

March 12, 2020

VIA EMAIL AND OVERNIGHT MAIL

Ms. Melanie A. Bachman
Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

Re: **PETITION NO. 1372** – Derby Fuel Cell, 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 14.0-megawatt fuel cell facility and associated equipment to be located at 200 Roosevelt Drive, Derby, Connecticut.

Dear Ms. Bachman:

Pursuant to the Council's Decision dated July 19, 2019 in the above-referenced matter, enclosed is an original and fifteen (15) copies of Derby Fuel Cell, LLC's Development and Management ("D&M") Plan. In addition, a CD-ROM containing a copy of the D&M Plan is also being submitted to the Council.

If you have any questions regarding the enclosed, please feel free to contact me.

Very truly yours,

A handwritten signature in blue ink, appearing to read "Jennifer D. Arasimowicz".

Jennifer D. Arasimowicz
Executive Vice President, General Counsel,
Chief Administrative Officer and Corporate
Secretary

Enclosures

c: Service list

DEVELOPMENT AND MANAGEMENT (D&M) PLAN

for

**SureSource 3000 Derby Project
14 Megawatts
Derby, CT**

February 20, 2020

Prepared for

Derby Fuel Cell, LLC

Prepared by

One Development and Construction

**One Development and Construction
68 Union Street
Westfield, MA
01085
Telephone 413-568-0905**

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1.0 Introduction

Derby Fuel Cell, LLC (DFCLLC) has prepared this Development and Management (D&M) plan in support of construction of a nominal 14 megawatt (MW) fuel cell energy facility pursuant to the requirements of section 16-50j-60 of the Regulations of Connecticut State Agencies (RCSA).

1.1 Project Description

DFCLLC has proposed to construct the SureSource 3000 Derby Project, a 14 MW baseload fuel cell project in the Derby, Connecticut. The site is located in an Industrial Zoned Location of Derby and conforms to lot size and dimensional requirements, as well as to all setbacks, height and coverage requirements. The site abuts the Housatonic River in Derby and is compatible with existing industrial land uses in the area and consistent with the Plan of Conservation and Development for Derby and the Conservation and Development Policies Plan for Connecticut.

The Project will occupy approximately 0.74 acres of an approximately 1.46 acre site currently owned by IDA PROPERTIES. It is located at 200 Roosevelt Drive, located between Route 34 and the Housatonic River.

The site, which is currently a storage area, consists of predominantly flat terrain, with significant sloping topography along its southwestern and southeastern boundaries. The project is located in a flood plain, with a 1% annual occurrence of 26 feet (NAVD) (FEMA FLOOD MAP APPENDIX A). The project will be constructed on top of a raised platform with the top of concrete pad at Elevation 30 feet (NAVD).

The Project consists of the following: Five FuelCell Energy, Inc. SureSource 3000 fuel cell plants, each rated at approximately 2.8 MW. Fuel cells require natural gas and treated water to generate electricity. Access to natural gas and water is accordingly, critical to a fuel cell project. The Project site is located in close proximity to both natural gas and water pipeline infrastructure. The interconnection to the electric grid is located in the switchyard abutting the property on the west.

2.0 Regulatory Approvals and Consultations

2.1 Regulatory Approvals and Requirements

The D&M Plan also addresses the specific conditions; and (ii) reflects adherence to the conditions (1a to 1b) of the CSC's Decision and Order of July 19, 2019.

A copy of the July 19, 2019 CSC Decision and Order is provided as Appendix B.

2.2 Consultations

The Project has received regulatory approvals or clearances from State and Federal agencies including:

- Connecticut Department of Energy and Environmental Protection ("CTDEEP")
- City of Derby

FuelCell Energy, on behalf of DFCLLC, has consulted with municipal officials in the City of Derby throughout the project development process, including during the preparation of this D&M Plan. Project construction in locations requiring specific permits will not start until the permits listed below are received. DFCLLC will comply with the requirements and conditions in the siting and permitting approvals summarized below. DFCLCC will report to the CSC as required and as discussed in Section 4.0 below:

Category	Permit	Permit Trigger	Review Agency	Comments
Air	Permit to Construct and Operate	PTE>15TPY for any air pollutant	CT DEEP Air Management	Not Required (PTE<<15TPY)
Building	Building Permit	Construction	Derby Building Department	Target Date March 2020
FERC Interconnect Agreement	Electric Generator Whole Sale Status	Generation of Electricity for Distribution.	FERC	In Progress
Category	Permit	Permit Trigger	Review Agency	Comments
Site Approval	Planning and Zoning	Information only- Approval not required.	Derby Planning and Zoning	Not Required
Site Approval	Declaratory Ruling and Petition	Generation of Electricity for Distribution	Connecticut Siting Council (CSC)	Approved July 19, 2019
Stormwater	General Permit for Stormwater Construction Activities Registration	Site Disturbance greater than 1 Acre	CTDEEP	In Progress
Stormwater	General Permit for Stormwater Associated with Industrial Activities	Permit not required based on applicability	CTDEEP	Not Required
Wastewater	Registration under General Permit miscellaneous discharge of sewer compatible Wastewater	Discharge of Industrial wastewater	CTDEEP	Target March 2020
Hazardous Waste	Notification of RCRA Subtitle C Activities (EPA ID #)	Generation of Hazardous Waste (Spent Desulfurization Media)	CTDEEP	Site ID # TBD
Information Only	Inland Wetlands and Watercourses	Construction	Derby Conservation Commission	Target February 2020

3.0 Construction Information

3.1 Project Facilities and Land Requirements

The Project site will take up approximately 0.74 acres of the 1.46 acre Parcel. The location of the project site is an industrial area with an industrial factory to the east and a large electrical switchyard to the west. Due to the location the fuel cell will blend in with the industrial surroundings. The site is located in a flood plain with a 1% annual recurrence flood elevation of 26 feet NAVD. Due to this, the equipment will be installed on a platform with an elevation of 30 feet NAVD. This puts the equipment 4 feet above the 1% annual recurrence flood elevation.

