



STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

Ten Franklin Square, New Britain, CT 06051

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

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**VIA ELECTRONIC & CERTIFIED MAIL
RETURN RECEIPT REQUESTED**

July 18, 2024

Steve Pearson
VFS, LLC
5827 Terex
Clarkstown, MI 48346
spearson@vfsmi.com

RE: **PETITION NO. 1620** - 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 920-kilowatt customer-side fuel cell facility and associated equipment to be located at the York Correctional Institution, 199 West Main Street, East Lyme (Niantic), Connecticut. **Final Decision.**

Dear Steve Pearson:

At a public meeting held on July 18, 2024, the Connecticut Siting Council (Council) considered and ruled that the above-referenced proposal meets air and water quality standards of the 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 Project changes be delegated to Council staff;
2. Provide a detailed site plan including, but not limited to, final facility layout and the interconnection points for electricity, water and natural gas prior to the commencement of construction;
3. Provide a copy of the Fuel Cell Emergency Response Plan to local emergency responders prior to facility operation and provide emergency response training that includes an itemized list of necessary fire suppression equipment;
4. Provide a Construction Spill Prevention Control and Countermeasure Plan with contractor information and appropriate reporting forms;
5. The use of natural gas as a fuel system cleaning medium during fuel cell construction, installation or modification shall be prohibited;
6. The Council shall be notified in writing at least two weeks prior to the commencement of site construction activities;
7. 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;
8. 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;
 9. 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;
 10. 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 East Lyme;
 11. Within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed **along with a representative photograph of the facility**;
 12. 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;

13. This Declaratory Ruling may be transferred or partially transferred, provided both the facility owner/operator/transferor and the transferee are current with payments to the Council for their respective annual assessments and invoices under Conn. Gen. Stat. §16-50v. 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. Both the facility owner/operator/transferor and the transferee shall provide the Council with a written agreement as to the entity responsible for any quarterly assessment charges under Conn. Gen. Stat. §16-50v(b)(2) that may be associated with this facility, including contact information for the individual acting on behalf of the transferee; and
14. This Declaratory Ruling may be surrendered by the facility owner/operator upon written notification to the Council.

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 March 14, 2024 and additional information dated March 21, 2024 and June 14, 2024, 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,



Melanie A. Bachman
Executive Director

MAB/RDM/dll

Enclosure: Staff Report dated July 18, 2024

c: The Honorable Daniel Cunningham, First Selectperson, Town of East Lyme
(dcunningham@eltownhall.com)
William J. Bundy III, Fire Marshal, Town of East Lyme (wbundyiii@eltownhall.com)
CGS §16-50j(g) State Agency Comment List

STATE OF CONNECTICUT)

: ss. Southington, Connecticut July 18, 2024

COUNTY OF HARTFORD)

I hereby certify that the foregoing is a true and correct copy of the Decision and Staff Report in Petition No. 1620 issued by the Connecticut Siting Council, State of Connecticut.

ATTEST:



Melanie A. Bachman
Executive Director
Connecticut Siting Council

STATE OF CONNECTICUT)

: ss. New Britain, Connecticut July 18, 2024

COUNTY OF HARTFORD)

I certify that a copy of the Connecticut Siting Council Decision and Staff Report in Petition No. 1620 has been forwarded by Certified First Class Return Receipt Requested mail, on July 19, 2024, to each party and intervenor, or its authorized representative, as listed on the attached service list, dated March 15, 2024.

