

FuelCell Energy, Inc.

3 Great Pasture Road
Danbury, CT 06810

www.fuelcellenergy.com



July 13, 2021

VIA ELECTRONIC MAIL

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

Re: PETITION OF HOMESTEAD FUEL CELL 1, LLC FOR A
DECLARATORY RULING THAT A CERTIFICATE OF
ENVIRONMENTAL COMPATIBILITY AND PUBLIC NEED IS NOT
REQUIRED FOR THE INSTALLATION OF A NOMINALLY RATED 8.4
MW FUEL CELL FACILITY AT 441 HOMESTEAD AVENUE,
HARTFORD, CONNECTICUT

Dear Executive Director Bachman,

Pursuant to Connecticut General Statutes Section 16-50k(a), Homestead Fuel Cell 1, LLC, a wholly-owned subsidiary of FuelCell Energy, Inc., hereby submits to the Connecticut Siting Council ("Council") a petition ("Petition") for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is necessary for the installation of a nominally rated 8.4MW fuel cell facility, a 23kV interconnection, and associated equipment (collectively, the "Project") on a 64,040 square foot leased portion of an approximately 80,000 square foot lot located in the City of Hartford. The address of the Project is 441 Homestead Avenue, Hartford, Connecticut (the "Property").

Should the Council require any additional material for the review of this Petition or have any questions regarding the Petition, please do not hesitate to contact me.

Respectfully,

FUELCELL ENERGY, INC.

A handwritten signature in blue ink that reads "Sam Volet".

Samuel R. Volet
Associate Counsel

svolet@fce.com
(860) 496-2228

**STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL**

IN RE: PETITION OF HOMESTEAD FUEL : PETITION NO.
CELL 1, LLC FOR A DECLARATORY RULING :
THAT A CERTIFICATE OF ENVIRONMENTAL:
COMPATIBILITY AND PUBLIC NEED IS NOT :
REQUIRED FOR THE INSTALLATION OF A :
NOMINALLY RATED 8.4 MW FUEL CELL :
FACILITY AT 441 HOMESTEAD AVENUE, : July 13, 2021
HARTFORD, CONNECTICUT

**PETITION FOR DECLARATORY RULING OF
HOMESTEAD FUEL CELL 1, LLC**

I. INTRODUCTION

Pursuant to Connecticut General Statutes (“Conn. Gen. Stat.”) Section 16-50k, Homestead Fuel Cell 1, LLC (“HFC1”), a wholly-owned subsidiary of FuelCell Energy, Inc. (“FCE”), hereby petitions the Connecticut Siting Council (the “Council”) for a declaratory ruling (“Petition”) that a Certificate of Environmental Compatibility and Public Need (“Certificate”) is not required for the installation of a nominally rated 8.4 megawatt (“MW”) fuel cell power generating facility, including all associated equipment and related site improvements located at 441 Homestead Avenue, Hartford, Connecticut, as described herein (collectively, the “Project”).

Conn. Gen. Stat. Section 16-50k(a) provides, in pertinent part:

Notwithstanding the provisions of this chapter or title 16a, the council shall, in the exercise of its jurisdictions over the siting of generating facilities, approve by declaratory ruling . . . the construction or location of any fuel cell unless the council finds a substantial adverse environmental effect

HFC1 respectfully submits that the construction and operation of the proposed Project satisfies the criteria of Conn. Gen. Stat. Section 16-50k(a) and, as described in more detail below, will not have a substantial adverse environmental effect. Accordingly, this Petition for a Declaratory Ruling should be approved by the Council.

II. PROJECT BACKGROUND / THE PETITIONER

HFC1 is a wholly-owned special purpose subsidiary of FCE created for the financing and development purposes of this Project. FCE is a Delaware corporation with a principal place of business at 3 Great Pasture Road, Danbury, Connecticut. Over the past 51 years FCE, together with its subsidiaries, has designed, manufactured, sold, installed, operated, and serviced fuel cells, thereby, becoming a global leader in the delivery of efficient and affordable fuel cell solutions. FCE's fuel cell systems are catered to meet the needs of customers across several industries including universities (e.g., Central Connecticut State University, the University of Bridgeport, the University of California at San Diego, and San Francisco State University, among others), hospitals (such as Hartford Hospital and UC Irvine Medical Center), municipalities, and a variety of industrial and commercial enterprises (e.g., Pepperidge Farm Bakery and Pfizer).

Pursuant to the award of the Project by DEEP, HFC1 has entered into a long-term (20 years) power purchase agreement with Eversource Energy and The United Illuminating Company (each, a "PPA") whereby HFC1 will design, install, own and operate three (3) of FCE's SureSource 3000 fuel cell power plants nominally rated at 2.8 MW each, with a total nominal Project capacity of 8.4 MW. FCE will be responsible for the construction and long-term service of the Project under a contract with HFC1 for the term of the PPAs. HFC1 has entered into a lease agreement with Talar Properties, LLC, a Connecticut limited liability company ("TP"),¹ pursuant to which HFC1 shall rent from TP an approximately 64,040 square foot portion (the

¹ HFC1 has informed TP of its intentions to file this Petition and build the Project.

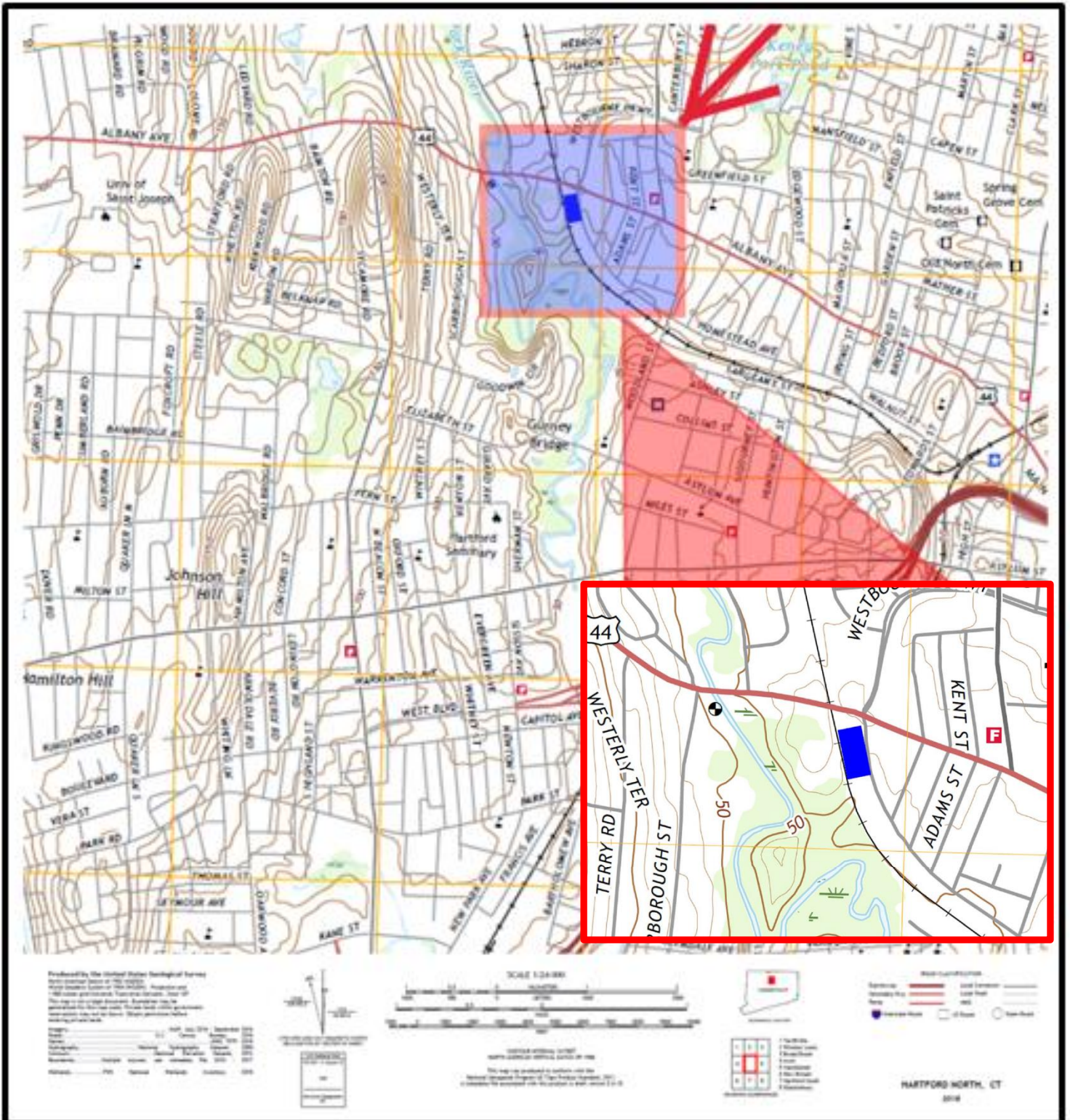
“Site”) of TP’s approximately 80,000 square foot property at 441 Homestead Avenue, Hartford, Connecticut (the “Property”). The Property is located in a mixed commercial industrial section of Hartford and is bound by (1) Albany Avenue and a car wash business to the north; (2) an Amtrak railroad corridor and substation to the west; (3) Homestead Avenue to the east; and (4) a battery vendor business to the south (Interstate Batteries). See Figure 1A (Area Map of Project).

Figure 1A (Aerial Area Map)



Aerial map of proposed Project area and approximation of three fuel cell systems.

Figure 1B (Topographic Map)



A Full version of the topographic map above is provided as part of **Exhibit A**.

On April 2, 2018, FCE submitted the Project into the Request for Proposal offered by the Connecticut Department of Energy and Environmental Protection (“DEEP”) 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* (the “RFP”). The project was selected by DEEP on or around June 13, 2018. Given that the Project is a grid-side resource (*i.e.*, not behind-the-meter), the Project is not eligible to be bid into the LREC/ZREC program. Pursuant to Section 2.2.2 of the DEEP RFP, “Eligible Projects cannot receive Connecticut ratepayer-funded incentives or subsidies or any other contract to sell products produced by the project to a Connecticut EDC, including but not limited to net metering, pursuant to Conn. Gen. Stat. Section 16-243h, virtual net metering, pursuant to Conn. Gen. Stat. Section 16-244u, or LREC/ZREC pursuant to Conn. Gen. Stat. Sections 16-244r and 16-244t or any successor programs.”

Any correspondence and/or communications regarding this Petition should be addressed to:

Larry Hoffman P.E.,
PMP, CEM
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A copy of all such correspondence or communications should also be sent to the HFC1’s attorneys:

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III. FACTUAL BACKGROUND

A. Project Benefits

The Project will provide the state's electrical system with additional generating capacity that will meet demand using renewable energy, upgrade grid infrastructure, contribute to grid stability and foster the redevelopment and reuse of an underutilized property. The State of Connecticut has articulated its energy goals in the Comprehensive Energy Strategy ("CES") as encouraging the provision of cheap, clean, reliable electricity, fostering the development of microgrids and promoting economic development and job growth. As a distributed, baseload source of electricity, the Project will reduce the electric load that would otherwise be required of the electric grid, thereby reducing stress on the system and reducing load on overloaded transmission lines. The fuel cell power plants will be manufactured in Connecticut, and installed and operated by FCE on behalf of HFC1. Thus, the Project satisfies the articulated goals of the CES.

B. Project

FCE will construct and operate the Project to be located at the Site in the City of Hartford, Connecticut. Upon the Council’s approval, the twelve (12) month construction period is expected to begin in the fourth quarter of 2021, and commercial operation of the facility will be expected to commence by the third quarter of 2022. The typical construction work hours and days of the week will be 7:00 a.m. to 5:00 p.m., Monday through Friday. Construction will typically not occur on Saturday and Sunday, however, when necessary, such work will occur between 9:00 a.m. to 5:00 p.m.

The operational design life of the facility is 20 years. The fuel cell module itself must be replaced every five to seven years. The service life of other media (*i.e.*, catalysts/chemicals) utilized by the fuel cell are listed below:

| Item | Service Life* |
|---|---|
| <i>Fuel Preparation</i> | |
| Sulfur Sorbent | 6-24 months** |
| Pre-converter Catalyst | 60 months |
| <i>Water Treatment</i> | |
| Anti Scalant | Dependent on water supply water quality |
| RO Membranes | 18 months |
| Dechlorination Chemical | Replenished at 6 months |
| <i>Electrical Balance of Plant</i> | |
| Chiller Glycol | 18 months |
| <u>Additional Notes:</u> | |
| * Service life is based on typical site conditions. Actual service life will vary with site conditions and fuel, water and air quality. | |
| ** At 100% capacity; dependent on type of odorant in natural gas. | |

The Project will be installed on an approximately 360 foot by 180 foot area. The Project will be enclosed on three sides by an approximately eight foot-high chain link fence; and the front area abutting Homestead Avenue will include a form of decorative fencing/treatment along

with landscaping (details to be determined in coordination with the City of Hartford). Each of the three fuel cell systems will be installed on a concrete foundation approximately one foot above finished grade. The individual vertical exhaust stack of a SureSource 3000 fuel cell unit, the highest feature of the fuel cell system, will be approximately 32 feet above the top of the concrete pad. There will be a total of three stacks, *i.e.*, one per fuel cell unit. The facility will have a stone maintenance access area directly in front of the fuel cell pads accessible from Homestead Avenue. See **Exhibit A** for a preliminary project drawing and Site photographs. Please note that the Site Plan included in **Exhibit A** provides sufficient space for a fourth 2.8MW fuel cell system. While HFC1 currently has no immediate plan to install a fourth system, HFC1 wishes to advise the Council that HFC1 bid into the recent SCEF Year 2 RFP for such a project and, if selected, HFC1 will submit an amendment to this Petition to the Council for the planned installation of a fourth separately metered (and entirely separate fuel cell system as permitted under the SCEF Rules).

The Project will include three natural gas-fueled SureSource power plants manufactured by FCE and is nominally rated to generate up to 8.4 MW of Connecticut Class I renewable energy that will be exported to the utility grid. The proposed facility will be a “grid-side distributed resources” facility pursuant to Conn. Gen. Stat. Section 16-1. The Project’s interconnection is required to be reviewed by ISO-NE and pursuant to the ISO-NE planning procedure PP5-1, FCE must submit a completed generator notification form to ISO-NE’s reliability committee.

Each of the three fuel cell plants will consist of three (3) major subsystems: (i) the mechanical balance of plant (“MBOP”); (ii) the electrical balance of plant (“EBOP”); and (iii) the fuel cell modules. Each MBOP is comprised of three separate components; the

desulfurization system, the main process skid, and the water treatment system skid. The MBOP supplies fresh air, cleans and heats fuel and water, and includes the power plant control system. Each EBOP is comprised of five components: two power conditioning units, two transformers, and one switchgear for grid connection. The EBOP converts the fuel cell DC power into utility grade AC power. Each SureSource 3000² power plant consists of two SureSource modules. Each SureSource module performs the electrochemical conversion of the continuous fuel supply into DC electric power. Each SureSource module contains four fuel cell stacks. Each stack contains the assembly of electrochemical cells that produce DC power. Resembling a large battery, each of the four (4) stacks is constructed of approximately 400 individual fuel cells clamped together with manifolds inside an insulated container.

With regard to the proposed facility's connection to the Northwest Hartford Substation, there will be an underground connection to the existing 23 kV distribution system running next to the facility and leading to the substation. A feasibility study was conducted by Eversource and completed in December of 2018. That study confirmed that the Northwest Hartford Substation could accommodate the generation of the fuel cell plant with minor upgrades. However, that study has since expired, and HFC1 has requested a new application for an updated feasibility study and likely an associated System Impact Study. The facility is under contract for 7.4 MW under the PPAs, but the facility is capable of producing up to 8.4 MW, however under the terms of the PPAs, any excess power delivered to the utilities will be provided with the prevailing wholesale power rate.³

² A specification sheet for the SureSource 3000 fuel cell is attached hereto as **Exhibit B**.

⁴ The electro-chemical process used by the fuel cells to convert hydrogen and oxygen to electricity, heat and water is sensitive to humidity. During normal operation, natural gas is humidified using purified potable water. At the elevated temperatures at which the fuel cells normally operate, such humidity is not a problem. However, during a shutdown, if the humid mixture begins to cool and condense, it could negatively impact the expected life and

With regard to the proposed facility's energy output: the United Illuminating Company will purchase 19.62% of the facility electrical output; and the remaining 80.38% will be sold to Eversource Energy. Any associated Renewable Energy Credits ("RECs") will be sold with the electrical energy and therefore are transferred to the utilities in the same percentages.

Concerning the proposed facility's microgrid capability, at this time, HFC1 has not anticipated using the proposed facility as part of a microgrid. However, all FCE fuel cell plants are "microgrid capable," meaning they can be part of a microgrid if the surrounding microgrid infrastructure is established in the future.

With regard to the proposed facility's proposed back-up capabilities, pursuant to the applicable utility interconnection rules, the fuel cell must disconnect itself from the utility grid and return as guided by IEEE 1547 for Smart Inverter guidelines. With respect to the proposed facility's combined heat and power adaptability, the waste heat from the fuel cell is not intended to be utilized for any use, however, waste heat will be available for potential off-takers as the Homestead area becomes more revitalized and develops a higher thermal energy demand.

The decommissioning plan for the proposed facility, upon the expiration of the PPAs (including any extension(s) thereof) will be as follows: (a) all utility connections will be cut and capped; (b) all fuel cell equipment will be removed from the Site; and (c) equipment pads and associated support structures will remain as-is.