The foundations will consist of driven H-piles with concrete pile caps. Columns will be extended from the pile caps and a structural steel platform will be constructed. A 10" thick concrete pad will be poured over composite decking attached to the steel structure. Graded stone will be placed underneath the structure to allow any runoff water to percolate into the ground.

Access to electric, natural gas and water, is critical to a fuel cell project. The project site is located in close proximity to natural gas and water pipelines. The interconnection point to the electric grid is located on the

abutting property to the west. Wastewater will be tied into an existing manhole approximately 600 feet away. The site will remain pervious under and around the fuel cells. Due to this the developed site will not require any storm water mitigation.

Consistent with the July 23, 2015 Inland Wetland and Watercourse Impact Assessment, wetlands on the project site were delineated on January 18, 2019. No wetland crossings or disturbances are proposed for the project. Work will not take place within the 50 foot buffer zone. The wetland delineation can be found in Appendix D on the A2-T2 Survey.

Utilities easements do exist on the property which are depicted in the A2-T2 surveys and can be found in Appendix D. Detailed design associated with items such as piping, wiring, instrumentation, underground utilities, etc., will not be completed until a notice-to-proceed (NTP) for construction has been issued, as is customary with projects of this type and scope.

3.2 Construction Management and Contact Information

Contact information for the contractor personnel assigned to the project is provided as Appendix C.

3.3 Construction Work Hours

Construction work hours shall be Monday through Saturday from 7 AM to 5 PM. During start-up and commissioning, there may be minor activities on nights and weekends until start-up is complete.

3.4 Site Preparation

Ground surfaces within the construction areas will be cleared of all vegetation prior to construction. Residual material in the form of stumps may be generated and will be removed for proper off-site disposal. By design, the site development and grading will be a balance of cut and fill areas such that excess materials will not be exported from site. Stone will be imported on site to dress the site.

3.5 Blasting Procedures

No blasting will be performed as part of the project.

3.6 Erosion and Sediment Controls

A Construction SWPPP will be developed prior to the start of construction to mitigate the short-term stormwater impacts from the project during construction. The SWPPP includes descriptive specifications concerning land grading, topsoiling, temporary vegetative cover, permanent vegetative cover, vegetative cover selection and mulching, and erosion checks. Details have been provided for all erosion control measures with corresponding labels on the Construction SWPPP control site plan. The Construction SWPPP controls provided are in accordance with the Connecticut Department of Environmental Protection's 2002 Connecticut Guidelines for Soil Erosion and Sediment Control. The construction areas will be surrounded by a geotextile sediment filter fence that will be fortified with staked hay bales up gradient of the wetland areas. A stone construction entrance will be provided at the site entrance. Erosion control blankets will be proposed on critical slopes to protect the newly created slopes until permanent vegetation can be established. During construction, inlet protection will be provided at the proposed drainage inlet structures to trap sediment. The S&E controls are to be modified with the changing grades on site to ensure the protection of the surrounding areas throughout the construction process. The construction contractor shall establish temporary vegetative cover on all unprotected areas that produce sediment, areas where final grading has been completed, and areas where the estimated period of bare soil exposure is less than 12 months. Vegetative cover will be established in areas that will not be permanently seeded by September 1st. Permanent vegetative cover will be established as various sections of the project are completed in order to stabilize these areas, reduce impacts from sediment and runoff and to enhance the aesthetic nature of the site.

4.0 Staging and Material Laydown

DFCLLC shall provide this D&M Plan to the CSC for review and approval. It is anticipated that the CSC will review and/or comment on the Plan prior to its approval. Except as otherwise authorized by CSC, no clearing or construction shall begin prior to approval of applicable sections of the D&M Plan by the CSC.

4.1 Staging and Material Laydown Areas

DFCLLC will provide the CSC with written notice of the location and size of all areas to be accessed or used

for site testing or staging areas. If such an area is to be used prior to approval of the D&M Plan, the CSC may approve such use on terms as it deems appropriate.

4.2 Notices to the Council

The following summary of notices to the CSC have been extracted from RCSA 16-50j-62 as well as the CSC's July 19, 2019 Decision and Order.

The notices have been listed in sequential order from those anticipated to be issued.

- a) Within 45 days after completion of all construction, the CSC shall be notified in writing that construction has been completed.
- b) Any request for extension of the time period referred to in Condition 3 of the July 19th, 2019 Decision and Order shall be filed with the CSC not later than 60 days prior to the expiration date of said time period and shall be served on all parties and intervenors, as listed in the service list, and the Town of Derby. Any such request for extension shall state the reason(s) for which an extension is being sought.
- c) Consistent with the requirements of RCSA Section 16-50j-62 the certificate holder, or facility owner or operator, shall provide the CSC with a final report for the facility not later than 180 days after completion of all site construction and site rehabilitation.
- d) The Petitioner, or its successor, shall provide the CSC with not less than 30 days written notice when the facility will cease operations.
- e) 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 CSC 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.
- f) In addition to the above notices DFCLLC shall provide site-specific information as the CSC may require.

4.3 Notice of Beginning

DFCLLC will provide the CSC, a minimum of two weeks advance written notice of the beginning of;

- a. Clearing and access work in each successive portion of the site, and
- b. Facility construction in that same portion.