ATTEST:



Dakota LaFountain
Office Assistant
Connecticut Siting Council

LIST OF PARTIES AND INTERVENORS
SERVICE LIST

Status Granted	Document Service	Status Holder (name, address & phone number)	Representative (name, address & phone number)
Petitioner	<input checked="" type="checkbox"/> E-mail	VFS, LLC	Steve Pearson VFS, LLC 5827 Terex Clarkstown, MI 48346 Phone: (248) 417-0674 spearson@vfsmi.com Gerry Conboy VFS, LLC 5827 Terex Clarkstown, MI 48346 Phone: (702) 302-8869 gconboy@vfsmi.com



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Petition No. 1620

VFS, LLC

York Correctional Institution

199 West Main Street, East Lyme (Niantic), Connecticut

Staff Report

July 18, 2024

Notice

On March 14, 2024, the Connecticut Siting Council (Council) received a petition from VFS, LLC (VFS), for a declaratory ruling, pursuant to Connecticut General Statutes (CGS) §4-176 and §16-50k, for the installation of a customer-side 920-kilowatt combined heat and power fuel cell facility and associated equipment at York Correctional Institution located at 199 West Main Street, East Lyme, Connecticut (Petition or Project).

Over the last six months, VFS and the Department of Corrections (DOC) have collaborated on the development of the Project. On behalf of VFS, HyAxiom, Inc., the manufacturer of the fuel cells, provided Project plans to Town of East Lyme officials (Town) prior to filing with the Council.

On March 13 and March 20, 2024, VFS provided notice of the Project to the Town, required state officials and agencies, and abutting property owners. No comments were received.

On March 15, 2024, the Council sent correspondence to the Town stating that the Council has received the Petition and invited the municipality to contact the Council with any questions or comments by April 13, 2024. No comments were received.

Also, on March 15, 2024, pursuant to Regulations of Connecticut State Agencies (RCSA) §16-50j-40, the Council notified all state agencies listed therein, requesting comments regarding the proposed Project be submitted to the Council by April 13, 2024. No comments were received.

On March 20, 2024, the Council sent correspondence to VFS noting a deficiency in the completeness of the Petition. Specifically, proof of service of the Petition to state officials and agencies and a labeled abutters map were not provided to the Council. On March 21, 2024, VFS submitted proof of service of the Petition on the required officials and agencies and a labeled abutters map. On March 21, 2024, the Council rendered the Petition complete.

The Council issued interrogatories to VFS on June 4, 2024. VFS provided responses to Council interrogatories on June 14, 2024.

Pursuant to CGS §4-176(e) of the Uniform Administrative Procedure Act, an administrative agency is required to take action on a petition for a declaratory ruling within 60 days of receipt. At a public meeting held on April 25, 2024, pursuant to CGS §4-176(e), the Council voted to set the date by which to render a decision on the Petition as no later than September 10, 2024, which is the 180-day statutory deadline for a final decision under CGS §4-176(i).

Public Benefit

The Project would be a “customer-side distributed resources” facility, as defined in 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.

The Project was selected on October 21, 2020 as part of the Low Emission Renewable Energy Credit and Zero Emission Renewable Energy Credit (LREC/ZREC) Program and has entered into a 13-year LREC agreement with Eversource.¹

The proposed facility is not proposed to be undertaken by state departments, institutions or agencies, and is not to be funded in whole or in part by the state through any contract or grant. It is a privately funded project.

Proposed Site

Pursuant to CGS §16-50x, the Council has exclusive jurisdiction over the proposed fuel cell facility “site.” Under RCSA §16-50j-2a(29), “site” means a contiguous parcel of property with specified boundaries, including, but not limited to, the leased area, right-of-way, access and easements on which a facility and associated equipment is located, shall be located or is proposed to be located. The Council does not have jurisdiction or authority over any portion of the host parcel beyond the boundaries of the Project “site.” This includes portions of the host parcel retained by the landowner and portions of the host parcel the landowner may lease to third parties. Once a facility is decommissioned, the Council no longer has jurisdiction or authority over the Project “site.”

The proposed facility would be located within an approximately 3,675 square foot site on the 617-acre York Correctional Institution parcel in East Lyme.

The parcel is zoned residential, RU-40 and is developed with correctional institution buildings and parking areas. The proposed facility would be located in a lawn area southeast of Building 10 - Central Plant and Warehouse.

The surrounding area consists of correctional institution-owned property. The nearest residential property line and residential building is 247 feet and 492 feet to the southeast, respectively, at 269 and 267 Roxbury Road (apartment complex).