C. Municipal Input

Representatives of FCE met with officials from the City of Hartford, including Mayor

performance of the fuel cells. Similarly, natural humidity associated with the atmosphere could negatively impact the fuel cells. In an upset condition or during storage, nitrogen is used to purge the fuel cell modules of all humidified natural gas and prevent ambient air intrusion. The nitrogen is used in the gaseous form, but stored in the liquid form for ease of transport and to minimize storage space.

Luke Bronin, on April 1st to discuss the Project. Based on the discussions with the City, the City is generally supportive of the planning of the Project and reutilization of the brownfield underlying the Project.

It is also important to note that FCE has previously developed, installed, and operated two separate fuel cell systems in the City of Hartford at Trinity College and at Hartford Hospital. Both of these projects were approved by the Council. *See Petition Nos. 1317* (Trinity College) (Approved, September 15, 2017); and *Petition No. 1067* (Hartford Hospital) (Approved, July 25, 2013).

D. Notice of Petition

A notice of this Petition has been sent (return receipt requested) to each person that owns the property that abuts the Property (all set forth on **Exhibit C-1**) and all relevant Connecticut state agencies, local authorities, the Attorney General, regional planning agencies, legislators representing the City of Hartford and representatives of the City of Hartford (all as set forth on **Exhibit C-2**).

Additionally, given that the Town of West Hartford, which is closer than any other municipality to the Property, is approximately 3,000 feet to the west, Hartford is the only municipality that requires a copy of this Petition under Conn. Gen. Stat. 16-50(b).

IV. THE INSTALLATION WILL NOT HAVE A SUBSTANTIAL ADVERSE ENVIRONMENTAL EFFECT

The Project will provide up to 8.4 MW of clean electrical energy without the environmental impacts normally associated with the use of natural gas as a fuel.

A. Materials Storage

Liquid nitrogen will be stored on Site to protect the fuel cells from damage from air and humidity ingress when the fuel cells are switched off-line and not in operation. Nitrogen is not used as part of normal fuel cell operation.⁴

Approximately 11,356 liters (3,000 gallons) of liquid nitrogen will be stored at the Site. This volume of liquid nitrogen is equivalent to approximately 20,200 lbs. Under Section 312 of the Emergency Planning and Community Right-to-know Act (EPCRA), site owners of facilities that store on site quantities of certain materials over the respective Threshold Planning Quantity (“TPQ”) for such materials (generally 10,000 lbs), must report (i.e., the Tier II Report) an inventory of such chemicals stored on site for the previous calendar year to (1) the State Emergency Response Commission (“SERC”), (2) the Local Emergency Planning Committee (“LEPC”), and (3) the local fire department, by March 1 of each year. Under Section 311 of EPCRA, prior to the initial storage of such materials on site in excess of its TPQ, facility owners are also required to notify the SERC, LEPC, and local fire department and to provide a Safety Data Sheet for such chemical. Although nitrogen is a non-toxic gas that will be stored on Site as a cryogenic liquid, it is classified by the Department of Transportation as a Division 2.2 (non-flammable gas) hazardous material. As such, an initial EPCRA Section 311 notification and annual Tier II reports will be filed with DEEP (the SERC), the Hartford (the LEPC), and the

⁴ The electro-chemical process used by the fuel cells to convert hydrogen and oxygen to electricity, heat and water is sensitive to humidity. During normal operation, natural gas is humidified using purified potable water. At the elevated temperatures at which the fuel cells normally operate, such humidity is not a problem. However, during a shutdown, if the humid mixture begins to cool and condense, it could negatively impact the expected life and performance of the fuel cells. Similarly, natural humidity associated with the atmosphere could negatively impact the fuel cells. In an upset condition or during storage, nitrogen is used to purge the fuel cell modules of all humidified natural gas and prevent ambient air intrusion. The nitrogen is used in the gaseous form, but stored in the liquid form for ease of transport and to minimize storage space.

Hartford Fire Department (the local fire department), thus satisfying HFC1's Section 311 reporting requirements in connection with this Site.

B. Sound Considerations

The Project has been designed with significant attention to protecting the community sound environment. The core of the fuel cell technology (*i.e.*, the SureSource module) will produce no significant sound. Ancillary equipment associated with the Project includes a blower that will pump fresh air through a silencer into the main process skid. An air conditioning unit, which is similar to many used in residential applications, will be located above the water treatment cabinet to support equipment inside the cabinet and will produce sound only when the fan is actively providing cooling for the system. Relatively small transformers and electrical buses and inverters, as well as fans providing ventilation to some of the equipment, will produce modest sound. Under normal conditions, these few acoustic sources will produce consistent sound throughout the day and night.

The acoustic levels associated with the Project were estimated at community receptors per the Regulations of Connecticut State Agencies ("RCSA") Section 22a-69-1 *et seq.* The Site is on an unutilized former industrial property in an area of existing commercial and industrial use on Homestead Avenue, which is a thoroughfare with a high volume of traffic.

Parcels along Homestead Avenue support manufacturing, industrial, and commercial applications, so there is already a fair amount of ambient noise being emitted proximal to the Site. A study was performed to identify the noise levels at the adjacent receptors and is attached as **Exhibit D**. The results of the analytical predictions are provided in the table below:

Table 1

| Receptor | Distance (ft) | Project Sound (dBA) | Criterion (dBA) | Comply? |
|--------------------|---------------|---------------------|-----------------|---------|
| Residential, SE | 400 | 46 | 61/51 | Yes |
| Industrial, South | 70 | 59 | 70 | Yes |
| Open Space, SW | 200 | 51 | 66 | Yes |
| Industrial, West | 150 | 54 | 70 | Yes |
| Residential, West | 1100 | 37 | 61/51 | Yes |
| Open Space, NW | 240 | 51 | 66 | Yes |
| Industrial, North | 160 | 55 | 70 | Yes |
| Commercial, North | 240 | 51 | 66 | Yes |
| Residential, North | 660 | 41 | 61/51 | Yes |
| Commercial, North | 450 | 44 | 66 | Yes |
| Residential, NE | 550 | 43 | 61/51 | Yes |
| Commercial, East | 150 | 54 | 66 | Yes |
| Residential, East | 460 | 45 | 61/51 | Yes |

As shown in Table 1 above, the sound modeling indicates that the Project can be operated at the Site within applicable noise performance criteria. *See* Facility Sound Assessment attached as **Exhibit D**. Additionally, the Project’s predicted sound modelling during operation meets or is less than Hartford’s required City ordinance levels for industrial zones.⁵ Therefore, based on the foregoing, the Project will have no material noise impact on the surrounding area.

C. Traffic; Public Health and Safety; Hazardous Materials; Existing Site Contamination

(i) Traffic. The Project will be located at the Site as depicted in Figure 1A above. The roadways in the area are adequate for all deliveries to support the construction and operation of the Project. The Site is accessible from Homestead Avenue.

⁵ *See* Hartford Municipal Code Section 23-1, (stating that, “Industrial zone shall mean the CX Commercial-Industrial Mix”). *See also*, Hartford Municipal Code Section 23-3(b) (stating that “Receptor's zone - Maximum level: Industrial 70 dBA; Commercial 66 dBA; Residential/day 61 dBA; and Residential/night 51 dBA”).

During installation, the average crew size is anticipated to maintain between ten to fifteen contractors. There is adequate laydown and parking on the facility to accommodate all personal vehicles. Heavy equipment will be brought on Site over a two-day period associated with each fuel cell plant delivery totaling roughly 15 trucks and one 250T road worthy hydraulic crane. During such events the local police department will be notified and on Site traffic control will be employed to minimize any impact to typical traffic patterns. Staging of all equipment and trucks will occur on Site and not impact natural traffic flows. The impact to local residents and commuters will be minimal to unnoticeable throughout the construction cycle. The limited number of on Site crew and truck trips necessary to support the installation of the Project will not have any adverse impacts on local roadways or traffic conditions.

During operation, personnel trips will be insignificant, as the Site will be unmanned and only visited periodically by technicians.

(ii) Public Health and Safety. Prior to operation, FCE will discuss the Project with the City of Hartford's Fire Department. Additionally, as part of the building permit application review process, the City of Hartford's Fire Department will review the Project. During this review, FCE intends to provide on-site training to local emergency responders, if requested. In addition, in accordance with the Council's Final Decision in Docket NT-2010, HFC1 is attaching an Emergency Response Plan ("ERP") for the Council's review. *See* ERP attached as **Exhibit E**.

The ERP includes the following information:

- A description of any simulated emergency response activities with any state and/or local emergency response officials;
- Details of any facility Site access system; and
- Establishment of an emergency responder/local community notification system for on- Site emergencies and planned construction-related activities that could cause

community alarm.

All other requirements of the NT-2010 Decision will be adhered to.

Project design has begun, and the drawings attached as **Exhibit A** represent preliminary drawings depicting the Site installation.

In addition to National Fire Protection Association (“NFPA”) 853, the basic product certification standard for fuel cells is ANSI/CSA FC 1-2014, Fuel cell technologies—Part 3-100: Stationary fuel cell power systems—Safety. The SureSource 3000 fuel cell plant is certified to the FC 1 standard. This standard incorporates dozens of normative references to other codes and standards, including from such standard issuing organizations as NEMA, ASME, ASTM, NFPA and UL. The SureSource 3000 plant complies with the applicable provisions of mechanical, piping, fire protection, safety and electric codes.

With regard to the proposed facility’s maintenance and pipe cleaning procedures in connection with Public Act 11-101, a clean rag will be drawn through the pipe multiple times to ensure there is no construction debris or foreign matter remaining in the pipe. Compressed air will then be used to blow out any remaining dust. All fuel pipe-cleaning operations will be conducted in accordance with Public Act 11-101 and Connecticut Siting Council Docket NT-2010.

(iii) **Existing Site Contamination**. With regard to the contaminated materials underlying the Property, records indicate that the Site has been developed since 1934 and has had a documented use as a commercial property, most notably automobile garages and a dry-cleaning service. In February of 2019, a Phase I Environmental Site Assessment (“ESA”) determined that the Site appeared to meet the definition of an “Establishment” as such term is defined under Conn. Gen. Stat. Section 22a-134 *et seq.* In March of 2019, a Phase II determined that

contaminant releases had occurred at Areas of Concern (AOCs) identified in previous Phase I ESA. Big East Environmental, LLC (“BEE”) completed a Phase III investigation on December 16, 2020; targeting the area of future site development where a previous Phase II ESA identified contaminant releases. BEE completed its Phase III ESA on January of 2021, which aimed to keep the planned development activities in compliance with DEEP’s Remediation Standard Regulations (“RSRs”). On January 19, 2021, BEE completed a Remedial Action Plan (“RAP”) for the Site. The RAP includes remediation of soil and groundwater. The proposed remedial activities include relocation of impacted soils under proposed site structures to render these soils inaccessible or environmentally isolated. Ongoing in-situ soil and groundwater remediation will continue at the Site, as needed, to fully address soil and groundwater in accordance with DEEP’s RSRs. Additionally, the Project has been designed to be an engineered cap in compliance with Connecticut’s RSRs under the RCSAs Sections 22a-133k-1-3. This activity will not impact the development of the Project.

D. Scenic Values

The proposed Project will have little impact on the visual character of the community. Generally, the potential visual impact is inherently small due to the low profile of the Project in the context of the existing buildings adjacent to the Site and the industrial nature of the area in which the Project will be situated.⁶ The closest residential property and structure is more than 300 feet to the southwest (see **Exhibit A**). The Site is bordered on the northwest and west by an

⁶ The Property is located within a CX-1 zoned district under Hartford’s zoning regulations meaning it is zoned for as commercial industrial mix district. A CX-1 district is “intended to allow an innovative mix of office, residential, and low intensity industrial uses, along with supporting retail and service uses.” Hartford, Conn., Zoning Regulations, Table 2.2.-A, Table of Districts (January, 2016, Amended June, 2020).

Amtrak railroad line and heavy electrical equipment as part of a substation to the west slightly beyond the railroad tracks; views from this side will be somewhat obstructed by an existing tree line between the railroad tracks and the Property. Views from the south will be obstructed by an existing commercial store (an automotive battery vendor). The Site is bordered on the east by Homestead Avenue and some commercial shops including AutoZone; and FCE is working with the City with regard to the Site's street-facing aesthetic concerns, which may include the installation of greenspace, fencing, tree cover, or other landscaping (as the City and FCE will mutually agree upon). The Site is bordered on the north and northeast by another existing commercial store (car wash).

Figure 2A (View from East of Site)



View from east of current site conditions. The substation can be seen behind the Property to the west.

Site lighting will remain on at night for security purposes. Lighting design and lighting fixture selection will be completed per International Dark Sky Association guidelines to minimize any impact to nearby properties. Minimum or no impact is anticipated since the area already has local lighting on during nighttime.

Figure 2B (View from Southeast of Site)



An aerial and street view showing the Site’s current condition and renderings showing the condition after the Project has been finished are provided as part of **Exhibit A**.

E. Historical Values

A request was made with the Connecticut State Historic Preservation Office (“SHPO”) regarding the Project’s effect on historic, architectural or archaeological resources listed on or eligible for the National Register of Historic Places. In response, the SHPO indicated that the Project will have no adverse effects on the State’s historic, architectural or archaeological resources. *See* Correspondence attached as **Exhibit F**.

F. Air Quality

Air emissions from the fuel cell associated with the Project, assuming continuous year-round full power operation, are conservatively expected to be as follows:

Table 2

| Pollutant | Total Potential Emissions (tpy) |
|---|--|
| Oxides of Nitrogen (“NO _x ”) | 0.2 |
| Oxides of Sulfur (“SO _x ”) | 0.004 |
| Particulate Matter (“PM”) | 0.0007 |
| Carbon Monoxide (“CO”) | 0.4 |
| Volatile Organic Compounds (“VOC”) | 0.7 |
| Carbon Dioxide (“CO ₂ ”) | 36,000 |
| *Emissions data based on 8.4 MW capacity. | |

The below table lists the RCSA greenhouse gas permitting thresholds, as well as projected potential emissions, based on 8,760 hours per year of full power operation from the three natural gas-fueled SureSource power plants. Although these three plants will not include waste heat recovery, the tpy of CO₂e and GHG will not be affected if heat recovery was included.

Table 3

| Greenhouse Gas | State of CT Criteria Thresholds for GAGs (applicability requires both thresholds be exceeded) | | Facility Projected Emissions | (3 units with no waste heat recovery) |
|---|--|------------|------------------------------|---------------------------------------|
| | (tpy, equivalent to 100,000 tpy CO ₂ e) | (tpy GHG) | (tpy CO ₂ e) | (tpy GHG) |
| Carbon Dioxide (CO ₂) (GWP=1) | 100,000 | 100 | 36,000 | 36,000 |
| Methane (CH ₄) (GWP=23) | 4,348 | 100 | 644 | 28 |
| Nitrous Oxide (N ₂ O) (GWP=296) | 337 | 100 | 0 | 0 |
| Sulfur Hexafluoride (SF ₆) (GWP=22,200) | 4.5 | 100 | 0 | 0 |
| Any Hydrofluorocarbon (HFC) (GWP varies) | Varies (8-8,333) | 100 | 0 | 0 |
| Any Perfluorocarbon (PFC) (GWP varies) | Varies (4.5–18) | 100 | 0 | 0 |
| Total CO₂e & GHG | 100,000 | 100 | 36,644 | 36,028 |
| *Emissions data based on 8.4 MW capacity. | | | | |

In addition to the emissions from the fuel cell power plants, there will also be minor

emissions associated with the three (3) 10 MMBtu/hour gas-fired startup burners that will be included with the fuel cell power plants. The burners are used only intermittently to heat up each fuel cell to its required operating temperature.⁷ The criteria pollutant potential emissions from the plant (assuming maximum burner heat output and 8,760 hours of operation) that are associated with each burner are less than 15 tpy using measured emissions factors.

With regard to methane emissions specifically, the methane is normally completely converted to hydrogen by the reforming reaction within the fuel cell stacks, but any remaining unconverted methane (for example at low power conditions) is destroyed by a subsequent catalytic oxidation reactor in the fuel cell process. Between the reforming and oxidation processes, virtually all of the methane is destroyed, although trace amounts may survive and be present in the exhaust at very low levels (parts per million).

Total emissions from the proposed Project will be below levels that will render the Project a “major stationary source” as defined at RCSA Section 22a-174-1(63). The Project’s maximum emissions will operate well below the serious non-attainment area thresholds for VOC and NO_x. Thus, the Project will be a minor source and is not subject to Federal Non-Attainment New Source Review (“NSR”). Also, there is no requirement for emission offsets for this Project as it will be below the non-attainment NSR major source thresholds.

A Permit to Construct and Operate Stationary Sources is not required for the Project because the potential emissions of any individual air pollutant from each emission unit are less than 15 tpy; the source is not a new major stationary source; and, the source is not a new major source of hazardous air pollutants. The Project is also not subject to the DEEP’s “permit by

⁷ These burners will have a negligible noise impact and do not materially add to the overall dBA output of the Project.

rules” because the potential emissions from the fuel cell are less than 15 tpy. Thus, there are no registrations or applications required to be submitted to the DEEP; nor are there anticipated to be any approvals from the DEEP Air Bureau required prior to the construction and operation of the Project. The potential greenhouse gas emissions from the Project will be well below the 75,000 tpy trigger established by the EPA Tailoring Rule, and will not trigger a requirement for an air permit.