4.4 Notices of Changes

DFCLLC will provide the CSC with advance written notice whenever a significant change of the approved D&M Plan is necessary. If advance written notice is impractical, verbal notice shall be provided to the Council immediately and shall be followed by written notice not later than 48 hours after the verbal notice. Significant changes to the approved D&M Plan shall include, but are not limited to, the following:

- a. The location of a wetland or watercourse crossing;
- b. The location of an access way or a structure in a regulated wetland or watercourse area;
- c. The construction or placement of any temporary structures or equipment;
- d. A change in structure type or location including, but not limited to, towers, guy wires, associated equipment or other facility structures; and
- e. Utilization of additional mitigation measures, or elimination of mitigation measures. In addition to the above changes, DFCLLC will amend this D&M Plan to address CSC-ordered changes including, but not limited to, vegetative screening, paint color, or fence design at any time during or after preparation of the plan.

4.5 Notice of Completion

The certificate holder, or facility owner or operator, shall provide the CSC with written notice of completion of construction and site rehabilitation. In addition, a final report shall be prepared as indicated in Section 4.9 below and provided to the CSC not later than 180 days after completion of all site construction and site rehabilitation.

4.6 Notice to Municipalities

Any request for extension of the time period referred to in Condition 3 of the July 19, 2019 Decision and Order shall be filed with the CSC not later than 60 days prior to the expiration date of said time period and

shall be served on all parties and interveners, as listed in the service list and the Town of Derby. Any such request for extension shall state the reason(s) for which an extension is being sought.

4.7 Notice to Landowners

A copy, or notice of the filing, of the D&M Plan, or a copy, or notice of the filing of any changes to the D&M Plan, or any section thereof, shall be provided to the service list and the property owner of record, if applicable, at the same time the plan, or any section thereof, or at the same time any changes to the D&M Plan, or any section thereof, is submitted to the CSC.

4.8 Monthly Reports

DFCLLC will provide the CSC with a quarterly construction progress report, or a construction progress report of a different time interval determined by the CSC, indicating changes and deviations from the approved D&M Plan.

