limited to the installation of concrete pad.

Public Benefit

The project would be a "customer-side distributed resources" facility, as defined in Connecticut General Statutes (CGS) § 16-1(a)(49). CGS § 16a-35k establishes the State's energy policy, including the goal to "develop and utilize renewable energy resources...to the maximum practicable extent." The proposed facility is a distributed generation resource, and will contribute to fulfilling the State's Renewable Portfolio Standard as a low emission Class I renewable energy source. In its final decision in Docket No. 12-02-09, the Connecticut Public Utilities Regulatory Authority determined that fuel cells qualify as a Class I renewable energy source under CGS §16-1(a)(20)(A). The project was selected as part of the Low and Zero Emissions Renewable Energy Credit program.

Project Site

The Project site is located on an approximate 16.5 acre parcel developed with the Town's WTP. The property is zoned Government and abuts commercially-zoned property to the north and west, and residential property to the south. Horton Cove, a waterbody connected to the Thames River, is to the east. The nearest residence is approximately 656 feet to the west of the fuel cell site. The nearest residential property line from the fuel cell site is approximately 128 feet to the south.

The fuel cell would be located on the southwest portion of the WTP property, west of the main WTP building. The fuel cell site is at the base of a gravel embankment, adjacent to an existing backup generator. An existing paved drive is located on the south side of the fuel cell location.

Proposed Project

The facility would consist of a 460 kW Doosan Model 400 Purecell fuel cell. The fuel cell measures approximately 29' 4" long by 8' 7" wide by 10' high. An associated cooling module measuring 15' 11" long by 7' 10" wide by 6' high would be installed adjacent to the fuel cell unit. Underground utilities - electric, gas and water - would connect to the fuel cell from existing on-site utilities. A new concrete natural gas pad and a new electric distribution pad would be installed to facilitate utility connections.

The proposed facility would be a customer-side, distributed resources project designed only to provide electricity. The proposed facility would operate in parallel with the utility grid and provide at least 74 percent of the average WTP annual baseload. Electricity generated by the facility would be consumed primarily by the WTP, and any excess electricity would be exported to the grid. The WTP cannot use waste heat generated by the fuel cell.

The fuel cell facility has an operational life of 20 years with a planned overhaul of certain components occurring at 10 years. At the end of its operational life, The fuel cell and associated components would be decommissioned and removed from the WTP site. The concrete pads would remain in place.

Construction would take approximately 15 weeks, followed by approximately 4 weeks of testing and startup. Regular working hours for the proposed project are Monday through Friday from 8:00 a.m. to 5:00 p.m.

Environmental Effects and Mitigation

The fuel cell facility would comply with all applicable Department of Energy and Environmental Protection (DEEP) water quality standards as no water would be consumed or discharged once the facility is operational. The site is not within an Aquifer Protection Area. The proposed fuel cell facility would have virtually no water usage or discharge. Water consumption would occur at initial system fill and during restart operations. If water discharge is necessary, it would consist of de-ionized water and would be directed to an on- site drywell.

Air emissions produced during fuel cell operation would be below DEEP applicable limits for a new distributed generator, as shown below, and thus, no DEEP air permit is required.

Comparison of the Fuel Cell Facility with RCSA Criteria *		
Compound	Fuel Cell Facility(lbs/MWh)	Emissions standards(lbs/MWh)
NOx	0.02	0.15
CO ₂	998	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 proposed facility would emit a minimal amount of methane (CH₄), and no 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 fuel cell desulfurization system would remove sulfur that is used as an odorant in natural gas because it is a fuel cell system contaminant. Sulfur compounds would be collected within a desulfurization unit (desulf unit) using a filter media. The desulf unit would be removed during the 10 year fuel cell unit overhaul. The U.S. Department of Transportation has certified the desulf unit as an acceptable form of transport for the desulfurization material that meets hazardous waste shipment standards.

The fuel cell uses an inorganic, concentrated phosphoric technology that uses the acid as the electrolyte, allowing an electrochemical reaction within the fuel cell to occur. The phosphoric acid in the fuel cell complies with all applicable state and federal regulations.

Visual impact from the proposed project would be minimal as it is located adjacent to the main WTP building and is in a secured area that is surrounded by vegetation. Due to its location, the proposed facility would have no effect on historic properties.

No wetlands would be disturbed by the Project. The site is not within a Federal Emergency Management Agency-designated flood zone. The site is not within a quarter-mile of a DEEP Natural Diversity Database buffered area. The fuel cell site is located in a gravel area adjacent to paved driveways and existing utilities.

Any noise associated with the construction of this project would be temporary in nature and exempt per DEEP Noise Control Regulations. The operation of the fuel cell cooling module would emit the most noise. Operation of the proposed fuel cell/cooling module would meet DEEP Noise Control Regulations at the nearest residence (656 feet west), a Class A noise receptor.

Due to the close proximity of the residential property line to the south (approximately 128 feet) VFS would conduct a post-construction operational noise analysis of the facility to determine if noise mitigation is required to reduce noise at the property line. This abutting property consists of a wooded strip of land along the north side of Gay Cemetery Pond. In this case, the abutting parcel is undeveloped and unused land area in a residential zone, which is classified as a Class B noise receptor under the DEEP Noise Control Regulations.

Public Safety

Before commissioning of the proposed facility, the natural gas fuel lines would be cleaned in accordance with Public Act 11-101, An Act Adopting Certain Safety Recommendations of the Thomas Commission using nitrogen.

The fuel cell facility has internal and remote 24/7 operational monitoring. Abnormal operation would cause the facility to automatically shut down. The facility can also be shut down through a remote operations center as well as by manual switches for the facility and for the natural gas feed. The fuel cell facility is designed in accordance with American National Standards Institute and Canadian Standards Association (ANSI/CSA) America FC 1-2014 and the National Fire Protection Association, Inc. Standard 853 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. A Fuel Cell Emergency Response Guide for the facility is included within the Petition. VFS would submit the emergency response guide to Fire Marshal. A fuel cell safety meeting would be held for local emergency responders.

The fuel cell system is controlled electronically and has internal sensors that continuously measure system operation. If safety circuits detect a condition outside normal operating parameters, the fuel supply is stopped and individual system components are automatically shut down.

The fuel cell is within the fenced, secured WTP facility and is located in a restricted, low traffic area. Bollards would be installed to protect the gas interconnection pad.

Conclusion

The project is a distributed energy resource with a capacity of not more than sixty-five megawatts, meets air and water quality standards of the DEEP, and would not have a 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, and furthers the State's energy policy by developing and utilizing renewable energy resources and distributed energy resources.

Recommendation

If approved, staff recommends the following conditions:

1. Approval of any minor project changes be delegated to Council staff; and
2. Submit a copy of the post-construction facility operational noise study.

Fuel Cell Location



Site Plan