Electrical energy generated by the Project will generate 980 lbs/MWh of CO₂, as compared to the average CO₂ footprint of utility grid power, which is 1,501 lbs CO₂ per MWh (EPA EGRID 2016 (February 2018) US, non-baseload). Consequently, the Project will generate 521 lbs/MWh less CO₂—or approximately 19,169 fewer tons per year—than utility grid power.⁸

The fuel cell stacks that generate the electric power can be fouled by the sulfur odorant compounds (primarily mercaptans and/or sulfides) that the gas utility company injects into the natural gas. Accordingly, the fuel cell plant incorporates a desulfurization process that consists of two flow-through vessels configured in series filled with a specialized, proprietary desulfurization adsorption media. The sulfur removal mechanism is a physical adsorption or chemisorption process wherein the sulfur atoms are captured by the granular solid media without the release (production) of any other chemical species. In the process of removing the sulfur compounds from the gas, the capacity of the media for continued sulfur removal is diminished up until the point when it becomes exhausted and, if the media is not changed, sulfur break-through will occur. At this point, the media is deemed to be “spent.” When the spent media in the lead desulfurizer vessel needs to be replaced, the fuel gas process flow is switched to the lag vessel only so that the spent media can then be removed from the off-line vessel and replaced with fresh

⁸ Data based on 8.4 MW capacity.

media.⁹ Prior to accessing the spent media, the vessel is inerted with nitrogen to allow safe access into the vessel. During this inertion process, a small volume of natural gas is vented to atmosphere. After media replacement and once the vessel containing the fresh media has been inerted and purged into service, it then serves as the second (polishing) desulfurizer vessel in the process flow service. The spent solid waste media removed from the process has, at times, been characterized at similar locations to be Resource Conservation and Recovery Act (RCRA) hazardous by toxicity characteristic for benzene (D018).

The benzene, present in the natural gas in very low parts per million concentrations or less, is co-adsorbed onto the media along with the target sulfur compounds. The total waste generation quantity (media plus adsorbed sulfur compounds) during any single desulfurizer media replacement event is less than 2,000 pounds (900 kg) and previous operating experience throughout Connecticut suggests that desulfurizer maintenance events for any single fuel cell plant will be no more frequent than annually, and more likely less frequent than every two years (it varies, depending on the actual sulfur concentration in the gas locally).

The scheduling for media replacements for multiple fuel cell plants can be arranged such that no two plants are serviced in any single month, so the monthly waste generation rate is within the range for generators that operate under Small Quantity Generator rules. HFC1, as plant owner/operator, will comply with all rules for hazardous waste generators as promulgated through the regulations at RCRA Section 22a-449(c). The waste generated when removing the spent desulfurizer media from the process is managed by immediately containerizing and transporting the waste off-site to a licensed disposal facility. Waste will not be treated, stored or

⁹ The sulfur sorbent media replacement maintenance occurs every 6-24 months dependent mainly on the type of odorant used in the natural gas.

disposed of at the Site. The containerized waste is shipped off-site under a Uniform Hazardous Waste Manifest under the generator's EPA RCRA identification number (when applicable). A licensed hazardous waste transporter under contract to FCE, as service provider for the fuel cell project (*e.g.*, Clean Harbors, Triumvirate, Miller Environmental, etc.), will be contracted to pick up the waste and transport it to an approved designated disposal facility. The licensed waste destination facility will be determined at the time of contracting the waste contractor firm.

G. Prime Farmland and Core Forest Resources

The Project is not located on prime farmland soils, statewide important farmland soils, nor core forest. Therefore, the Project will have no impact on these important state resources.

H. Flood Zones

According to FEMA's flood mapping, the Site is designated as Zone X (minimal flood zone), which means it is not located within a 500-year floodplain nor a 100-year floodplain. A FEMA flood map showing the proposed facility's flood zone information is attached hereto as **Exhibit G**. Therefore, the Project will not be impacted by designated 100 year nor 500 year flood concerns.

I. Wetlands

There are no wetland features or hydric soils at or near the Site. The nearest wetland to the Site is over 300 feet away to the southeast across the railroad corridor. Additionally, the Project Site is sufficiently set back from wetland resources and therefore, no direct impacts are expected to occur. Regardless, the Project will implement proper sedimentation and erosion controls, which will be designed, installed and maintained during construction activities in

accordance with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control. In addition, the Project will be designed such that stormwater generated by the proposed development will be properly handled and treated in accordance with the 2004 Connecticut Stormwater Quality Manual. Implementation of these management techniques will result in the Project having no adverse impact to wetland resources. Therefore, the Project will not impact wetland resources.

J. Water Quality

The Project will require a DEEP general permit construction stormwater pollution prevention plan as the Site is over one (1) acre.¹⁰ However, neither groundwater in the Site vicinity nor nearby surface water bodies will be impacted by the installation and operation of the Project. Limited excavation of soils will be required for installation of the Project¹¹ and no wastewaters will be discharged on-site. To the extent necessary, the small number of personnel periodically operating and/or maintaining the Project will use off site sanitary facilities. As the Site will be unmanned, no sanitary facilities will be installed on site as part of this Project.

The fuel cells to be installed as part of this Project (*i.e.*, the SureSource 3000 power plants) will require approximately 39,000 gallons per day (“gpd”) of raw water and will discharge approximately 19,500 gpd of wastewater. Most of the makeup water will be released as water vapor with the fuel cell exhaust gas. Water will be obtained from a new water line installed from the Metropolitan District; and the wastewater will also be discharged to the

¹⁰ Application for General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities (General Permit) have not yet been submitted to DEEP. It is planned to be submitted by HFC1’s contractor one month or more prior to construction activities. A Stormwater Pollution Control plan will be part of the General application filing as outlined by the DEEP requirements for this permit.

¹¹ All soils will remain onsite and no cuts or fill will be required.

Metropolitan District. The Project will register under the DEEP's Miscellaneous Industrial Users General Permit. In short, adequate water supply and infrastructure are available to supply the Project, and no substantial adverse environmental effect will occur from the Project's water use and wastewater disposal.

K. Fish and Wildlife

A request was made with the DEEP for a review of the Natural Diversity Data Base ("NDDB") Map. In response, the DEEP indicated that the Project will not impact any extant populations of Federal or State Endangered, Threatened or Special Concern Species that occur in the vicinity of the Property. *See* NDDB Correspondence attached as **Exhibit H**. The proposed facility is not within a DEEP designated Aquifer Protection Area. Given that the Site is open with no existing trees, no trees six inches in diameter or greater will be removed for installation of the proposed facility.

L. FAA Determinations

The maximum height clearance for the proposed facility will be significantly lower than the 153-foot high cell tower and associated antennae that is also located on the Property, which tower was approved by the Council in Docket No. 126 on April 9, 1990. *See* Docket No. 126, Findings of Fact, page 6 (April 9, 1990).

The nearest airports to the proposed facility are the Hartford–Brainard Airport (~3.8 miles), and Rentschler Heliport (~4.5 miles) both of which are to the southeast. The Company will not provide notification to the Federal Aviation Administration ("FAA") regarding the proposed facility because the proposed Project will be a maximum of approximately 33 feet above ground level (32 feet for the exhaust vertical exhaust stack of the

fuel cell system plus the one foot concrete pad) and therefore does not fall under the FAA notification requirements of 14 CFR Part 77.9 (a copy of which is attached as **Exhibit I**).

M. Summary

Overall, the Project and associated installation and operation will have an incremental visual impact and will not cause any significant change or alteration in the physical or environmental characteristics of the Site or the surrounding area. In fact, as discussed in Section IV(F) above, the Project will actually provide an environmental benefit to the State of Connecticut by reducing CO₂ emissions by approximately 19,169 tpy as compared to utility grid power.

V. CONCLUSION

For all the foregoing reasons, HFC1 respectfully requests that the Council issue a determination, in the form of a declaratory ruling, that the proposed installation as described above will not have a substantial adverse environmental effect and, therefore, that a Certificate is not required.

Respectfully submitted,

Homestead Fuel Cell 1, LLC

By: Sam Volet

Samuel R. Volet
Associate Counsel
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Phone: (203) 205-2481
Fax: (203) 825-6069
E-mail: svolet@fce.com

TABLE OF EXHIBITS

EXHIBIT A: Site Plan and System Drawings, Topo Map, and Site Photographs.

EXHIBIT B: SureSource 3000 Spec Sheet.

EXHIBIT C-1: Abutters Map, Abutters List.

EXHIBIT C-2: Local and State Agencies/Officials Notice List.

EXHIBIT C-3: Affidavits for Notice and Service of Petition.

EXHIBIT C-4: Sample Notice Letters to Abutters and Agencies/Officials.

EXHIBIT D: Facility Sound Assessment.

EXHIBIT E: Emergency Response Plan (ERP).

EXHIBIT F: SHPO Correspondence.

EXHIBIT G: FEMA Flood Maps

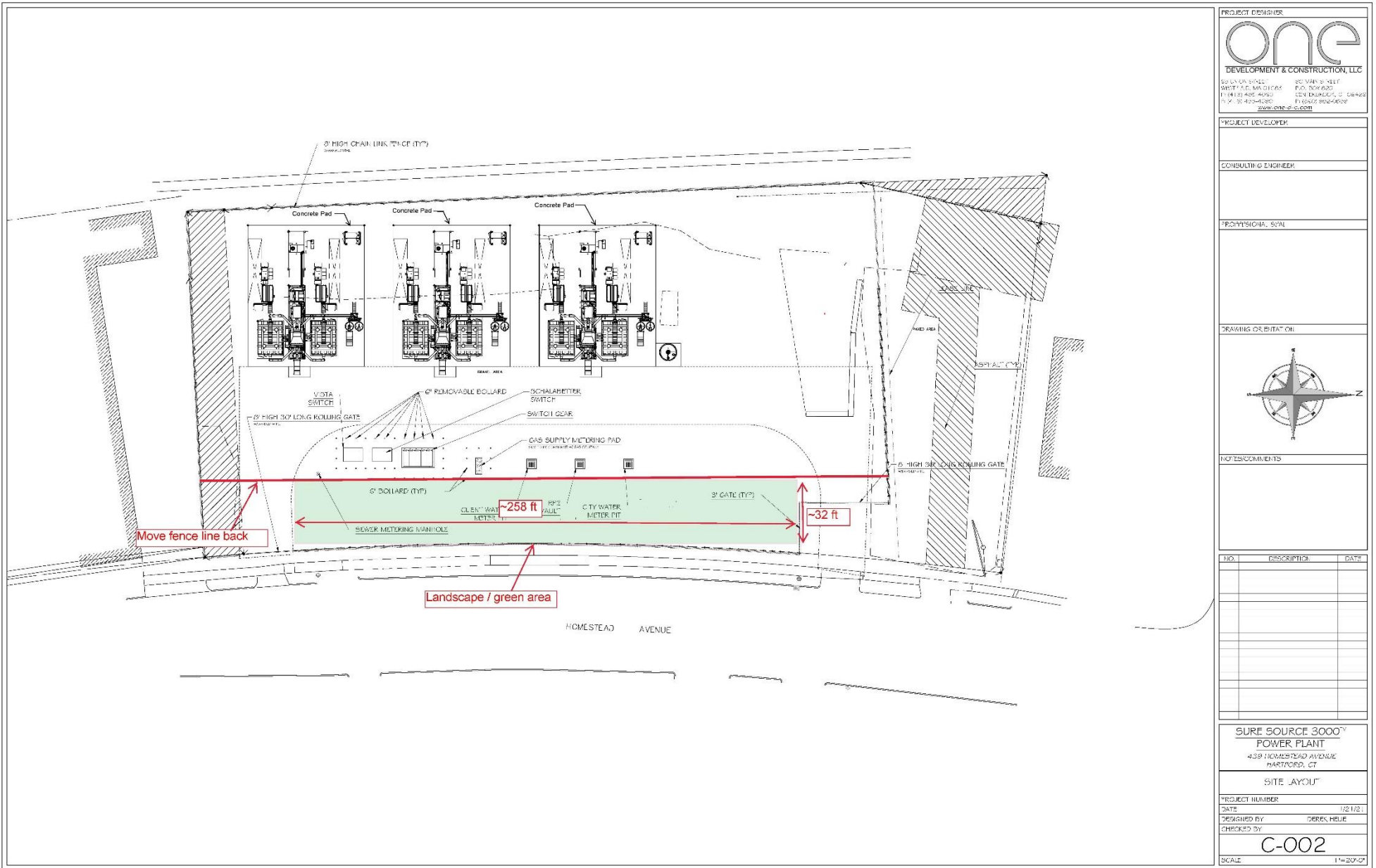
EXHIBIT H: DEEP Correspondence.

EXHIBIT I: 14 C.F.R. § 77.9.

EXHIBIT A

Site Plan and System Drawings, Topo Map, and
Site Photographs.

SITE PLAN



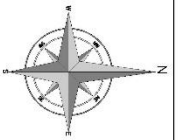
PROJECT DESIGNER
one
 DEVELOPMENT & CONSTRUCTION, LLC
 20 VANDERBILT ST. WINDHAM, CT 06226
 860.439.4000
 www.one-dc.com

PROJECT DEVELOPER

CONSULTING ENGINEER

PROFESSORIAL SEAL

DRAWING OR BITA TION



NOTES/COMMENTS

| NO. | DESCRIPTION | DATE |
|-----|-------------|------|
| | | |
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| | | |
| | | |
| | | |

**SURE SOURCE 3000™
 POWER PLANT**
 439 HOMESTEAD AVENUE
 HARTFORD, CT

SITE LAYOUT

PROJECT NUMBER
 DATE 1/21/21
 DESIGNED BY DEREK HEJLE
 CHECKED BY

C-002
 SCALE 1"=20'-0"



Figure A1

View of Site from the southeast corner looking northwest at the cell tower.



Figure A2

View of Site from the northeast corner looking southwest at Northwest Hartford Substation.



Figure A3
Existing Site Conditions



Figure A4
Proposed Site Condition Rendering

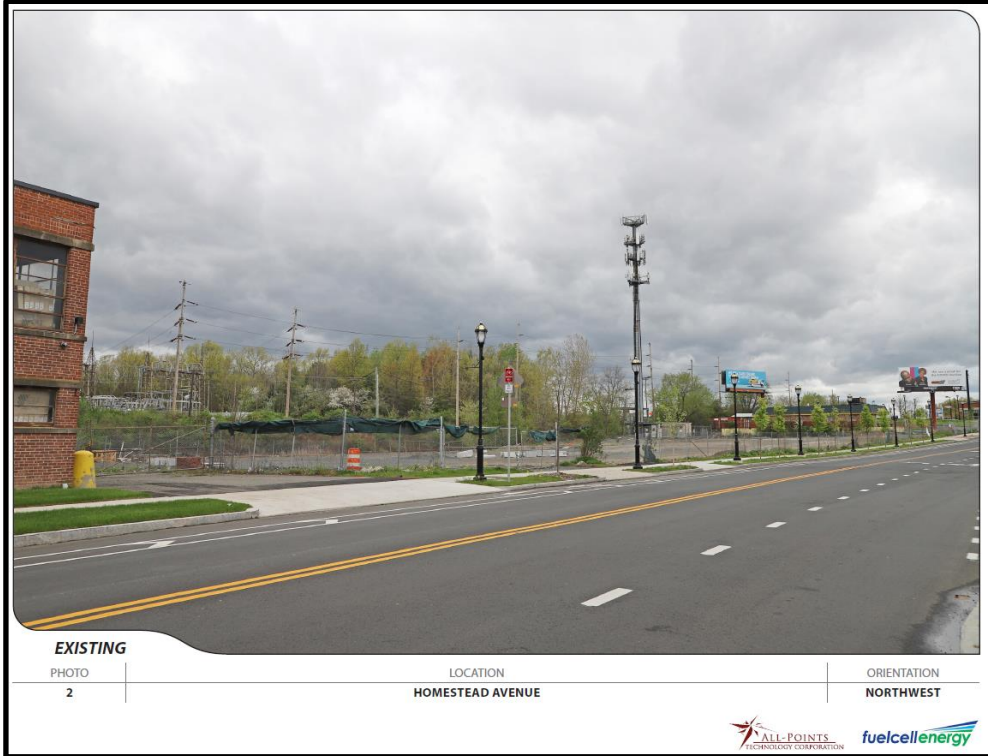


Figure A5
Existing Site Conditions



Figure A6
Proposed Site Condition Rendering



Figure A7
USGS Area Topo Map

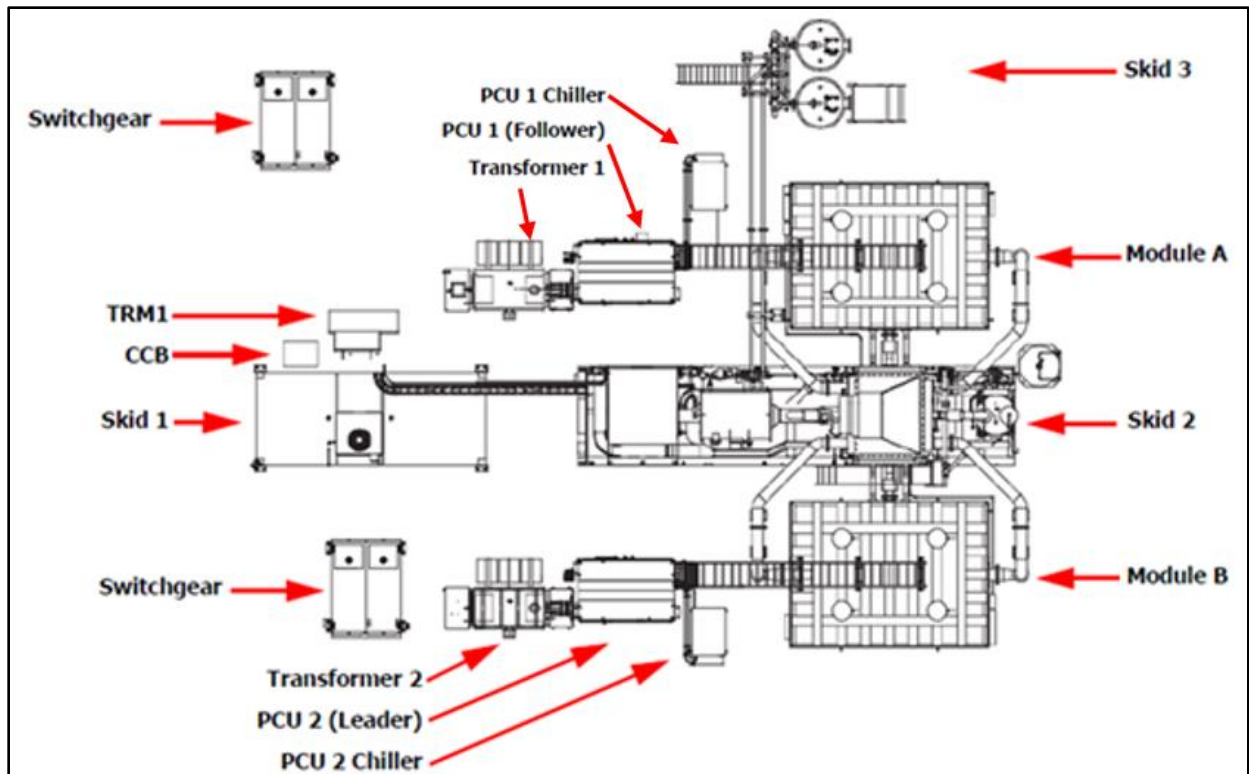


Figure A8
Diagram of Typical Fuel Cell Unit



Figure A9
Aerial View and Distances

EXHIBIT B

SureSource 3000 Spec Sheet.