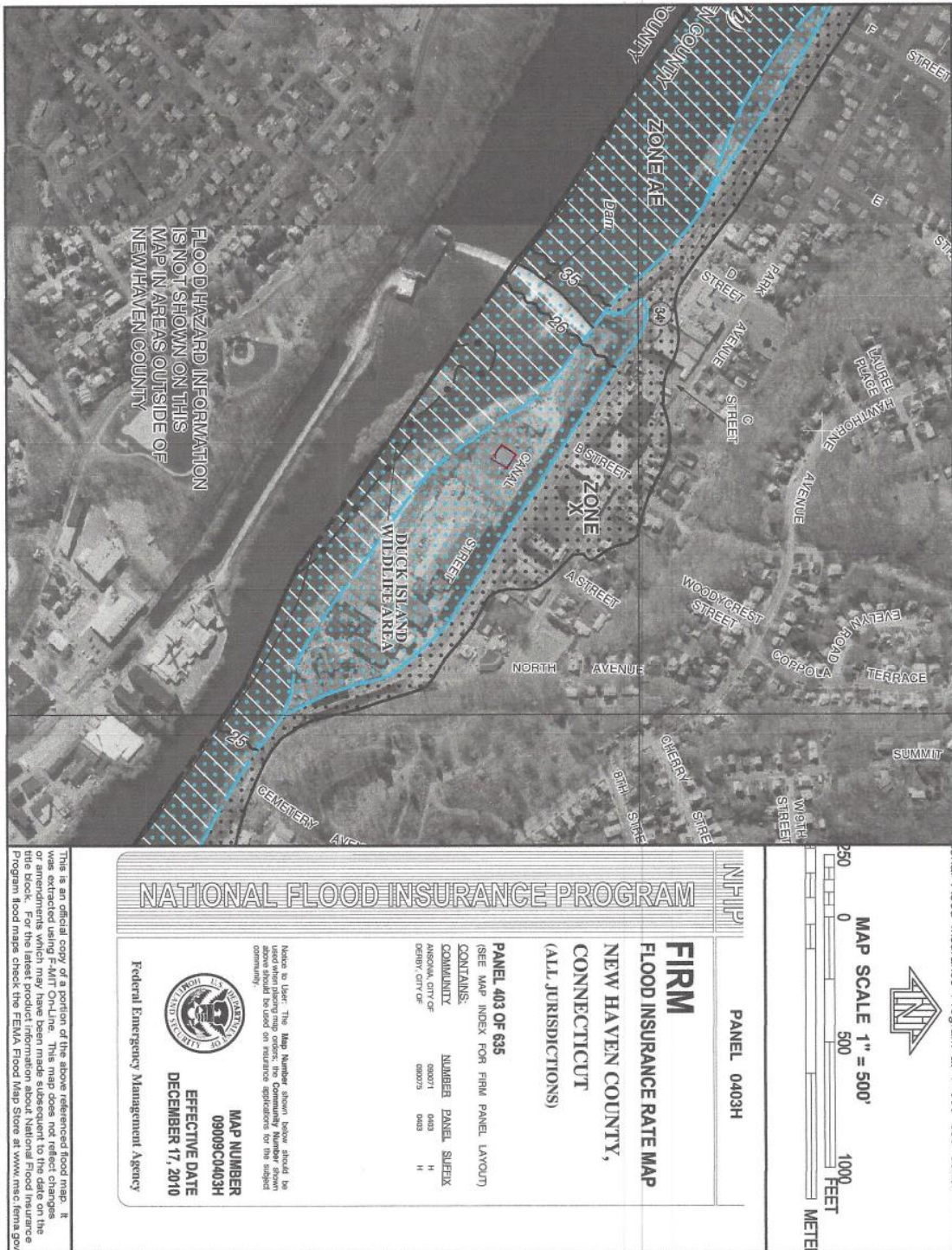
4.9 Final Report

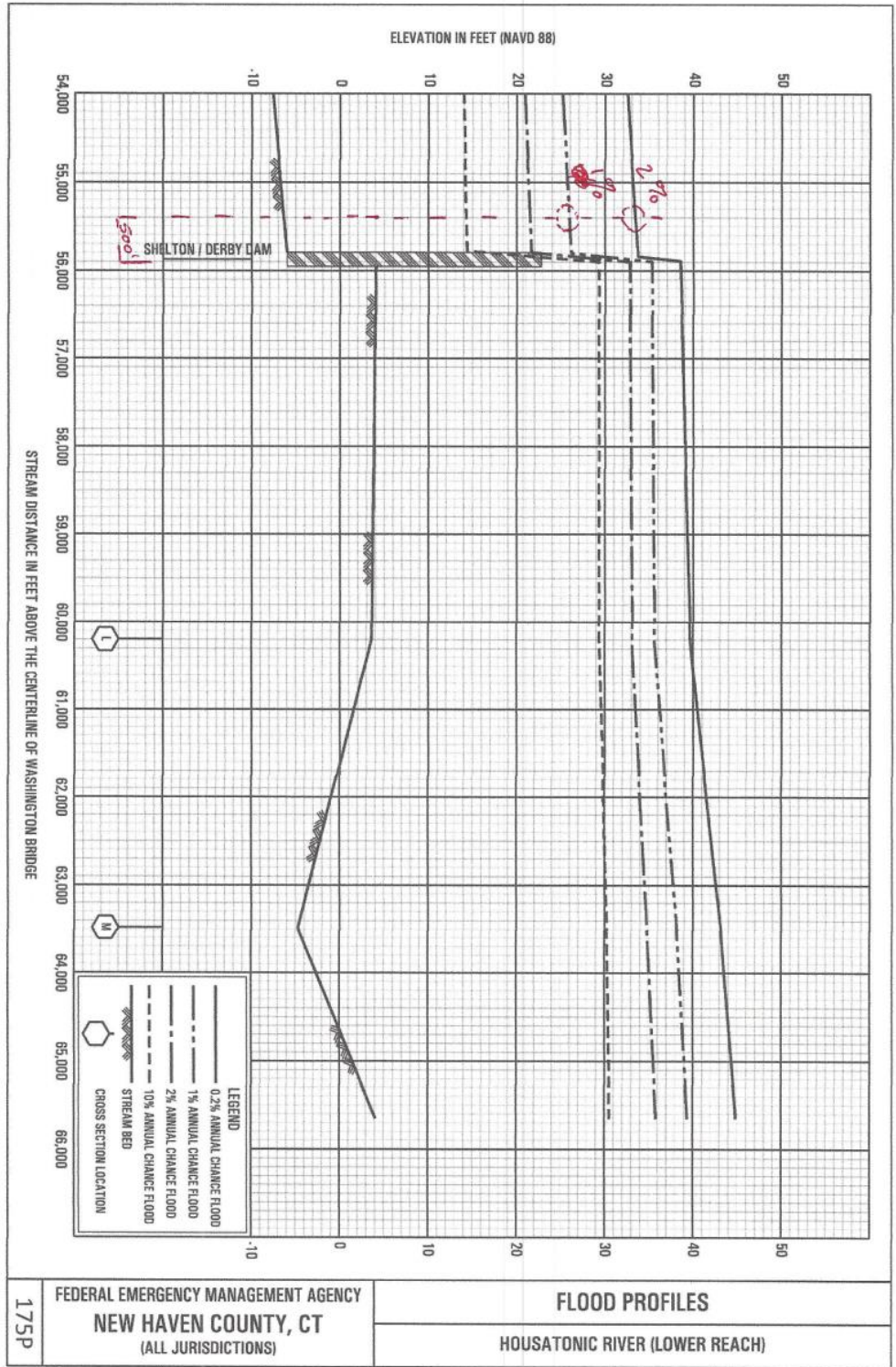
Consistent with the requirements of RCSA section 16-50j-62 the certificate holder, or facility owner or operator, shall provide the CSC with a final report for the facility not later than 180 days after completion of all site construction and site rehabilitation. This final report shall identify:

- 1) All agreements with abutters or other property owners regarding special maintenance precautions;
- 2) Significant changes of the D&M Plan that were required because of the property rights of underlying and adjoining owners or for other reasons;
- 3) The location of construction materials which have been left in place including, but not limited to, culverts, erosion control structures along watercourses and steep slopes.
- 4) The location of areas where reseeding have been done; and
- 5) The actual construction cost of the facility, including, but not limited to, the following costs:
 - a. Construction of the facility and associated equipment;
 - b. Rehabilitation; and
 - c. Property acquisition for the site or access to the site.

Figures

Appendix A FEMA MAP





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FEDERAL EMERGENCY MANAGEMENT AGENCY
NEW HAVEN COUNTY, CT
 (ALL JURISDICTIONS)

FLOOD PROFILES
 HOUSATONIC RIVER (LOWER REACH)

Appendix B CSC January 7, 2016 Decision and Order, Petition No. 1372



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

CERTIFIED MAIL RETURN RECEIPT REQUESTED

July 19, 2019

Dmitriy Kamenetskiy
Project Manager
FuelCell Energy, Inc.
3 Great Pasture Road
Danbury, CT 06810

RE: **PETITION NO. 1372** – Derby Fuel Cell, 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 14.0-megawatt fuel cell facility, associated equipment and related site improvements to be located at 200 Roosevelt Drive, Derby, Connecticut.