Proposed Facility and Associated Equipment

The facility would consist of two 460-kW HyAxiom PureCell Model 400 fuel cell power modules that utilize a non-combustion phosphoric acid technology that interacts with natural gas to generate electrical power. The amount of phosphoric acid within the fuel cell complies with applicable state and federal regulations.

¹ As of June 30, 2021, the Non-Residential Renewable Energy Solutions (NRES) program is a successor program to the LREC/ZREC and Virtual Net Metering (VNM) programs to further develop the state’s Class I renewable energy objectives and to encourage the participation by customers in underserved and environmental justice communities through 20-year contracts.

The proposed facility would be a customer-side combined heat and power distributed resources project, designed to provide electricity and thermal energy. The facility would have an overall annual electrical efficiency of approximately 95 percent with utilization of waste heat. Waste heat would be used at correctional institution Building 10 to preheat the boiler return, thus offsetting the use of natural gas. The facility would provide approximately 90 percent of the correctional institution energy load. The facility was not designed to operate as a backup power source. The facility was designed to operate in parallel with the grid.

The facility would be installed on a 73.5-foot by 50-foot concrete pad enclosed by an 8-foot high chain-link fence with privacy slats.

The fuel cell power modules are each approximately 27.3 feet long by 8.3 feet wide by 10 feet tall. Two cooling modules, measuring 16 feet long by 7.9 feet wide by 6 feet tall, would be installed adjacent to the fuel cell units. One 1500 kVA transformer, switchgear and other associated electrical equipment would also be installed within the fenced compound.

A 28-square foot pad for natural gas service and meter equipment would be installed adjacent to the northwestern compound fence line. The gas/meter pad would be enclosed by a chain link fence matching the fuel cell compound fence.

A 4.8-kV electrical interconnection would run underground for 75 feet to connect to existing electrical equipment within Building 10. The Project would interconnect with Eversource's electric distribution system through existing correctional institution equipment. Eversource is currently reviewing a Project interconnection application.

The facility's water and natural gas connections would also extend underground and connect to existing equipment within Building 10.

The facility would be accessed by a new 10-foot wide, 100-foot long asphalt driveway extending from an existing driveway on the host parcel. Site access would be controlled by a locked fenced gate.

Project construction is expected to begin in summer 2024 and continue over a four-month period. Construction hours would be from 8:00 a.m. to 5:00 p.m. Monday through Friday.

The fuel cell has an operational service life of 20 years; however, the solid oxide media in the fuel cell unit would be replaced every 5-7 years. At the end of the 20-year operational life, the fuel cell unit and associated equipment would be dismantled and removed.

The estimated cost of the facility is \$6.7M.

Public Health and Safety

Before commissioning the proposed facility, VFS would use nitrogen or atmospheric air under pressure as pipe cleaning media in accordance with Public Act 11-101, An Act Adopting Certain Safety Recommendations of the Thomas Commission. Nitrogen would be stored on site and would be remotely monitored to detect leaks and provide prompt response.

The fuel cell facility has internal and remote 24/7 operational monitoring. Abnormal operation would cause the facility to automatically shut down and service technicians dispatched to site if necessary. The facility can also be shut down through a remote operations center as well as manually. The fuel cell facility is designed in accordance with American National Standards Institute and Canadian Standards Association (ANSI/CSA) America FC 1-2004 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 sample emergency response plan (ERP) for the facility is included within the Petition. VFS would develop a formal, site-specific ERP once the final design is complete. Emergency responders would have the ability to shut down the fuel cells and shut off natural gas flow to the facility without entering the fenced area. HyAxiom service personnel would be dispatched in the event of any emergency. HyAxiom would offer site safety training to emergency responders and correctional facility personnel once construction of the facility is completed.

LED lighting would be installed at the site and would be controlled by sensors and/or a timer.

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. In addition, manual emergency shut down push buttons would be located at the site. When the fuel cells go into emergency shutdown mode, nitrogen would be used to purge hydrogen remaining in the fuel processing equipment to safe levels.