EXHIBIT B

(SureSource 3000 Spec Sheet)

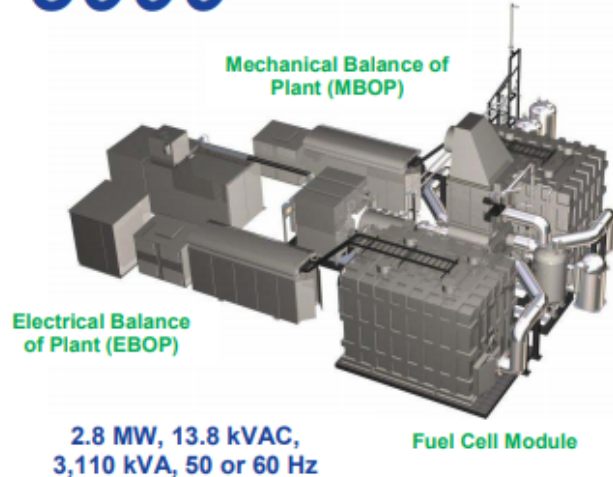


SureSource 3000

2.8 MEGAWATTS

KEY FEATURES

- Predictable Power
- Highly Efficient
- Ultra-Clean
- Scalable
- Modest Footprint
- Quiet Operation
- Fuel Flexible



APPLICATIONS

Comprised of two 1.4 megawatt (MW) modules, the SureSource 3000 generates 2.8 MW of ultra-clean power. The system is ideal for on-site applications including large universities, manufacturing facilities, wastewater treatment plants, or multi-plant fuel cell parks to support the electric grid.

PERFORMANCE

Gross Power Output

| | |
|-----------------------------|------------|
| Power @ Plant Rating | 2,800 kW |
| Standard Output AC voltage | 13,800 V |
| Standard Frequency | 60 Hz |
| Optional Output AC Voltages | By Request |
| Optional Output Frequency | 50 Hz |

Efficiency

| | |
|-----|------------|
| LHV | 47 +/- 2 % |
|-----|------------|

Available Heat

| | |
|------------------------|---------------|
| Exhaust Temperature | 700 +/- 50 °F |
| Exhaust Flow | 36,600 lb/h |
| Allowable Backpressure | 5 iwc |

Heat Energy Available for Recovery

| | |
|-------------|-----------------|
| (to 250 °F) | 4,433,000 Btu/h |
| (to 120 °F) | 7,460,000 Btu/h |

Fuel Consumption

| | |
|---|---------------|
| Natural gas (at 930 Btu/ft ³) | 362 scfm |
| Heat rate, LHV | 7,260 Btu/kWh |

Water Consumption

| | |
|---------------------------|--------|
| Average | 9 gpm |
| Peak during WTS backflush | 30 gpm |

Water Discharge

| | |
|---------------------------|---------|
| Average | 4.5 gpm |
| Peak during WTS backflush | 30 gpm |

Pollutant Emissions

| | |
|------|----------------|
| NOx | 0.01 lb/MWh |
| SOx | 0.0001 lb/MWh |
| PM10 | 0.00002 lb/MWh |

Greenhouse Gas Emissions

| | |
|--------------------------------|----------------|
| CO2 | 980 lb/MWh |
| CO2 (with waste heat recovery) | 520-680 lb/MWh |

Sound Level

| | |
|----------|---------------------|
| Standard | 72 dB(A) at 10 feet |
|----------|---------------------|

SPECIFICATIONS

SureSource 3000

WEIGHTS

Water Treatment Skid

20,000 lb

Main Process Skid

50,000 lb

Desulfurization

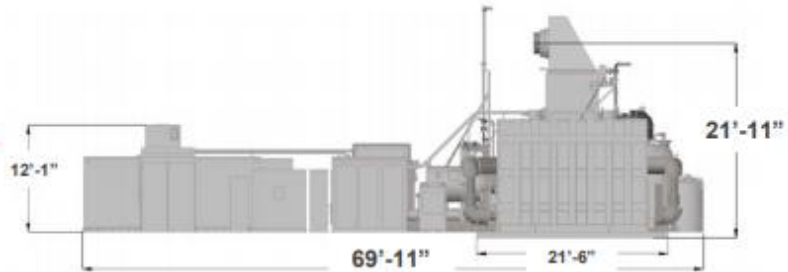
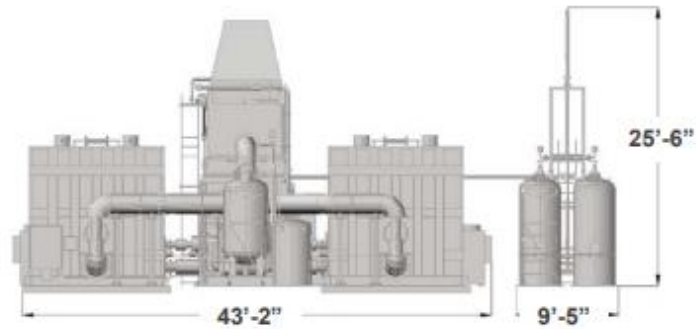
15,000 lb

Electrical Balance of Plant

52,000 lb

Fuel Cell Module

107,000 lb (each module)



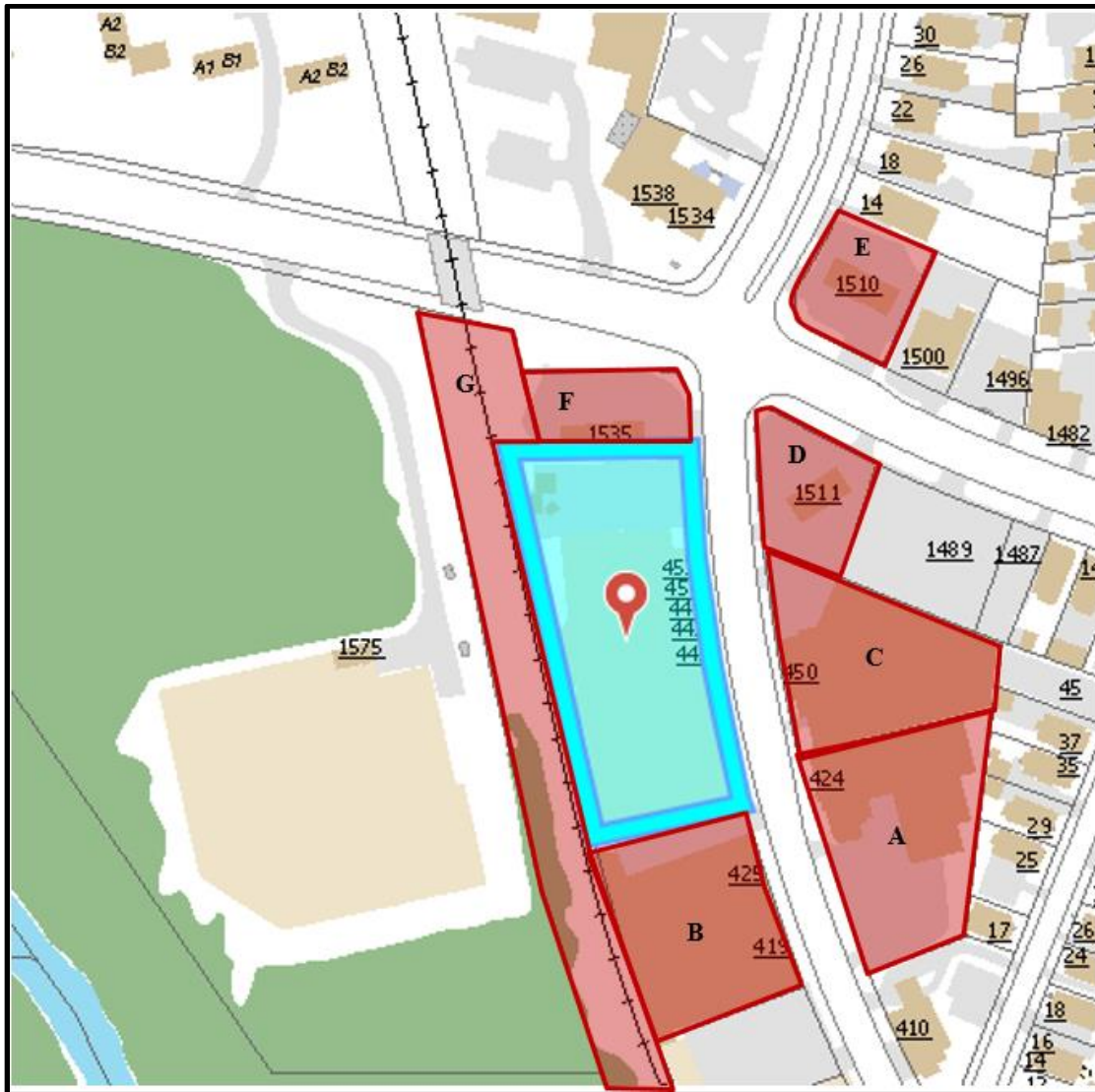
ABOUT FUELCELL ENERGY

FuelCell Energy (NASDAQ: FCEL) delivers efficient, affordable and clean solutions for the supply, recovery and storage of energy. We design, manufacture, undertake project development, install, operate and maintain megawatt-scale fuel cell systems, serving utilities, industrial and large municipal power users with solutions that include both utility-scale and on-site power generation, carbon capture, local hydrogen production for transportation and industry, and long duration energy storage. With SureSource installations on three continents and millions of megawatt hours of ultra-clean power produced, FuelCell Energy is a global leader with environmentally responsible power solutions.

EXHIBIT C-1

Abutters Map, Abutters List.

EXHIBIT C-1



| | Parcel Address | Property Owner | Mailing Address | Parcel ID |
|----------|-----------------------|--|---|------------------|
| A | 424 Homestead Ave. | The City Of Hartford | 550 Main St., Hartford, CT 06103 | 152-190-017 |
| B | 425 Homestead Ave. | Robert F. Judge | PO Box 715, Killingworth, CT 06419 | 152-181-001 |
| C | 450 Homestead Ave. | Hartford Unlimited Enterprises | 85 Patriot Rd. C/O Cousin, Windsor, CT 06095-3841 | 152-190-016 |
| D | 1511 Albany Ave. | Fahim LLC | 1510 Albany Ave., Hartford, CT 06112 | 152-184-031 |
| E | 1510 Albany Ave. | Joseph D. Dimauro Trustee; Maisielyn M. Williams Trustee | 72 Crystal Dr., Rocky Hill, CT 06067 | 152-190-030 |
| F | 1535 Albany Ave. | Socci Josephine c Trustee; Socci Philip Trustee | 1208 Marine Way Apt. A203, North Palm Beach, FL 33408 | 152-181-003 |
| G | 450 Windsor St. | National Railroad Passenger Co. | 400 N. Capitol St. NW, Washington, DC 20001 | 265-074-018 |

EXHIBIT C-2

Local and State Agencies/Officials Notice List.

EXHIBIT C-2

(Local and State Agencies/Officials Notice List)

City of Hartford

Mayor Luke Bronin
Hartford City Hall
550 Main Street
2nd Floor, Room 200
Hartford, CT 06103

Noel F. McGregor Jr., City Clerk
Hartford City Hall
550 Main Street
1st Floor, Suite 104
Hartford, CT 06103
Noel.McGregor@hartford.gov

Planning and Zoning Commission
250 Constitution Plaza, 4th Floor
Hartford, CT 06103

Inland Wetlands and Watercourses Commission
250 Constitution Plaza, 4th Floor
Hartford, CT 06103

Frederick D. Peck, Senior Planner
City of Hartford
250 Constitution Plaza, 4th Floor
Hartford, CT 06103

Erik C. Johnson, Director
Department of Development Services
City of Hartford
250 Constitution Plaza, 4th Floor
Hartford, CT 06103

State Officials

Attorney General William Tong
Office of the Attorney General
165 Capitol Avenue
Hartford, CT 06106
Attorney.General@ct.gov

Richard E. Sobolewski, Acting Consumer Counsel
Office of Consumer Counsel
Ten Franklin Square
New Britain, CT 06051
richard.sobolewski@ct.gov

Bryan P. Hurlburt, Commissioner
Department of Agriculture
450 Columbus Boulevard, Suite 701
Hartford, CT 06103
bryan.hurlburt@ct.gov

David Lehman, Commissioner
Connecticut Department of Economic and Community Development
450 Columbus Boulevard
Hartford, CT 06103
david.lehman@ct.gov

James C. Rovella, Commissioner
Department of Emergency Services and Public Protection
Division of Emergency Management and Homeland Security
1111 Country Club Road
Middletown, CT 06457
james.rovella@ct.gov

Katie Dykes, Commissioner
Department of Energy and Environmental Protection
79 Elm Street
Hartford, CT 06106-5127
katie.dykes@ct.gov

Peter B. Hearn, Executive Director
Council on Environmental Quality
79 Elm Street
Hartford, CT 06106
peter.hearn@ct.gov

Melissa McCaw, Secretary
Office of Policy and Management
450 Capitol Avenue
Hartford, CT 06106
melissa.mccaw@ct.gov

Deidre S. Gifford, MD, MPH, Acting Commissioner
Department of Public Health
410 Capitol Avenue
Hartford, CT 06134

Marissa Paslick Gillett, Chairman
Public Utilities Regulatory Authority
Ten Franklin Square
New Britain, CT 06051
marissa.gillett@ct.gov

Joseph Giuliatti, Commissioner
Department of Transportation
2800 Berlin Turnpike
P. O. Box 317546
Newington, CT 06131-7546
joseph.giuliatti@ct.gov

Kurt Westby, Commissioner
Department of Labor
200 Folly Brook Boulevard
Wethersfield, CT 06109

Michelle H. Seagull, Commissioner
Department of Consumer Protection
450 Columbus Boulevard
Suite 901
Hartford, CT 06103-1840
michelle.seagull@ct.gov

Josh Geballe, Commissioner
Department of Administrative Services
Office of the Deputy Commissioner
450 Columbus Boulevard
Hartford, CT 06103
josh.geballe@ct.gov

Marcia Leclerc, Chair
Capitol Region Council of Governments
241 Main Street
Hartford, CT 06106-5310
mleclerc@easthartfordct.gov

State Elected Officials

Representative Matt Ritter
House District 1
Legislative Office Building, Room
4106 Hartford, CT 06106-1591
Matthew.Ritter@cga.ct.gov

Senator Doug McCrory
Senate District 2
Legislative Office Building
LOB Room 3300
Hartford, CT 06106-1591
Douglas.McCrory@cga.ct.gov

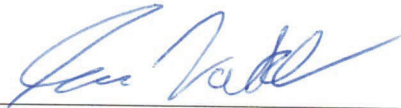
EXHIBIT C-3

Affidavits for Notice and Service of Petition.

AFFIDIVATE OF SERVICE OF NOTICE UPON
ABUTTING PROPERTY OWNERS

STATE OF CONNECTICUT)
) ss. Weatogue
COUNTY OF HARTFORD)


Pursuant to Section 16-50l(b) of Connecticut General Statutes, I hereby certify that on or before July 12, 2021, I caused notice of the intent of Homestead Fuel Cell 1, LLC to file a petition with the Connecticut Siting Council for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is necessary for the installation of a fuel cell system with a capacity up to 8.4 megawatts, a 23kV electrical interconnection, and associated equipment (collectively, the "Project") at 441 Homestead Avenue, Hartford, Connecticut (the "Property") to be sent to abutting property owners who were notified and a sample notification letter, which was sent to these abutting property owners, are found on Attachment A.