Dear Mr. Kamenetskiy:

At a public meeting held on July 18, 2019, 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. The Petitioner shall prepare a Development and Management Plan (D&M Plan) for this project. The D&M Plan shall be submitted to and approved by the Council prior to the commencement of facility construction and shall include:
 - a. A final site plan including, but not limited to, fuel cell units, related equipment, transformer locations (both dry and insulating fluid-filled) with containment measures as necessary, perimeter fence, concrete pads, and the final design flood elevation to the top of the concrete (TOC) pads of not less than 30 feet; and
 - b. Plans for gravel base (or as applicable) to support any necessary cranes during construction.
2. Approval of any minor project changes be delegated to Council staff;
3. Prior to the commencement of construction, submission of a copy of a DEEP-approved Stormwater Pollution Control Plan and a DEEP General Permit; and
4. Provide a copy of the Emergency Response Plan to local emergency responders prior to facility operation, and provide emergency response training, if requested;
5. The use of natural gas as a fuel system cleaning medium during fuel cell construction, installation or modification shall be prohibited;
6. 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;

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- 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;
7. 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;
 8. 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;
 9. 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 Derby;
 10. Within 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;
 11. 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;
 12. 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;
 13. 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;

The Council recommends that the Fuel Cell Emergency Response Plan include the spill response contractor contact information.

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 May 23, 2019, and additional information dated May 28, 2019 and June 28, 2019, 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/MP/emr

Enclosure: Staff Report dated July 18, 2019

- c: Jennifer D. Arasimowicz, Esq., FuelCell Energy, Inc.
- Henry Sire, Esq., FuelCell Energy, Inc.
- The Honorable Richard Dziekan, Mayor, City of Derby
- Carlo Sarmiento, Building Official, City of Derby
- IDA Properties, Inc.



**STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL**

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**Petition No. 1372
Derby Fuel Cell, LLC
200 Roosevelt Drive
Derby, Connecticut
Staff Report
July 19, 2019**

Introduction

On May 24, 2019, the Connecticut Siting Council (Council) received a petition from Derby Fuel Cell, LLC (DFC or Petitioner) for a declaratory ruling, pursuant to Connecticut General Statutes (CGS) §4-176 and §16-50k, for the installation of a 14.0 megawatt (MW) fuel cell facility located at 200 Roosevelt Drive in Derby, Connecticut.

DFC is a wholly-owned subsidiary of Fuel Cell Energy, Inc. (FCE). Representatives of FCE have met with officials from the City of Derby (City), including Mayor Richard Dziekan, on a number of occasions to discuss the proposed project. Specifically, FCE representatives met with Mayor Dziekan and members of his staff on July 11, 2018 and appeared before the City Board of Aldermen and Alderwoman on January 24, 2019 and February 14, 2019 to provide updates regarding the proposed project. The Board of Alderman and Alderwoman voted on February 14, 2019 to authorize the Mayor to write a letter of support for the proposed project. By letter dated April 15, 2019, Mayor Dziekan expressed support for the proposed project and noted that it is consistent with the City's Plan of Conservation and Development, and it would complement the City's other green initiatives.

On May 29, 2019, the Council sent correspondence to the Cities of Derby and Shelton¹ stating that the Council has received the Petition and invited the municipalities to contact the Council with any questions or comments by June 23, 2019. The Council has not received any comments to date.

On May 23, 2019, DFC provided proof of service of a copy of the petition on the City and appropriate government agencies. On May 28, 2019, DFC provided proof of service of a copy of the petition to the City of Shelton.

On June 11, 2019, the Council issued interrogatories to DFC. On July 1, 2019, DFC submitted responses to Council interrogatories. On July 1, 2019, DFC also submitted a Motion for a Protective Order pursuant to CGS § 1-210(b) for its response to Council interrogatory number 36 which contains proprietary cost data on the proposed project.

State Agency Comments

On May 29, 2019, pursuant to Regulations of Connecticut State Agencies (RCSA) §16-50j-40, the Council sent correspondence requesting comments on the proposed project from the following state agencies: Department of Energy and Environmental Protection (DEEP); Department of Agriculture (DOAg); Department of Public Health (DPH); Council on Environmental Quality (CEQ); Public Utilities Regulatory Authority (PURA); Office of Policy and Management (OPM); Department of Economic and Community Development (DECD); Department of Emergency Services and Public Protection (DESPP); Department of Consumer Protection (DCP); Department of Labor (DOL); Department of Administrative Services (DAS);

¹ The City of Shelton is located within 2,500 feet of the proposed site.

Department of Transportation (DOT); the Connecticut Airport Authority (CAA); and the State Historic Preservation Office (SHPO). On June 20, 2019, DEEP submitted comments that are attached hereto.

Public Benefit

The project would be a “grid-side distributed resources” facility, as defined in CGS § 16-1(a)(37). 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. On or about June 13, 2018, the proposed project was selected as part of a DEEP Request for Proposals (RFP) pursuant to Section 10 of Public Act 17-144 – An Act Promoting the Use of Fuel Cells for Electric Distribution System Benefits and Reliability and Amending Various Energy-Related Programs and Requirements. Per the power purchase agreements (PPAs), 19.62 percent of the facility’s electrical output and renewable energy credits (RECs) would be sold to The United Illuminating Company (UI), and the remaining 80.38 percent would be sold to The Connecticut Light and Power Company d/b/a Eversource Energy (Eversource). The PPAs have a 20-year term.