The fuel cell facility would be located within an existing, secured area, accessible only to authorized personnel. All VFS/HyAxiom service personnel must undergo a background check by DOC and comply with correctional institution security protocols.

The construction or operation of the proposed facility will not impact or interfere with any existing utilities or infrastructure within the surrounding area. The nearest airport (Groton-New London Airport) is located approximately 9.6 miles east of the proposed facility. Notification to the Federal Aviation Administration is not required.

The proposed facility would be in compliance with DEEP Noise Control Standards. Noise modeling indicates noise from operation of the facility would be less than 40 dBA at the nearest residential receptor (269 Roxbury Road).

Noise associated with Project construction would be temporary and exempt per Department of Energy and Environmental Protection (DEEP) Noise Control Regulations.

Environmental Effects and Mitigation Measures

The fuel cell facility would comply with all applicable DEEP water quality standards as no water would be consumed or discharged once the facility is operational. The proposed facility would be connected to the correctional institution's water system and water consumption would only occur at system fill, requiring approximately 350 gallons for each fuel cell. Minimal discharge of de-ionized water would occur in rare instances and directed to a 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.

Fuel Cell Facility	
Compound	Fuel Cell Facility (lbs/MWh)
NO _x	0.02
CO ₂	496
	With waste heat recovery
CO ₂ *	1,006
	Without waste heat recovery

*DEEP amended its regulations in 2016 to eliminate the CO₂ permit requirements from the New Source Review and Title V Programs as a result of a United States Supreme Court decision that overturned states' regulatory CO₂ permit requirements (*Utility Air Regulatory Group v. U.S. Environmental Protection Agency*, 573 U.S. 302 (2014))

The proposed facility would emit no methane (CH₄), sulfur hexafluoride (SF₆), hydrofluorocarbons (HFCs) or perfluorocarbons (PFCs), which are greenhouse gases defined in RCSA §22a-174-1(49), and would emit negligible amounts of sulfur oxides, volatile organic compounds and particulate matter.

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. Desulfurization creates zinc-sulfide, a non-hazardous waste that would be contained within the fuel cell unit until facility refurbishment is required, usually after 10 years of operation. The desulfurization vessel is sealed and then removed from the fuel cell for recycling and disposal. The vessel is recyclable as scrap metal.

The Project is located entirely within a previously disturbed area on a developed property. No wetlands, trees, or prime farmland soils would be impacted by site construction. The nearest waterbody Bride Lake is located approximately 1,380 feet north-northeast of the facility site.

Erosion and sedimentation controls for the proposed facility would comply with the *Connecticut Guidelines for Soil Erosion and Sediment Control*, effective March 30, 2024. No permanent stormwater management features are proposed.

The site is not located within a DEEP Natural Diversity Database buffered area.

The site is located within the DEEP-designated Bride Lake Aquifer Protection Area.

The site is not within a Federal Emergency Management Agency-designated flood zone.

The site is previously disturbed and would not impact historic or cultural resources.

Visual impact from the Project would be minimal and confined to the host parcel. A wooded area provides visual screening to the abutting apartment complex to the southeast.