Samuel R. Volet

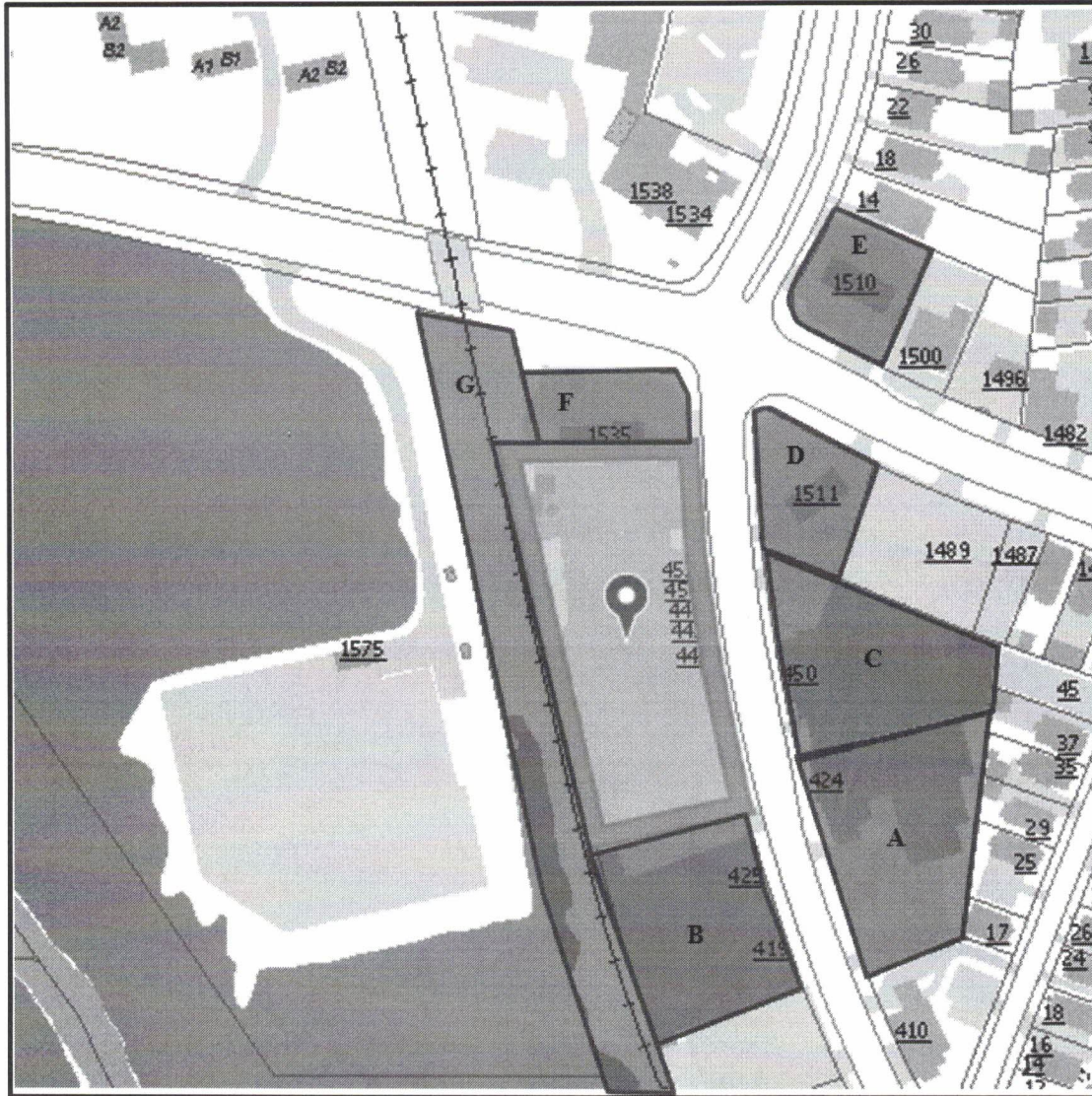
On this 12th day of July, 2021, before me, the undersigned office, personally appeared, Samuel R. Volet, known to me (or satisfactory proven) to be the person whose name is subscribed to the within instrument and acknowledged that he executed the same for the purposes therein contained.

In Witness Whereof, I hereunto set my and office seal.



Sara Selmanaj
Commissioner of the Superior Court

Attachment A
EXHIBIT C-1



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|----------|-----------------------|---|---|------------------|
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Hartford City Hall
550 Main Street
2nd Floor, Room 200
Hartford, CT 06103

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Hartford City Hall
550 Main Street
1st Floor, Suite 104
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Noel.McGregor@hartford.gov

Planning and Zoning Commission
250 Constitution Plaza, 4th Floor
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Inland Wetlands and Watercourses Commission
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Department of Development Services
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richard.sobolewski@ct.gov

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Hartford, CT 06103
bryan.hurlburt@ct.gov

David Lehman, Commissioner
Connecticut Department of Economic and Community Development
450 Columbus Boulevard
Hartford, CT 06103
david.lehman@ct.gov

James C. Rovella, Commissioner
Department of Emergency Services and Public Protection
Division of Emergency Management and Homeland Security
1111 Country Club Road
Middletown, CT 06457
james.rovella@ct.gov

Katie Dykes, Commissioner
Department of Energy and Environmental Protection
79 Elm Street
Hartford, CT 06106-5127
katie.dykes@ct.gov

Peter B. Hearn, Executive Director
Council on Environmental Quality
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Hartford, CT 06106
peter.hearn@ct.gov

Melissa McCaw, Secretary
Office of Policy and Management
450 Capitol Avenue
Hartford, CT 06106
melissa.mccaw@ct.gov

Deidre S. Gifford, MD, MPH, Acting Commissioner
Department of Public Health
410 Capitol Avenue
Hartford, CT 06134

Marissa Paslick Gillett, Chairman
Public Utilities Regulatory Authority
Ten Franklin Square
New Britain, CT 06051
marissa.gillett@ct.gov

Joseph Giulietti, Commissioner
Department of Transportation
2800 Berlin Turnpike
P. O. Box 317546
Newington, CT 06131-7546
joseph.giulietti@ct.gov

Kurt Westby, Commissioner
Department of Labor
200 Folly Brook Boulevard
Wethersfield, CT 06109

Michelle H. Seagull, Commissioner
Department of Consumer Protection
450 Columbus Boulevard
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Hartford, CT 06103-1840
michelle.seagull@ct.gov

Josh Geballe, Commissioner
Department of Administrative Services
Office of the Deputy Commissioner
450 Columbus Boulevard
Hartford, CT 06103
josh.geballe@ct.gov

Marcia Leclerc, Chair
Capitol Region Council of Governments
241 Main Street
Hartford, CT 06106-5310
mleclerc@easthartfordct.gov

State Elected Officials

Representative Matt Ritter
House District 1
Legislative Office Building, Room 4106
Hartford, CT 06106-1591
Matthew.Ritter@cga.ct.gov

Senator Doug McCrory
Senate District 2
Legislative Office Building
LOB Room 3300
Hartford, CT 06106-1591
Douglas.McCrory@cga.ct.gov

EXHIBIT C-4

Sample Notice Letters to Abutters and
Agencies/Officials.

FuelCell Energy
3 Great Pasture Road
Danbury, CT 06810
www.fuelcellenergy.com



July 12, 2021

VIA CERTIFIED MAIL
RETURN RECEIPT REQUESTED

The City of Hartford
550 Main St.
Hartford, CT 06103-2913

Re: Notice to Owners of Property Abutting Proposed Fuel Cell Project

To Whom It May Concern:

Homestead Fuel Cell 1, LLC ("HFC1") is undertaking a project that involves the installation of a fuel cell system with a capacity up to 8.4-megawatts (AC) and associated equipment (collectively, the "Project") to be located at 441 Homestead Avenue, Hartford, Connecticut (the "Property").

Since the Project abuts your property, HFC1 is committed to keeping you informed.

This letter is to provide you notice that in early July 2021, HFC1 intends to submit to the Connecticut Siting Council (the "Council") a petition for a declaratory ruling, pursuant to Connecticut General Statutes Sections 4-176 and 16-50k that no Certificate of Environmental Compatibility and Public Need is necessary, for the proposed construction, maintenance, and operation of the Project. The Council will undertake a thorough review of the proposed Project and consider input from interested stakeholders. If the Project is approved by the Council, HFC1 anticipates starting construction in end of 2021, with completion in 2022. This schedule is approximate and subject to change. Please note this work will not interrupt electric service to homes or businesses.

If you would like more information concerning the proposed Project, please visit the Project website at <https://www.ct.gov/csc/site/default.asp> or you may email HFC1 at fwolak@fce.com or call Frank Wolak, Senior Vice President, Government Affairs and Market Development, at 413-537-6536.

Sincerely,

A handwritten signature in blue ink that reads "Sam Volet". The signature is written in a cursive, flowing style.

Samuel R. Volet



July 12, 2021

VIA CERTIFIED MAIL
RETURN RECEIPT REQUESTED

[]
[]
[]

Re: Notice to Agencies and Officials

To Whom It May Concern:

Homestead Fuel Cell 1, LLC ("HFC1") is undertaking a project that involves the installation of a fuel cell system with a capacity up to 8.4-megawatts (AC) and associated equipment (collectively, the "Project") to be located at 441 Homestead Avenue, Hartford, Connecticut (the "Property").

This letter is to provide you notice that in early July 2021, HFC1 intends to submit to the Connecticut Siting Council (the "Council") a petition for a declaratory ruling, pursuant to Connecticut General Statutes Sections 4-176 and 16-50k that no Certificate of Environmental Compatibility and Public Need is necessary, for the proposed construction, maintenance, and operation of the Project. Pursuant to RCSA Section 16-50j-40, HFC1 is notifying you of its intentions to submit the petition.

The Council will undertake a thorough review of the proposed Project and consider input from interested stakeholders. If the Project is approved by the Council, HFC1 anticipates starting construction in end of 2021, with completion in 2022. This schedule is approximate and subject to change. Please note this work will not interrupt electric service to homes or businesses.

If you would like more information concerning the proposed Project, please visit the Project website at <https://www.ct.gov/csc/site/default.asp> or you may email HFC1 at fwolak@fce.com or call Frank Wolak, Senior Vice President, Government Affairs and Market Development, at 413-537-6536.

Sincerely,

A handwritten signature in blue ink that reads "Sam Volet".

Samuel R. Volet

EXHIBIT D

Facility Sound Assessment.

Facility Sound Assessment



Fuel Cell Project

427 Homestead Avenue

Hartford, Connecticut

October 26, 2020

Prepared For:

FuelCell Energy, Inc.
3 Great Pasture Road
Danbury, CT 06810



Prepared By:

Modeling Specialties
30 Maple Road
Westford, MA 01886



Environmental Sound Assessment Homestead Project

Background

A Fuel Cell (FC) Project is proposed at an existing industrial parcel between Homestead Avenue and the Railroad Right-of-Way in Hartford, Connecticut. The Fuel Cell process combines Connecticut Class I Renewable Energy resources, uses proven commercial technologies, is ultra-clean, and is more efficient than any other 24-hour electricity generating technology in its size range. The proposed equipment configuration is designed and provided by FuelCell Energy, Inc. (“FuelCell Energy”). The following assessment supports a petition to the Connecticut Siting Council as required by fuel cell generators greater than 250 kW. For that reason, the study is based on the standards provided by the Connecticut Department of Energy & Environmental Protection (CDEEP). Sound levels from the proposed equipment were estimated based on vendor design and measured sound from similar equipment configurations. Sound level modeling techniques were used to estimate the potential impacts at receiving locations. What follows is a complete analysis of the facility sound using measured ambient data, detailed proposed equipment configuration and using 3-dimensional noise modeling software package CadnaA by Datakustic.

Overview of Project and Site Vicinity

The Project is located at an existing commercial/industrial property on Homestead Avenue near Albany Avenue. Albany Avenue is a busy numbered highway (CT-44) that links to I-84 and supports a high volume of traffic. It is lined with parcels supporting commercial and retail. The proposed site overlooks a large Open Space parcel to the west, which includes an electrical substation. Figure 1 shows an aerial view of the site and surrounding area. Existing sources of sound in the area include traffic along Albany Avenue and Homestead Avenue, the substation and building mechanical equipment.

The site has a long history of industrial use. Its primary building was razed between 2008 and 2010. It has been used for various industrial purposes since then. It seems to now be in a transition of uses. There was heavy equipment on and around the site behind a fence. It is noted that the sound survey was scheduled at times that avoided any significant sound from the site. This was important to establish an ambient sample free of construction sources as a baseline for the proposed equipment and activities. Field measurements were made between the sidewalk and the outside of the site fence. Measurements were also scheduled to avoid typical community high traffic periods. The ambient levels can be expected to be higher when there is more commuter traffic. In these ways, the study is believed to represent quiet conditions for this busy commercial/industrial area.



Figure 1: Aerial Overview of the Site, Measurement Locations, Receptors and Surrounding Area

Noise Analysis: Discussion of Analysis Methods

There are a number of ways in which sound (noise) levels are measured and quantified. All of them use the logarithmic decibel (dB) scale. Following is a brief introduction to the noise measurement terminology used in this assessment.

Noise Metrics

The Sound Level Meter used to measure noise is a standardized instrument.¹ It contains “weighting networks” to adjust the frequency response of the instrument to approximate that of the human ear under various circumstances. One of these is the *A-weighting* network. A-weighted sound levels emphasize the middle frequency sounds and de-emphasize lower and higher frequency sounds; they are reported in decibels designated as “dBA.” Figure 2 illustrates typical sound levels produced by sources that are familiar from everyday experience.

The sounds in our environment usually vary with time so they cannot simply be described with a single number. Two methods are used for describing variable sounds. These are *exceedance levels* and *equivalent levels*. Both are derived from a large number of moment-to-moment A-weighted sound level measurements. Exceedance levels are designated L_n , where “n” can have any value from 0 to 100 percent. For example:

- ◆ L_{90} is the sound level in dBA exceeded 90 percent of the time during the measurement period. The L_{90} is close to the lowest sound level observed. It is essentially the same as the *residual* sound level, which is the sound level observed when there are no loud, transient noises.
- ◆ L_{50} is the median sound level; the sound level in dBA exceeded 50 percent of the time during the measurement period.
- ◆ L_{10} is the sound level in dBA exceeded only 10 percent of the time. It is close to the maximum level observed during the measurement period. The L_{10} is sometimes called the *intrusive* sound level because it is caused by occasional louder noises like those from passing motor vehicles. By using exceedance levels, it is possible to separate prevailing, steady noises (L_{90}) from occasional, louder noises (L_{10}) in the environment.
- ◆ The *equivalent level* is the level of a hypothetical steady sound that has the same energy as the actual fluctuating sound observed. The equivalent level is designated L_{eq} , and is also A-weighted. The equivalent level is strongly influenced by occasional loud, intrusive noises.

¹ *American National Standard Specification for Sound Level Meters*, ANSI S1.4-1983, published by the Standards Secretariat of the Acoustical Society of America, Melville, NY.

Common Indoor Sounds

Common Outdoor Sounds

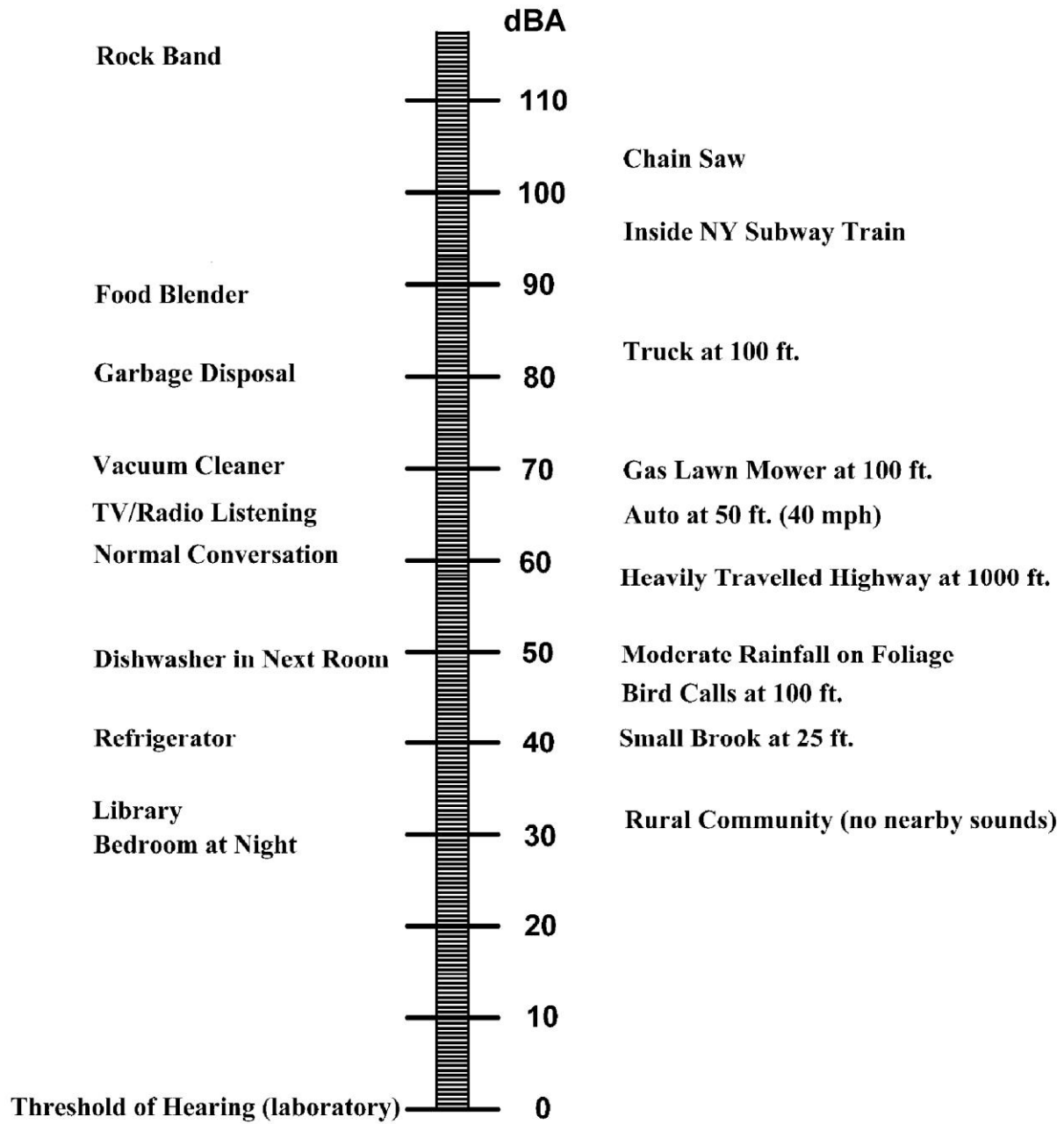


Figure 2: Typical Sound Levels from Everyday Experience

When a steady sound is observed, all of the L_n and L_{eq} are equal. This analysis is based on the background or L_{90} metric. All broadband levels represented in this study are weighted using the A-weighting scale.