Project Site

The proposed facility would be located on property owned by IDA Properties, Inc. (IDA) and located within Derby’s Mill Design District (MDD). Abutting properties are also located in the MDD. Located immediately northeast of the site is an existing canal and Roosevelt Drive (Route 34). The proposed fuel cell facility would be located in an undeveloped portion of the parcel directly northwest of an existing IDA building. Directly north of the subject property is UI’s Indian Well Substation (Indian Well S/S). The Housatonic River is located south of the proposed site. The nearest residence is located approximately 570 feet to the north, along Park Avenue.

Proposed Project

The proposed fuel cell facility would consist of five FCE SureSource 3000 2.8 MW fuel cell units (for a total of 14.0 MW) that utilize a non-combustion carbonate technology that interacts with natural gas to generate electrical power. All power would be exported to the utility grid per the terms of the PPAs. The electrical efficiency would be about 47 percent. The proposed facility would not be part of a microgrid at this time, but it would be “microgrid capable” if surrounding microgrid infrastructure is established in the future. The waste heat from the proposed fuel cell facility would not be utilized.

Two fuel cell units and other equipment including, but not limited to, electrical switchgear, nitrogen skid, and natural gas skid would be installed on an approximately 171.3-foot long by 85.8-foot wide concrete pad. Three fuel cell units would be installed on an approximately 158-foot long by 76-foot wide concrete pad. A crushed stone driveway would be located between the two concrete pads. The remaining areas within the fuel cell facility footprint would be seeded. The fuel cell facility footprint would be rectangular and enclosed by an approximately 240-foot long by 193-foot wide by 8-foot high chain link fence with barbed wire on top.

Each of the five fuel cell units would have a vertical exhaust stack that would reach a height of about 35 feet above the top of the concrete (TOC) pad. The exhaust stacks would be the tallest features of the proposed fuel cell facility.

Based on the preliminary design, Eversource would connect to its existing gas main located on Route 34 and bring natural gas to the site by installing a new line extension along-side the IDA building. There would be no need to cross the existing bridge (located to the northeast over the canal) for the natural gas connection.

Water and sewer connections would be underground and connect to existing city service on the same side of Route 34.

The proposed fuel cell facility would have an underground 13.8-kV (distribution level) connection to Indian Well S/S located directly to the west. A feasibility study was conducted by UI and confirmed that Indian Well S/S could accommodate the generation from the fuel cell facility with minor upgrades such as a 13.8-kV circuit breaker and a load tap changer.

Project construction would be expected to begin in October 2019, and commercial operation of the facility would be expected to commence by the end of May 2021. Construction hours are expected to be between 7:00 a.m. to 5:00 p.m. Monday through Friday.

The fuel cell and related infrastructure would have an operational design life of 20 years. The fuel cell module would have to be replaced every five to seven years. Upon expiration of the 20-year PPAs (and any extension thereof), project decommissioning would involve cutting and capping all utility connections, removing all fuel cell equipment from the site, and leaving equipment pads and associated support structures in place.

Environmental Effects and Mitigation

The fuel cell facility would comply with all applicable DEEP water quality standards. The site is not located within a DEEP-designated Aquifer Protection Area. The proposed fuel cell facility would require approximately 65,000 gallons per day (gpd) of raw water supply and would discharge approximately 32,500 gpd of wastewater. Most of the makeup water would be released as water vapor with the fuel cell exhaust gas. The proposed project would register under DEEP's Miscellaneous Sewer Compatible Discharges general permit.

Air emissions produced during fuel cell operation would be below DEEP applicable limits for a new distributed generator, as shown below. No DEEP air permit is required².

Comparison of the Fuel Cell Facility with RCSA Criteria *		
Compound	Fuel Cell Facility(lbs/MWh)	Emissions standards(lbs/MWh)
NOx	0.01	0.15
CO ₂	980	1,650
	Without waste heat recovery	

* 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 comply with RCSA limits for all greenhouse gas (GHG) emissions. The proposed fuel cell facility is considered to be the best available control technology on a baseload, non-intermittent basis to reduce greenhouse gas emissions from distributed or grid-provided generation resources.

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. Once the media that traps the sulfur is "full" or "spent," it would be removed. The spent desulfurizer media would require such maintenance/replacement no more frequently than annually and more likely less frequently than every two years (depending on the local natural gas sulfur concentration). The spent media has been characterized hazardous per the Resource Conservation and Recovery Act (RCRA) due to the presence of benzene that is also collected from the natural gas. DFC would comply with all applicable rules for hazardous waste per the RCRA and the RCSA. A licensed hazardous waste transporter would pick up the waste and transport it to an approved designated off-site disposal facility.

Generally, the visual impact of the proposed project would be small due to the low profile of the project relative to existing buildings adjacent to the site and the industrial nature of the area. Site lighting would remain on at night for security purposes. Lighting design and lighting fixture selections would be performed per the International Dark Sky Association guidelines to minimize any impacts on nearby properties.

² On page 2 of DEEP's comments dated June 20, 2019, DEEP concurs with DFC that no air permits would be required for the construction or operation of the proposed facility.

All soils would remain onsite; no cuts or fills would be required. No portion of the project area would be located on prime farmland soils. No trees six inches in diameter or greater would be removed for the installation of the proposed facility; the site is open with no existing trees.

Pursuant to CGS Section 22a-430b, DEEP retains final jurisdiction over stormwater management. An application for a General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (General Permit) has not yet been submitted to DEEP. DFC plans to submit this application on or about August-September 2019. A Stormwater Pollution Control Plan would be part of the General Permit application filing as outlined by DEEP for this permit.