Conclusion

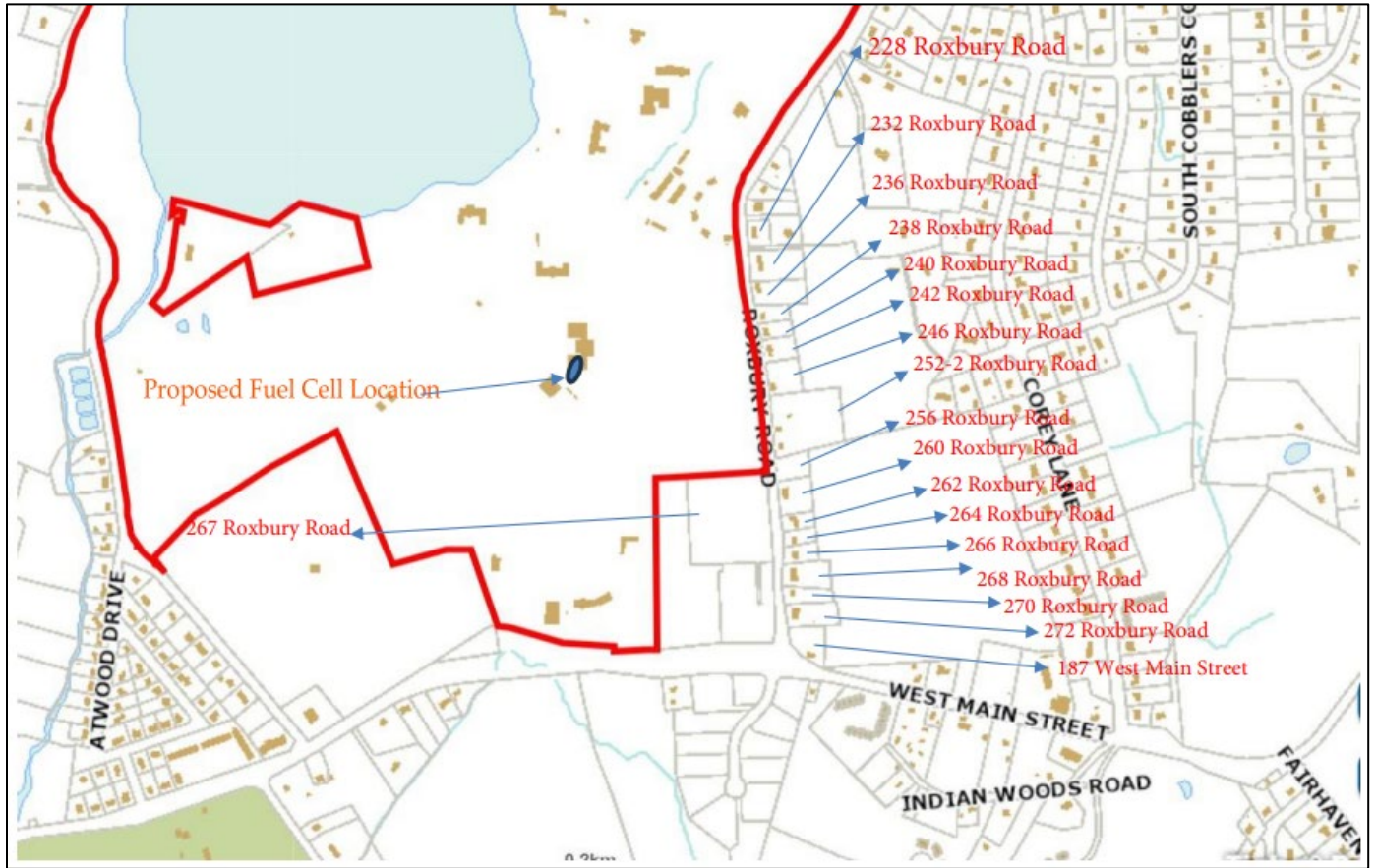
The Project is a distributed energy resource with a capacity of not more than sixty-five megawatts, meets air and water quality standards of the DEEP, and would not have a substantial adverse environmental effect. It would reduce the emission of air pollutants that contribute to smog and acid rain, and 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. Furthermore, the Project was selected under the LREC/ZREC Program.

If approved, staff recommends the following conditions:

1. Approval of any Project changes be delegated to Council staff;
2. Provide a detailed site plan including, but not limited to, final facility layout and the interconnection points for electricity, water and natural gas prior to the commencement of construction;
3. Provide a copy of the Fuel Cell Emergency Response Plan to local emergency responders prior to facility operation and provide emergency response training that includes an itemized list of necessary fire suppression equipment; and
4. Provide a Construction Spill Prevention Control and Countermeasure Plan with contractor information and appropriate reporting forms.

Site Location



Site Location – Adjacent to Building 10



Site Plan