In the design of noise control treatments, it is essential to know something about the frequency spectrum of the sound of interest. Noise control treatments do not function like the human ear, so simple A-weighted levels are not useful for noise-control design or the identification of tones. The frequency spectra of sounds are usually stated in terms of *octave band sound pressure levels*, in dB, with the octave frequency bands being those established by standard.² The sounds in the community were measured in 1/3 octave band levels. The sounds expected as a result of this project have been evaluated with respect to the octave band sound pressure levels as well as the A-weighted equivalent sound level. For simplicity both are summarized in this report as A-weighted levels.

Noise Regulations and Criteria

Sound compliance is evaluated on two bases: the extent to which Federal and State regulations or guidelines are met, and the extent to which it is estimated that the community is protected from excessive sound levels. The governmental regulations that may be applicable to sound produced by activities at the Site are summarized below.

- ***Federal***

Occupational noise exposure standards: 29 CFR 1910.95. This regulation restricts the noise exposure of employees at the workplace as referred to in Occupational Safety and Health Administration requirements. The facility will emit only occasional sounds of modest levels, as demonstrated by this study.

- ***State***

The state of Connecticut (Connecticut Department of Energy & Environmental Protection or CDEEP) regulates noise at Regulation Title 22a, Sections 69-1 through 69-7.4, Control of Noise. The project is a Class C (Industrial) emitter. Some properties in the area are zoned commercial or residential and were evaluated as Class B and A Noise Receptors, respectively. An excerpt of the Hartford Zoning Map is provided in Figure 3 for the project area. The details of the CDEEP performance criteria are shown in Table 1 based on the character of both the source and receiving land uses.

² *American National Standard Specification for Octave, Half-octave and Third-octave Band Filter Sets*, ANSI S1.11-1966 (R1975).

Table 1: Connecticut DEEP Noise Standards, by Zoning District

| Emitter's Zone | Receptor's Zone | | | |
|----------------|-----------------|------------|-----------------|-------------------|
| | Industrial | Commercial | Residential/Day | Residential/Night |
| Residential | 62 dBA | 55 dBA | 55 dBA | 45 dBA |
| Commercial | 62 dBA | 62 dBA | 55 dBA | 45 dBA |
| Industrial | 70 dBA | 66 dBA | 61 dBA | 51 dBA |

Adjustments for high background noise levels or impulse sounds

1. In those individual cases where the background noise levels caused by sources not subject to these regulations exceed the standards contained in this chapter, a source shall be considered to cause excessive noise if the noise emitted by such source exceeds the background noise levels by five dBA, provided that no source subject to the provisions of this chapter shall emit noise in excess of eighty (80) dBA at any time, and provided that this section does not decrease the permissible levels of other sections of this chapter.
2. No person shall cause or allow the emission of impulse noise in excess of eighty (80) dB peak sound pressure level during the nighttime to any residential noise zone.
3. No person shall cause or allow the emission of impulse noise in excess of one hundred (100) dB peak sound pressure level at any time to any zone.

- **Local Hartford Requirements**

A review of the Hartford Code of Ordinances has identified Chapter 112-3 to regulate noise. Like many Connecticut municipalities, Hartford's requirements are numerically the same as the State CDEEP standards above. Electrical generation generally requires a petition before the Connecticut Siting Council, as does this project. As a result, this project was evaluated based on the CDEEP criteria.

Existing Community Sound Levels

A site survey and noise measurement study were conducted for the facility on October 8, 2020. While the ambient sound typically fluctuates through the day and night, the sound from the proposed facility is expected to be very steady. A new source of sound tends to be noticed most during conditions that are otherwise quiet. Because of this, the survey was scheduled to measure sound levels that represented quiet conditions for the area.

Attended sound level measurements were made using a Rion NA-28 sound level meter. The measurements create a baseline community sound level and captured the frequency-specific character of the sound. The meter was mounted on a tripod approximately 5 feet above the ground. The microphone was fitted with factory recommended foam windscreen. The meter was programmed to take measurements for 20 minutes and then store processed statistical levels. The meter meets the requirements of ANSI S1.4 Type 1 – Precision specification for sound level meters. The meter was calibrated in the field using a Larsen Davis Cal-250 acoustical calibrator before and after the sessions. The field calibrations indicated that the meters did not drift during the study. The spectrum analyzer complies with the requirements of the ANSI S1-11 for octave band filters.

CITY OF HARTFORD ADOPTED ZONING MAP August 22, 2017

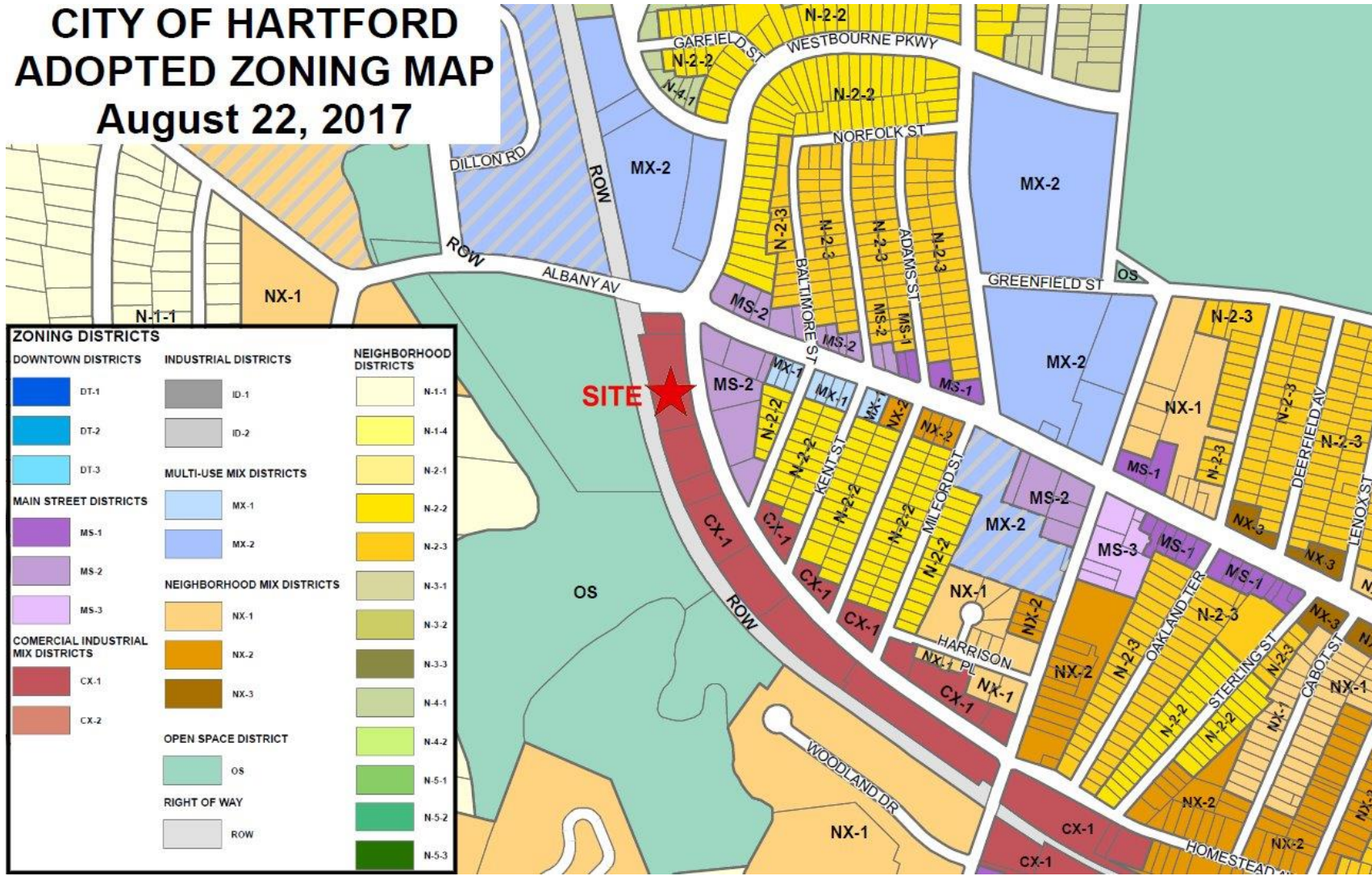


Figure 3: Excerpt from the Hartford Zoning Map of the Project Area

The L₉₀ characterizes the background sound level, much like the “residual” which is the level in the absence of any nearby intrusive sources. The sound from short term or infrequent sources is statistically excluded from the L₉₀ samples. Much of the sound measured in the project area is from passing vehicles which momentarily elevate the Leq levels, but which are screened from the L₉₀ results.

The primary source of sound in the area is from traffic on Albany Avenue, (CT-44). It is not only a main thoroughfare, but like Homestead Avenue, it is lined with retail/commercial/industrial uses that can generate truck traffic. A large substation is west of the site beyond the railroad ROW. The substation is considered for this study to be industrial while the whole area beyond the tracks is zoned Open Space. The substation dominated the nighttime field during lulls in area traffic. Auto Zone is another significant source of daytime traffic (off Albany) and parking lot activities, but the measurement location was somewhat shielded from its sound by buildings.

Sources Excluded from the Ambient Survey

During both surveys, the sound field is dominated by traffic on Albany Avenue (CT-44), Homestead Avenue and other area roadways. Much of the proposed site and the rest of the larger lot are used for storage of equipment and materials. Managing this material requires powered equipment to load or carry it around on the site. No lifting or moving of the equipment took place during the survey so it was also screened from the study. A Bobcat (small skid steer excavator) was moving around on Homestead Avenue during the daytime survey, but the meter was paused for the event so it did not affect the measured level. These steps were taken to assure that the survey represents quiet conditions for this busy area.

Results of the Ambient Survey

The results of the ambient sound level measurements are summarized in Table 2. The community sensitivity is usually based on the lower background levels. Comparing the Leq levels (including all sounds) to the L₉₀ levels (quietest 10% of samples) illustrates the sound character of the area. Baseline levels are affected by community conditions, meteorology, seasons, insects and traffic patterns. Because the measured levels are dominated by traffic sounds, they can be expected to fluctuate. However, the background levels show that the existing community meets the target levels of the Connecticut DEEP standards.

Table 2: Ambient Sound Levels Measured on October 8, 2020

| Location | Time | Period | L _{eq} | L ₉₀ |
|-----------------------|----------|--------|-----------------|-----------------|
| Homestead Ave @ Fence | 12:20 AM | Night | 64 dBA | 45 dBA |
| Homestead Ave @ Fence | 11:47 AM | Day | 67 dBA | 54 dBA |

Consistent with most residential communities, the daytime is affected by elevated traffic volumes on local and distant roadways. Nighttime levels tend to be lower because of lower traffic volumes and the reduced commercial and neighborhood activities.

Expected Sounds from the Proposed Installation

The proposed installation has been designed with significant attention to protecting the community sound environment. Most of the equipment associated with the Fuel Cell facility produces no significant sound. The fuel cell technology does not require many of the heavy mechanical sound sources that are typical of power generation facilities. This analysis represents the most likely sound levels to be expected as a result of the normal operation of the facility using manufacturer's data and measurements of similar equipment at other fuel cell installations.

A computer model was developed for the facility's sound levels based on conservative sound propagation principles prescribed in the acoustics literature. Most of the equipment sources will produce broadband sound of a continuous nature. Each of the potential sources during routine operation of the facility was identified. The sound from each facility-related source is estimated at the source and at the community receptors. The sum of the contributing sources is used to represent the predicted sound level at the modeled location. Identifying specific receiving locations is a key element of the noise modeling since sound levels decrease exponentially with increasing distance. The distances used in this study represent the distance between the nearest source(s) and the nearest representative sensitive property. More receptors were identified in the project area that are typically studied because there are so many local variations in industrial/commercial and residential use and varied zoning districts.

Sources of Project Sound

There are several sources of modest sound at the facility. Under normal conditions, most of those sources will produce consistent sound through the day and night. Several sources will cycle on and off as required by the facility operation. The electrical equipment (inverter) cabinet is equipped with a supplemental chiller which provides necessary cooling using variable speed fans. There is also a cooling unit on the Water Processing Skid that provides cooling only when needed. But in this conservative study, all sources are analyzed as continuous full-time sources.

The fuel cell equipment is manufactured in Connecticut by FuelCell Energy, Inc. The design of this facility is based on three (3) SureSource 3000 blocks of fuel cell equipment. Each block will be similar to the graphic overview shown in Figure 4. The entire proposed facility was sketched in Figure 1 and is shown in more layout detail in Figure 5. Much of the equipment is acoustically inert such as the water treatment enclosure, fuel de-sulfurizing units and nitrogen system. Other equipment produces some sound that can only be distinguished in the near field of the equipment like most of the electrical equipment, transformers and even the fuel cell modules. The primary source of equipment sound is from the fresh air blower and the piping that delivers air and fuel to the modules. By the time the air has moved through the process and is gathered in the exhaust system, it has a steady air movement sound, and has lost any blower sound character.

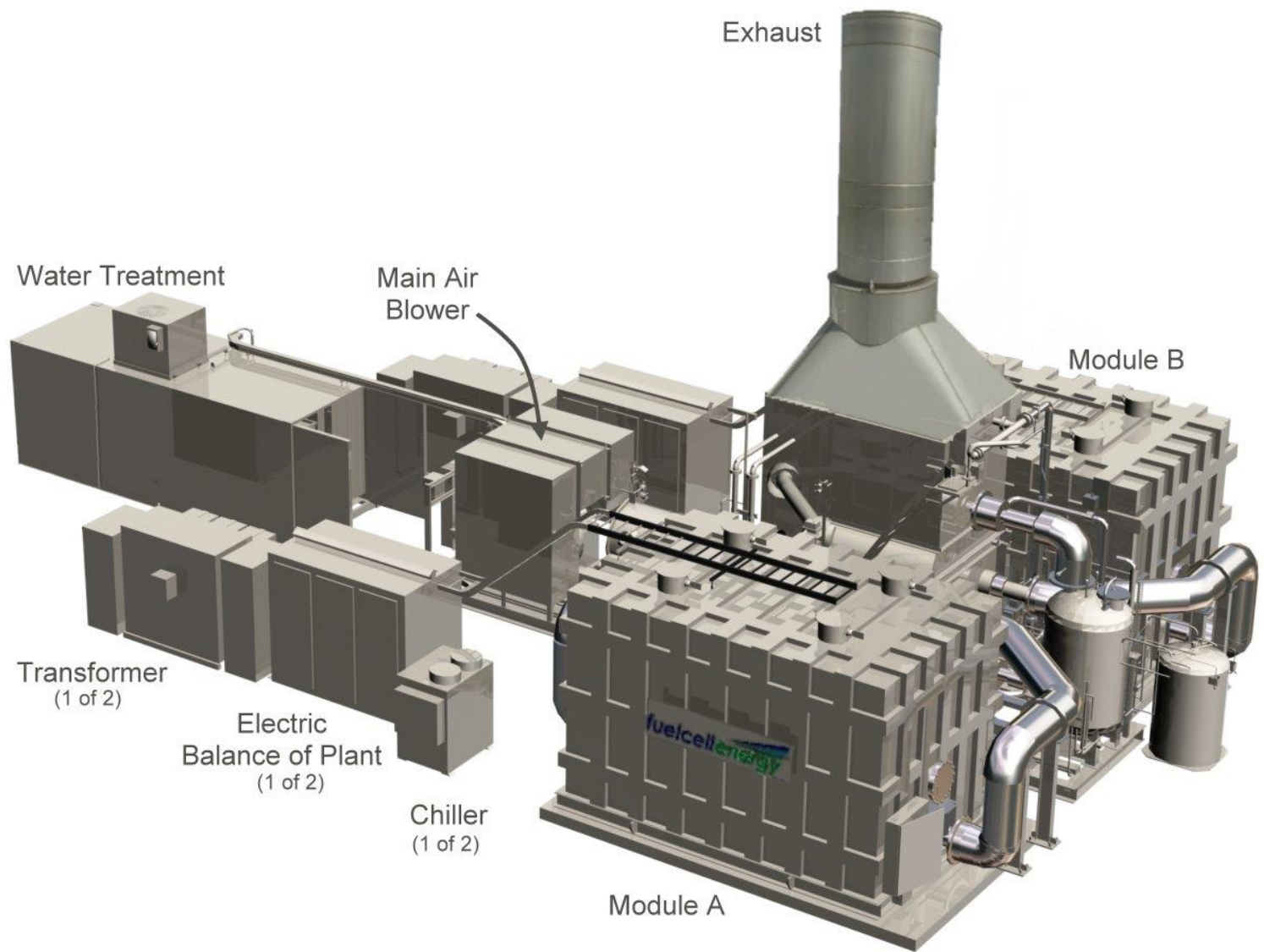


Figure 4: **Layout of Typical Equipment Components of each SureSource 3000 Block**