The site is located within the Federal Emergency Management Agency-designated Zone AE, an area within the 100-year flood zone. The existing ground elevation at the site ranges between about 19 to 24 feet. The 100-year flood elevation or Base Flood Elevation (BFE) is 25 feet. The 500-year flood elevation is 33.5 feet. The proposed elevation of the TOC would be 30 feet, which is about five feet above the BFE.

The BFE is the national standard used by the National Flood Insurance Program and all federal agencies for the purposes of requiring the purchase of flood insurance and regulating new development. In a Federal Emergency Management Agency (FEMA) document titled, "Designing for Flood Levels Above the BFE After Hurricane Sandy" dated April 2013 (FEMA Flood Design Report), FEMA notes that elevating to the BFE does not provide complete protection against flooding. Storms more severe than the base flood can and do occur. FEMA notes that the American Society of Civil Engineers' Standard for Flood Resistant Design and Construction (ASCE-24) requires zero to three feet of "freeboard" or additional elevation above the BFE, depending on the flood zone and importance of the building.

The TOC would be located about 3.5 feet below the 500-year flood elevation. The proposed facility could potentially be installed to one-foot above the 500-year flood elevation by further elevating support platforms by about 4.5 feet. This would require redesign of the piling system and structural steel for support platforms and would create additional technical and construction challenges. This would have a very significant cost impact on the proposed project, i.e. an incremental cost on the order of \$1.1M to \$2.2M. The Petitioner believes that raising the facility by above the BFE as designated by FEMA would provide a sufficient level of flood protection compliant with FEMA requirements and consistent with prudent utility and industry practices. Council staff notes that the proposed TOC of 30 feet (or five feet above the BFE) would conservatively comply with the FEMA Flood Design Report.

By letter dated March 20, 2019, SHPO noted that the proposed project would not have an adverse impact on historic resources. The proposed facility would be located at least 50 feet away from flagged wetlands and approximately 75 feet from the Housatonic River. Both are located to the west of the proposed facility. Accordingly, erosion and sedimentation controls would be installed per the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control*.

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 proposed fuel cell facility would meet DEEP Noise Control Regulations at the adjacent receptors without any additional sound mitigation measures.

The Project area is within a DEEP Natural Diversity Database (NDDB) buffered area. By letter dated March 5, 2019, DEEP noted that, per review of the NDDB, no negative impacts to state-listed species would be expected to result from the proposed project.

Public Safety

During construction, DFC would use 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.

The fuel cell facility is designed in accordance with American National Standards Institute and Canadian Standards Association (ANSI/CSA) America FC 1-2014 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.

For any event or upset condition that would have a potential safety consequence, the plant control system would initiate an emergency shutdown sequence that would isolate the external fuel source from the plant and trip the fuel cell inverters off the interconnected power grid. The proposed facility would be remotely monitored by FCE on a 24/7 basis, and during such an event, operators would immediately assess the operational condition of the plant and take appropriate actions. An Emergency Response/Safety Plan has been developed by FCE.

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;
2. Prior to the commencement of construction, submission of a copy of a DEEP-approved Stormwater Pollution Control Plan and a DEEP General Permit; and
3. Provide a copy of the Fuel Cell Emergency Response Guide to local emergency responders prior to facility operation, and provide emergency response training, if requested.

Proposed Fuel Cell Location (and predicted noise levels)





June 20, 2019

Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051

RE: 14.0-MW Fuel Cell Facility
Derby Fuel Cell, LLC
Derby, Connecticut
Petition No. 1372

Dear Members of the Connecticut Siting Council:

Staff of this department have reviewed the above-referenced petition for declaratory ruling that no Certificate of Environmental Compatibility and Public Need will be required for the construction of a 14.0-MW fuel cell generating facility at 200 Roosevelt Drive in Derby. A field review of the site was conducted on June 17. Based on these efforts, the following comments are offered to the Council for your use in this proceeding.

The proposed Derby Fuel Cell facility was one of three fuel cell projects selected by DEEP pursuant to a January 31, 2018 *Request for Proposals from Private Developers for Clean Energy*. This RFP solicited proposals for offshore wind, fuel cell and anaerobic digester Class I resources.

Site Description

The project site is a compact parcel bounded by IDA Properties to the southeast, the Housatonic River to the southwest, a United Illuminating substation to the northwest and an access road and industrial canal to the northeast. A fishing access area and parking lot lie on the far side of the UI substation to the northwest.

The host site is level, rising ever so slightly toward the access road, Canal Street, which serves the substation and the fishing access area. Though an employee of the adjacent IDA Company described the parcel as a storage area where parties have stored items with permission from IDA, it does not appear that the owners of the 'stored' items have any intention of ever reclaiming them. The photos in Exhibit A of the Petition do not do justice to the current accumulation of items on the site. A partial inventory of the stored items would include four boats, a paratransit van, two pick-up trucks, a camper, a Dodge Neon subcompact, an equipment trailer, a small utility truck and rolls of fencing. Most of

these items are in advanced states of disrepair and many are well surrounded by vegetation which has grown up around them during their residency in storage. A chain link fence completely surrounds the project site except for an access opening from the IDA property. Vegetation on the site is mostly invasive species dominated by mugwort, Japanese knotweed and tree-of-heaven, with some aspen and black locust around the periphery.

The site is well buffered from the nearest residential areas. Three units at 239, 241 and 243 Roosevelt Drive are the nearest residences, located east of and on the opposite side of Roosevelt Drive and the industrial canal from the site. Other nearby homes are located on the far side of Park Avenue, which runs parallel to Roosevelt Drive one block to the northeast of it.