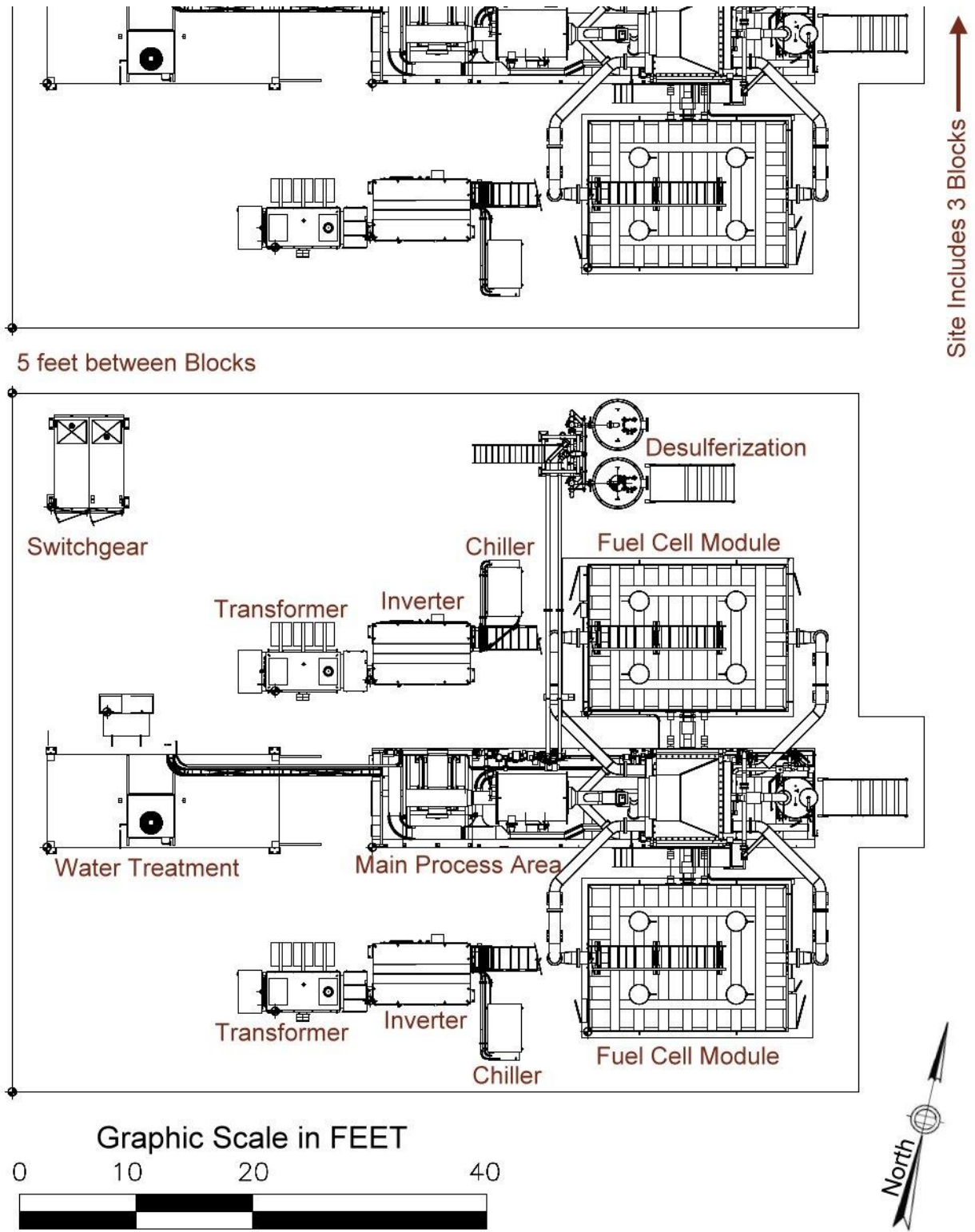


Figure 5: Layout of the Fuel Cell Facility Showing 2 of 3 Blocks and Major Groups of Equipment

The analysis of sound is based on the contributions of individual sources and propagation losses to the analyzed receptors in each general direction from the sources. The modeling accounts for the worst-case equipment sound under quiet ambient conditions consistent with the regulatory criteria. Results of the modeling are shown in Table 3 and are provided in graphic form in Figure 6. The model does not account for the potential shielding provided by offsite buildings (such as Auto Zone to the east). This would further reduce the sound at many of the nearest residences along Baltimore Street. Some residences to the north are partially shielded by the car wash, terrain and other residences, but it was not accounted for in this conservative analysis.

Table 3: Summary of Noise Modeling Results

| Receptor | Distance (ft) | Project Sound (dBA) | Criterion (dBA) | Comply? |
|--------------------|---------------|---------------------|-----------------|---------|
| Residential, SE | 400 | 46 | 61/51 | Yes |
| Industrial, South | 70 | 59 | 70 | Yes |
| Open Space, SW | 200 | 51 | 66 | Yes |
| Industrial, West | 150 | 54 | 70 | Yes |
| Residential, West | 1100 | 37 | 61/51 | Yes |
| Open Space, NW | 240 | 51 | 66 | Yes |
| Industrial, North | 160 | 55 | 70 | Yes |
| Commercial, North | 240 | 51 | 66 | Yes |
| Residential, North | 660 | 41 | 61/51 | Yes |
| Commercial, North | 450 | 44 | 66 | Yes |
| Residential, NE | 550 | 43 | 61/51 | Yes |
| Commercial, East | 150 | 54 | 66 | Yes |
| Residential, East | 460 | 45 | 61/51 | Yes |

Mitigation Measures

The proposed fuel cell equipment is inherently quiet compared to other forms of electrical generation. Most of the equipment is essentially silent, such as the desulfurization, nitrogen storage, water treatment room and infrastructure. The main processing areas are configured with partial enclosure of the fresh air blower, motor and outlet pipe. The chillers are minimally sized to meet the cooling needs. The cooling unit above the water treatment room will only operate as needed to protect the environmentally sensitive equipment inside. This configuration includes lagging on many of the pipes that would otherwise emit sound from gas flow. The most significant sources within the DFC package have been configured to reduce the sound at the source. In addition, the proposed equipment is sited to allow a buffer of distance that effectively reduces the sound at sensitive land uses.

Conclusions

The proposed fuel cell equipment package inherently lacks the heavy mechanical equipment that is commonly associated with electrical generation. There will be several sources of modest sound such as blowers, pumps, condenser and fans. The size of the equipment and character of the sound is more typical of commercial building mechanical equipment than of typical electrical generating sources. Mitigation measures are engineered into the equipment configuration to keep the Fuel Cell facility cumulative sound within the applicable standards.

The ambient baseline was established by measurements that exclude short term ambient sounds (fleeting sources like nearby cars & trucks) so it represents quiet conditions for the area. The potential sources of sound at the facility were identified and quantified. Sound level modeling techniques were employed to estimate the sound levels at the nearest receptor locations of varied land uses. The results of the modeling indicate that the facility levels will meet the CDEEP noise criteria at all nearby receptors.

EXHIBIT E

Emergency Response Plan (ERP)



EMERGENCY RESPONSE/SAFETY PLAN

Prepared for:

Hartford Homestead Fuel Cell Facility

Located at:

441 Homestead Avenue
Hartford, CT 06112

Owned by:

Homestead Fuel Cell 1, LLC

c/o Fuel Cell Energy, Inc.
3 Great Pasture Road
Danbury, CT 06810

Prepared by:

FuelCell Energy, Inc.

3 Great Pasture Road
Danbury, CT 06810

Submitted to:

Connecticut Siting Council

10 Franklin Square
New Britain, CT 06051

June 2021

A current copy of this Plan is to remain in an accessible location on-site at all times

(redacted copy)

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Appendices

Appendix A: Plant Layout with Exit Pathways / Rally Area and Utility Shutoffs

Appendix B: Plant Hazardous Area Classification Drawings with ESD pushbutton & Emergency Sensor Locations

1 INTRODUCTION

The Hartford Homestead Fuel Cell Facility Project consists of three fuel cell power plants whose equipment is wholly owned by Homestead Fuel Cell 1, LLC. The fuel cell plants will be operated under a long-term service agreement by Homestead Fuel Cell 1, LLC (HFC1), a wholly owned subsidiary of FuelCell Energy, Inc. The property is owned by Talar Properties, LLC, and the generated power from the facility will be sold to Eversource and United Illuminating under Power Purchase Agreements. The net generating capacity of the three fuel cell power plants is 8.4 MW, nominal. This Emergency Response / Safety Plan has been prepared for submission to the Connecticut Siting Council in fulfillment of the requirements of the Decision and Order pursuant to Docket NT-2010. The NT-2010 order requirements for the preparation of an Emergency Response / Safety Plan are similar to the requirements imposed by other regulatory programs, namely, the Emergency Action Plan required by the Occupational Safety and Health Administration (OSHA) general industry standard, the Fire Prevention & Emergency Plan requirement of the National Fire Protection Agency Standard 853 and the development of safety programs required by OSHA. Accordingly, these plans, in addition to other information, are incorporated into this Plan in fulfillment of the NT-2010 requirements.

General

FCE SureSource fuel cell plants are designed and operated as unmanned power generation facilities. The control system for the plant is designed for the system to “fail safe” in the event of a process upset. For any event or upset condition that has a potential safety consequence, the plant control system initiates an emergency shutdown (“ESD”) sequence that isolates the external fuel source from the plant and trips the fuel cell inverters off the grid.

A DFC plant Emergency Shut Down event isolates the natural gas fuel supply from the plant through the use of dual fast-acting, spring-loaded block valves located at the fuel gas supply connection for each plant. An ESD event also triggers automatic isolation of the fuel desulfurizer vessels and initiates the purging of downstream fuel train components through the module using the onsite supply of inert nitrogen gas. Purging the residual fuel train contents out through the module results in the fuel being oxidized to innocuous end products. An ESD event also results in the fuel cell module(s) and inverter(s) being disconnected from the electric utility grid. Process upset or equipment operation malfunctions that can only cause equipment damage but no possible safety consequences can result in the fuel cell plant switching off the electric grid while remaining operational (islanding) so as to allow time for the electric grid or the fuel cell plant to stabilize, prior to resynchronizing with the grid. During any of these types of events, operators at FCE’s 24/7/365-manned Global Monitoring and Control Center (“GMCC”), will immediately assess the operational condition of the plant and take appropriate actions to stabilize or recover the plant to operational status, whichever is appropriate for the situation. If any on-site response is appropriate for the situation, the GMCC operator will contact appropriate personnel, be they an FCE field service technician, or in the very unlikely event of a developing emergency response situation, local emergency response personnel.

Following, in Table 1, is an outline description of the fuel cell plant and other site equipment included in this project.

Table 1: Plant Descriptions

Plant Model: SureSource 3000 (3 plants)

Each SureSource 3000 plant consists of two (2) FCE megawatt-class fuel cell modules, a Mechanical Balance-of-Plant (MBOP – skids 1-3), and an Electrical Balance of Plant (EBOP – 2 power conditioning units (PCU)/inverters with cooling chillers and 2 transformers).

Number of Fuel Cell Plants: 3

Fuel Cell Power Output: 8.4 MW, nominal, total for three plants

Installation Location: Outdoors, on concrete foundation pad

Fuel type: Pipeline Natural Gas
Utility supply pressure: 20 psig to fuel cell plant
Plant reduced operating pressure: <15psig

Plant Output Voltage: 23,000 VAC/3 Phase/60 Hz, at project interconnection points

EBOP Manufacturer: Rockwell

EBOP Transformer Type / Dielectric Fluid: Dry Type

Nitrogen Supply: 3000 gallon liquid, bulk tank

Additional Appurtenant Equipment

Fuel Cleanup Equipment: None

Ancillary Equipment:

Interconnection Switchgear Lineup w/ Metering: 23 kV, 60 Hz

Neutral Grounding Reactors: (3)

Project Equipment not in FCE scope: Equipment not described above is not covered by this plan

2 EMERGENCY RESPONSE / SAFETY – PLANS

Employers are required by the Occupational Safety and Health Administration (“OSHA”) Standard at 29 CFR 1910.38 to have a written Emergency Action Plan (“EAP”) for workplaces. The EAP can serve to fulfill the requirements of an Emergency Response Plan when the plan for emergency response activities is to evacuate the premises and to allow professional emergency responders to perform the required emergency response activities. Due to the nature of FCE fuel cell power plants being unmanned, remotely operated, and fail-safe in operational philosophy and control, it is the practice and policy of FCE to instruct workers, through a workplace EAP, to evacuate the premises in emergency situations and to summon professional emergency responders to perform required emergency response activities.

NFPA 853 is the national standard for the installation of Stationary Fuel Cell Power Systems and requires the preparation of a written Fire Prevention and Emergency Plan for fuel cell installations. The Fire Prevention and Emergency Plan is to be prepared in accordance with the requirements of Section 8.2 of NFPA 853 and is to include descriptions of fire prevention procedures, inspections, housekeeping practices, flammable material storage, control of ignition sources, procedures for fire protection equipment impairment, fire emergency plans and other information.

The OSHA standards for General Industry (Part 1910) and Construction (Part 1926) at Title 29 of the Code of Federal Regulations require that employers comply with a host of health and safety standards. Such requirements are outlined in employer safety programs and policies. Summary statements of corporate health and safety policies are often prepared for employee quick reference on an individual plant or project-specific basis.

Copies of the Emergency Action Plan, Fire Prevention & Emergency Plan and Plant/Project Safety Plan for the Homestead Fuel Cell Facility Project follow.

Emergency Action Plan

Following is the Emergency Action Plan (EAP) for the subject plant. As the new plant is at the point of the start of construction, the installation of which will add 8.4 MW of clean, reliable generation capacity to the site, this EAP will serve as both a construction phase and an operation phase document. If required, it will be updated again as necessary to appropriately reflect specific site conditions and limitations, at final project completion.

Emergency Action Plan

Site Name: **Homestead Fuel Cell Facility Project**

Site Address: **441 Homestead Avenue
Hartford, CT 06112**

Plant Operator: FuelCell Energy, Inc.
3 Great Pasture Road
Danbury, CT 06810

Plant Owner: Homestead Fuel Cell 1, LLC.
3 Great Pasture Road
Danbury, CT 06810

A. Emergency Plan Coordinator & Other Contacts

Emergency Plan Coordinator –

Name: **Global Monitoring and Control Center (GMCC)**
Company: FuelCell Energy, Inc. **(FCE)**
Description: 24 hour / 365 day Plant Monitoring
Telephone No: **(800) 326-3052**

Additional Contact information –

Site Operator Contacts: *(NOTE: private telephone numbers redacted from public report to protect privacy)*

Name: Valerie Hoffman
Co./Dept./Title: FCE / Field Service / Eastern Region Manager
Telephone No: (203) 825-6071 (FCE)
(XXX) XXX-XXXX (work cell) *(redacted for public copy)*
(XXX) XXX-XXXX (personal cell) *(redacted for public copy)*

Name: Chris McCarthy
Co./Dept./Title: VP, Service Operations
Telephone No: (203) 205-2054 (FCE)
(XXX) XXX-XXXX (Home) *(redacted for public copy)*
(203) XXX-XXXX (Cell) *(redacted for public copy)*

Name: Mark Benedict
Co./Dept./Title: FCE / Process Engineering /Principal Engineer, Product EHS
Telephone No: (203) 830-7429 (FCE)
(XXX) XXX-XXXX (Home & Cell) (*redacted for public copy*)

Name: Joe Ulevicus
Co./Dept. /Title: FCE / Director EH&S and Plant Engineering
Telephone No: (860) 496-2273 (FCE)
(XXX) XXX-XXXX (Cell) (*redacted for public copy*)

Additional Site Contacts:

Name: David Horowitz
Co./Dept.: Talar Properties (Land Owner)
Telephone No: (860) 563-6443 email: dhorowitzcpa@hhcpas.com

Site Utility Contacts:

Company: **Connecticut Natural Gas**
Name/Dept./Title: Gas Leaks or Emergency 24-hr contact
Telephone No: (866) 924-5325 (24-hour)

Company: **Eversource (electricity)**
Telephone No: (800) 286-2000 (Power Out)
Telephone No: (888) 783-6617 (Business, Electric, Customer Service)

Company: **Hartford Water Department, Metropolitan District Commission**
Name/Dept./Title: MDC Command Center
Telephone No: (860) 278-7850

Company: **Metropolitan District Commission (Sewer)**
Name/Dept./Title: MDC Command Center
Telephone No: (860) 278-7850

Company: **TBD (later)**
Name/Dept /Title:
Telephone No:

Government Official Contacts:

(as of April, 2021)

(Note: Government officials are only to be contacted by designated FCE personnel, per established FCE policy/procedure, described later in this Plan)

City of Hartford

Mayor (City of Hartford) – Luke Bronin – (860) 757-9500, or alternate (860) 757-9311

City Council President – Maly Rosado – (860) 757-9578

Hartford Police Department – (860) 757-4000 (non-emergencies)

Hartford Fire Department – (860) 757-4500 (non-emergencies)

State Legislators –

State House Rep. – Matt Ritter (District 1); (860) 240-8585 (aide); (800) 842-8267

State Senator – Doug McCrory (Senate District 2); (860) 240-8600 (aide); (800) 842-1420

Private Residences/Establishments requesting notification of emergency response incidents (per formal request):

| Neighboring Resident or Establishment Name | Neighbor Street Address | Contact Information – Phone and/or email |
|---|--------------------------------|---|
| <i>none</i> | | |
| | | |
| | | |

B. Preferred Means of Reporting Emergencies

GMCC is to contact local Emergency Responders in accordance with this Plan, if required, or when requested to do so by on-site personnel.

| Emergency | Make Initial Notification to: |
|--------------------------------------|--|
| Fire / Explosion | 9-1-1 (from local) (860) 722-8206 (from remote [GMCC]) <i>(Hartford Fire Dispatch, verified 4/8/21, MAB)</i> |
| Flammable/Hazardous Material Release | |
| Medical Emergency | |
| Threat / Violence | |
| Severe Weather | Coordinate with FCE GMCC (800) 326-3052 |

GMCC is to then contact a FCE Field Service Management representative and then make any additional utility / owner / community resident contacts as directed to by FCE F.S. Management representative.