Along Roosevelt Drive, which is also called Route 34, Yale University's Gilder Boathouse and crew team clubhouse at 280 Roosevelt Drive lie northwest of the Derby Dam fishing access site parking lot, while two additional abandoned industrial properties lie to the southeast of the extensive IDA Company facility. None of these land uses will be impacted by the proposed fuel cell facility.

Air Permits

As mentioned in DEEP's comments on Petition No. 1350, the 19.98-MW EIP Investment Fuel Cell in New Britain, the United States Supreme Court overturned the regulatory requirements for CO2 permits and DEEP subsequently eliminated the invalid CO2 permit requirements from our New Source Review and Title V programs, so this former permit requirement would not be applicable to the proposal at hand.

Though it is not clear what the 'measured emissions factors' cited on page 9 of the Petition refer to, DEEP agrees that the emissions from the five gas-fired start up burners mentioned on page 9 of the Petition are not likely to rise to a level which would trigger any permit requirements. DEEP concurs with the assessment on page 10 that no air permits are required for the construction or operation of this facility.

Potential Hazardous Waste Generation

Fuel cells have the capability to generate various types of wastes, some of which may be subject to regulation as hazardous wastes. Typically such wastes are generated during maintenance activities, such as the replacement of individual fuel cells in an installation, or the replacement of the electrolyte media within a fuel cell. In addition, fuel cells have a limited life, and must be managed in accordance with applicable waste management requirements when they are decommissioned.

The most common type of potentially-hazardous waste routinely generated by fuel cells is associated with desulfurization filters. The sulfur that is added to natural gas as an odorant must be removed from the gas before it is fed into the fuel cells. During the process of filtering out the sulfur, certain other constituents of the natural gas such as benzene are

commonly also removed. When the spent desulfurization filters are drained out or replaced, the resulting materials are typically collected and sent off-site for treatment and disposal. The presence of the benzene or other hazardous constituents can render the resultant waste a hazardous waste. All hazardous waste must be managed in conformance with hazardous waste generator requirements, which vary depending on the amount of hazardous waste that is generated and stored on the site. If the facility will generate 1,000 kg or more of hazardous waste per calendar month or will accumulate 1,000 kg or more of hazardous waste on site at any one time, it is classified as a large quantity generator of hazardous waste in Connecticut.

Fuel Cell Energy is undoubtedly familiar with the notification and disposal requirements for both small quantity and large quantity hazardous waste generators. Information on Connecticut's requirements for notification, storage, and proper disposal is available at:
https://www.ct.gov/deep/cwp/view.asp?a=2718&q=455812&deepNav_GID=1967

Fuel Cell Facility Wastewater

The Petition correctly notes that the fuel cell plant will require registration under the DEEP Miscellaneous Sewer Compatible Discharge General Permit. In addition to coordinating with DEEP, Derby Fuel Cell LLC should also coordinate with the Derby Water Pollution Control Authority. The Derby WPCA would like to know:

- What are the anticipated wastewater characteristics of the discharge? Will any pre-treatment be necessary?
- How will the discharge be cycled and what is the peak flow (the actual backwash rate)? Will it be high enough to require an equalization tank/system?
- Exactly where does Derby Fuel Cell propose to tie into the sewer system? The WPCA would like this information to see if the gravity sewer at that location can handle the proposed peak flow, or whether an upgrade is required.

The Petitioner is requested to contact Edward Abel, Acting Superintendent of the Derby Water Pollution Control Authority, at (203) 673-7128 to provide this information.

Miscellaneous Petition Commentary

Discussion on pages 10 and 11 of the Petition alludes to raising the project site by six feet above existing grade to elevate the site and facility above the 100-year flood elevation. No mention is made either of the existing or new final site grade or how either compares to the 100-year flood elevation. It is also unclear how the project site can be outside of the 500-year floodplain while being within the 100-year floodplain, as stated on page 10.

The statement is made on page 3 of the Petition that "the Project will reduce the electric load that would otherwise be required of the electric grid, thereby reducing stress on the system and reducing loads on overloaded transmission lines". The Council may

Petition No. 1372
Derby Fuel Cell, LLC

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June 20, 2019

wish to get an explanation of what this means. Is this a reference to the facility being within the Southwest Connecticut electrical demand region and therefore closer to load centers than other generation sources? The meaning of the statement is unclear.

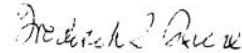
Nowhere in the Petition is it explicitly stated that the access point to the facility will be from the IDA property as opposed to from Canal Street, but the notation for a rolling gate on Drawing C-002 of Exhibit A implies this. Will access from the IDA property be compatible with the existing operation and uses made of that property which supports active manufacturing operations?

Also not mentioned in the Petition is any discussion of the height of the facility including its tallest component, which should incorporate the six feet the site is to be raised above current grade.

Lastly, on page 14 of the Emergency Response/ Safety Plan (Exhibit E of the Petition), the facility is described as employing biodegradable soybean oil as its transformer dielectric fluid. While this is a good choice in terms of minimizing any hazard from a leak or spill event, containment for releases is still required regardless of the type of transformer oil used. Thus, for each transformer, containment equal to 110% of the fluid volume of the transformer must be provided to prevent release of the oil from the site. The transformers are cited as containing up to 253 gallons of dielectric fluid, so containment capacity of up to 278 gallons for the largest transformer must be provided.

Thank you for the opportunity to review this petition and to submit these comments to the Council. Should Council members or Council staff have any questions, please feel free to call me at (860) 424-4110.

Respectfully yours,



Frederick L. Riese
Senior Environmental Analyst

cc: Commissioner Katie Dykes

Appendix C Contractor Contact Information

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