C. Emergency Action Plan Elements

- **Emergency Escape Procedures and Routes**

Emergency escape routes, exits and rally areas are depicted in the Plant Layout drawing provided in Appendix A.

Upon discovery of the need for an evacuation (either self-initiated or in response to an evacuation call), all personnel on site shall immediately proceed to the nearest safe site exit and then proceed immediately to the designated rally area. Non-FCE contractors and guests shall be escorted by their host FCE employee to the nearest safe exit. The FCE standard lock combination is known by operating /maintenance personnel for any exits that may be secured at times when the plant is occupied.

In the course of evacuation, ***a call shall immediately be placed to GMCC with a request/instruction for the second GMCC operator to immediately call local Emergency Responders*** (See *Emergency Action Plan, Section B*) to initiate action by the local emergency response organization(s). The caller is to stay on the line and provide all information requested, including name, location and nature of emergency and additional contact information, as may be requested.

With the exception of small 'incidental' spills (as defined by OSHA and per FCE employee training), FCE employees are not to perform chemical spill response activities. Emergency or private spill response contractors are to be retained for the cleanup of non-incidental spills.

All releases of ANY material are to be reported to the FCE Product EHS Principal Engineer and to the FCE EHS department as soon as practical, who will in turn advise/report to the site owner and governmental authorities, if required.

- **Procedures for Employees who Remain to Operate Critical Operations Before Escape**

All employees are expected to proceed immediately to the designated primary or backup rally location during any call for site evacuation.

- **Employee Accountability Procedures after Evacuation**

The Homestead Fuel Cell Facility Project is a normally unmanned site; however, one or several FCE, owner or visiting personnel may be present on site at any time to perform operating, maintenance or other tasks. Per established site work/visitation procedure, all FCE and other personnel present on-site will be known by both the senior FCE Field Service employee present at the site as well as by the off-site GMCC operator. Upon the implementation of an evacuation, cell phone contact is to be established immediately with GMCC to update or confirm the list of on-site personnel.

Accounting of all on-site personnel is to then be made at the rally area, or backup rally area, wherever the situation dictates that assembly occur.

- **Rescue and Medical Duties**

FCE employees are not routinely provided with rescue or in-depth medical training, and as such are not required or expected to perform rescue or medical duties. FCE employees are NOT to reenter the site following an evacuation prior to an 'all-clear' call being made from the professional first responder person in charge.

- **Alarm System**

FuelCell Energy plants are normally unmanned sites, with only a small number of workers present on site at any given time. Typically one, sometimes two, and on rare occasions more than two workers are present on site when work is being performed. When multiple workers are on site, they will typically be working together.

***The employee alarm system** to be used at the Homestead Fuel Cell Facility Project site is direct voice communication. The OSHA standard for employee alarm systems at 29 CFR 1910.165 allows the use of direct voice communication as an acceptable procedure for sounding an alarm system for workplaces of 10 or fewer employees, provided all employees can hear the alarm.*

Upon discovery of a situation requiring evacuation, the discovering employee shall directly communicate the evacuation requirement to his/her fellow employees. Any non-employee guests on-site will be escorted by their host employee to the nearest clear exit at that time. It is envisioned that all employees present on site at any time will be capable of hearing a call for evacuation under foreseeable circumstances.

- **Training**

All employees and contractors working at, and visitors to, FCE fuel cell power plants are to be trained in the elements, policies and procedures of this Emergency Action Plan prior to, or at the time of their first visit. All persons present at FCE plant sites are expected to comply with all elements of this plan in emergency situations.

D. Emergency ShutDown (ESD) Procedures

ESD Pushbuttons located throughout the site can be used to shut down the operation of site equipment.

- 1. Site Electrical Disconnect pushbutton:** The following ESD pushbutton will ***disconnect the Fuel Cell plants causing de-energization of plant controls and shut down of the plants and opening of the plant utility grid Tie-Breakers*** (present on each plant):

- 1 Switchgear Lineup ESD Pushbutton (HS-300E)

Note that some Mechanical Balance of Plant electrical devices are also UPS (uninterruptable power supply) fed, so some low voltage equipment may temporarily remain energized even after engaging an ESD pushbutton. Note also that a hot DFC module may contain hazardous voltage, even when not operating.

- 2. DFC ESD pushbuttons:** The following ESD pushbuttons will stop the operation of the DFC equipment ***of the respective plant that the button is installed on*** (pushbuttons listed below are all present on each of the three SureSource 3000 plants included at Homestead Fuel Cell Project):

- 1 pushbutton on the control panel on the plant west end of Skid 2 (HS-300A)
- 1 pushbutton on the plant southeast corner of Skid 2 (HS-300B)
- 1 pushbutton on the plant north side of the Leader PCU (HS-300F)
- 1 pushbutton on the plant north side of the Follower EBOP PCU (HS-300F)

NOTE: Fuel Cell Plant Electrical Balance of Plant switchgear, PCU and transformer equipment will remain energized even after depressing one of these ESD pushbuttons. Note also that some Mechanical Balance of Plant electrical devices are also UPS (uninterruptable power supply) fed, so some low voltage equipment may temporarily remain energized even after engaging an ESD pushbutton. Note also that a hot DFC module may contain hazardous voltage, even when not operating.

The locations of the plant ESD pushbuttons are depicted in the drawings in Appendix B.

E. Special Training

FuelCell Energy personnel who work at fuel cell plants receive Hazcomm training in the chemical hazards that are present on site. Operating personnel also receive training in other occupational safety and health (OSHA) standards, as appropriate for the tasks to which they are assigned.

F. Personnel Accounting Following Evacuation

In order to be accounted for, all personnel present on site at the time of an evacuation are to proceed to the designated rally area, depicted on the drawing in Appendix A. Contact will be made with GMCC and the ranking supervisor on site will determine if all personnel are accounted for or if any personnel are missing. The results of the accounting determination will be reported to the professional first responder in charge of the emergency response.

G. Rescue And Medical Duties

All rescue and medical duties required at any FCE fuel cell plant will be performed by professional emergency response personnel.

2.2 Fire Prevention & Emergency Plan

Following is the Fire Prevention & Emergency Plan for the subject plant. As the plant has not been constructed to date, this Fire Prevention & Emergency Plan will be updated as necessary to appropriately reflect specific site conditions and limitations, as FCE becomes aware and construction is completed.

Fire Emergency Plan

Purpose:

This document provides information specific to FuelCell Energy's SureSource Fuel Cell power plant(s), as described in the Plant Description section earlier in this Plan (Table 1). The document has been prepared in accordance with the requirements of Section 8.2 of NFPA 853-2020, Standard for the Installation of Stationary Fuel Cell Power Systems.

A. Response to Fire or Other Emergency Condition

- **Overview of fire hazards present**

Natural gas (odorized) at a nominal pressure of 20 psig is supplied to the fuel cell power plant connection points from the fuel gas supply train located inside the east fence line of the enclosure along Homestead Avenue. The aboveground gas train is installed on a concrete pad and consists of a gas meter, pressure reducing regulator(s) and manual shutoff valves and is located inside the locked fence enclosure surrounding the fuel cell plants. Fuel piping runs underground from the shutoff valve/metering station to where it emerges above grade and connects to the plants. The fuel cell plants immediately reduce the fuel gas pressure to less than 15 psig and direct the gas flow to the plant desulfurization equipment.

Natural gas is de-odorized by flowing through the two desulfurizer vessels of each fuel cell power plant. The desulfurizer vessels are each equipped with a pressure safety (relief) valve (PSV), sized for both a failed pressure reducing valve and a fire exposure condition. The PSVs discharge to a vent termination approximately 25' above grade over the desulfurizer vessels. Any flow through a PSV is immediately detected by an in-line flow sensor, which in turn immediately initiates a plant ESD. De-odorized fuel flows through the fuel cell power plant equipment, including the fuel humidifier and the preconverter and then into the fuel cell modules. The air heater also operates on an intermittent basis on de-odorized fuel. All fuel gas is confined within code complying process piping and vessels. All fuel sample valve taps are small bore and "double blocked" by virtue of tethered caps.

The fuel cell power plant operates at high internal temperatures. Temperatures inside the insulated fuel cell module are approximately 1200°F and the fuel fired air heater also operates at temperatures of up to 1200°F. The fuel humidifier and connecting pipes also operate at high temperature. Insulation or guards are provided to maintain external metal and cloth skin surfaces at safe temperatures.

Ancillary pieces of electrical equipment are provided with or are appurtenant to the fuel cell power plant. Some electrical equipment may operate at high current and/or medium voltage (>500V) and therefore generate appreciable heat. All electrical

equipment are designed to applicable codes, including provisions for adequate heat dissipation.

- **Notifications and coordination**

Upon discovery of a fire or other emergency condition, or acknowledgement of a fire alarm associated with the fuel cell power plant, the discovering or acknowledging person shall make notifications to the appropriate persons as outlined in the site Emergency Action Plan.

An on-site discovering person who is trained in the operation and maintenance of the fuel cell power plant and who has evacuated the site for an emergency situation shall remain stationed in proximity to the site and accessible to emergency responders through the emergency response time frame in order to assist and support responders with technical expertise as they may request or require.

An on-site discovering person who is a representative of the property/facility owner shall remain on-site through the emergency response time frame to assist and support responders with property/facility owner information and resources, including access to required resources and traffic control as emergency responders may request or require.

- **Plant security**

Public access to the fuel cell equipment is restricted by a locked, eight foot high twist selvage chain link fence enclosure surrounding the plant site. The enclosure is equipped with personnel and equipment doors or gates for necessary access. All doors/gates are kept locked when facility or operating personnel are not present. Emergency Fire Department access to the site in the absence of attending personnel would be obtained by cutting the lock/chain with a bolt cutter.

- **Evacuation and restriction of non-response personnel**

Upon discovery of a fire or other emergency condition associated with the fuel cell power plant, the plant area shall be immediately evacuated of all non-response personnel to a minimum distance of 100 feet. Plant host facility representatives and qualified plant operating personnel shall identify themselves to Emergency Response personnel and remain nearby and available to assist in response activity support, as necessary. Notifications of nearby residents as required by the Emergency Responses Person in Charge, shall be undertaken as directed, per the EAP.

- **Operator activities**

On-site personnel:

- Upon discovery of a fire or other plant emergency condition with the plant still running, while immediately evacuating the area of self and others, depress any Emergency ShutDown (ESD) pushbutton, if it is safe to do so. ESD buttons are situated at several locations around the plant as indicated in Appendix A and Appendix B, and as can be identified by their red mushroom caps and labeling, as depicted in photos later in this plan.
- Upon discovery of a fire or other emergency condition with a plant that has experienced an Emergency ShutDown (ESD), immediately evacuate others and self.
- Contact GMCC and instruct GMCC to in turn contact local Emergency Responders. As an emergency situation, advise GMCC to make other required notifications to management personnel, owner, and others, per Emergency Action Plan.
- Remain on-site at a safe distance to assist and support responding personnel, including providing plant access, restricting access of non-responding personnel, or controlling traffic.

Remote GMCC (Global Monitoring and Control Center) operators:

- Upon advisement or acknowledgement of a *fire-related* Emergency Shutdown or knowledge of other emergency condition, make Emergency Responder and all other required notifications as described in Emergency Action Plan.
- If not already present, dispatch field service personnel to the site to assist and support response personnel with fuel cell technical expertise.

B. Fire Extinguishment / Emergency Plant Shutdown

- **Fire water application concerns**

FIRE WATER SHALL NOT BE APPLIED TO COMPONENTS OF THE FUEL CELL POWER PLANT AT ANY TIME. Certain fuel cell components may remain electrically energized with either alternating current or direct current voltage even after a system shutdown via one of the Emergency ShutDown (ESD) pushbutton switches.

- **Appropriate extinguishing media**

Only fire extinguishing medias appropriate for live electrical equipment shall be applied to fuel cell power plant components. Only listed fire extinguishers for Class A:B:C type fires are provided inside the plant enclosed area.

Upon Emergency ShutDown (ESD) of an individual fuel cell power plant, the fuel supply to the plant is automatically shut off via 2 in-line, fast-acting, spring-loaded isolation valves.

Following an ESD, **ELECTRICAL ISOLATION IS NOT ASSURED**. Substantial AC and/or DC voltages may still remain for significant durations following an Emergency ShutDown event.

FOLLOWING AN ESD SOME NATURAL GAS WILL REMAIN ISOLATED WITHIN THE FUEL DESULFURIZER VESSELS; however, these vessels are protected from overpressurization by pressure safety valves sized for fire exposure conditions. Following an ESD, nitrogen gas supplied from an on-site liquid source will flow through the fuel cell plant equipment. As with the desulfurizers, the nitrogen source supply is protected against overpressurization by a safety relief valve provided by the gas supplier.

A Plant Layout drawing is provided in Appendix A. The locations of key utility shutoffs (fuel gas, electricity) are indicated on the layout drawing.

- **Other Emergencies**

Hazardous material spills – Hazardous materials that may be temporarily present on-site other than natural gas are typically solids, and usually only in small quantities. Trained hazardous material operations and response personnel are on-site for any operations or maintenance activities that involve the handling of bulk or containerized hazardous materials. Small quantities of water treatment chemicals are contained in the water treatment (Skid 1) enclosure.

Personnel injuries – For injuries requiring medical attention, the injured party or his/her companion shall seek appropriate medical attention for the injured. For serious injuries, call GMCC to summon local Emergency Responders per the Emergency Action Plan. For less serious injuries that require medical attention the injured shall obtain medical treatment at the nearest emergency medical care facility. All accidents and injuries (and near misses) shall be reported to FCE EHS.

C. Plan Validation

The executable elements of this Fire Emergency Plan consist of the manual activation of an Emergency ShutDown, evacuation of the power plant area, and notifications. ESD buttons are all hard-wired in a fail-safe circuit. All fuel cell operating personnel are trained and regularly re-trained in a complete suite of safety programs.

Fire Prevention Plan

A. Egress

A Plant Layout drawing depicting emergency egress paths is provided in Appendix A.

B. Emergency alarms and ShutDowns

The fuel cell power plant is provided with Emergency ShutDown (ESD) pushbuttons. ESD pushbuttons have red mushroom caps and are clearly labeled. ESD pushbutton locations are indicated on the drawings in Appendix A and Appendix B. Photos of typical ESD pushbuttons are shown in Figure 1. Depressing an ESD pushbutton will immediately shut down fuel flow to the respective power plant as well as shut down the respective mechanical balance of plant equipment. **HOWEVER, THE ESD DOES NOT OPEN THE ELECTRICAL GRID TIE BREAKER, SO ELECTRICAL BALANCE OF PLANT COMPONENTS WILL REMAIN ENERGIZED. ADDITIONALLY, UNINTERRUPTABLE POWER SUPPLIES (UPS) WILL PROVIDE POWER TO A NUMBER OF MECHANICAL BALANCE OF PLANT COMPONENTS AND THE FUEL CELL MODULE WILL RETAIN SIGNIFICANT DC VOLTAGE POTENTIAL ENERGY IF OPERATING OR HOT PRIOR TO THE ESD.** (exception – the switchgear lineup ESD button does open the electric grid tie-breaker; however, hazardous voltage may still remain.)

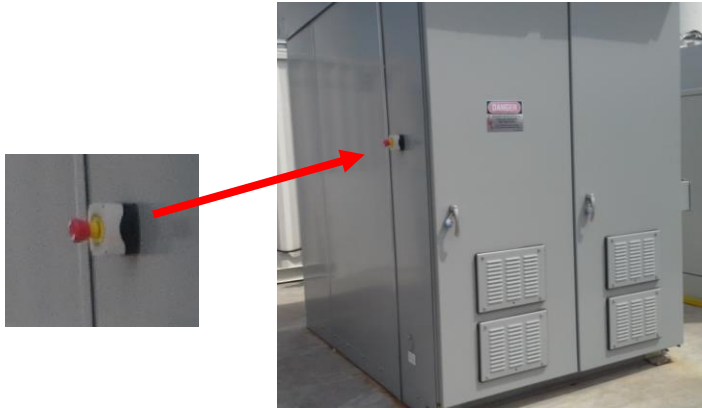
The following types of automatic acting emergency sensors are provided with the fuel cell power plant:

- Combustible gas detectors
- UV/IR Flame detectors
- Smoke detectors

In addition process flows, temperatures, pressures and voltages are continuously monitored for deviations from expected values. Process sensors are used to verify proper operation of the process and will quickly sense and shutdown the process upon severe deviations, such as would occur in the case of excessive seismic activity. Emergency sensors have either supervisory signals or are wired to alarm on sensor failure such that the plant will ESD on the loss of any one of these devices. Emergency sensors are calibrated in accordance with an established schedule as described in the maintenance manual. Sensor locations, as well as Classified hazardous areas, are depicted in the drawings provided in Appendix B.

Sensor detection of flame, MBOP smoke, or presence of excessive combustible gas concentration (45% of Lower Explosive Limit [LEL]) will result in an Emergency

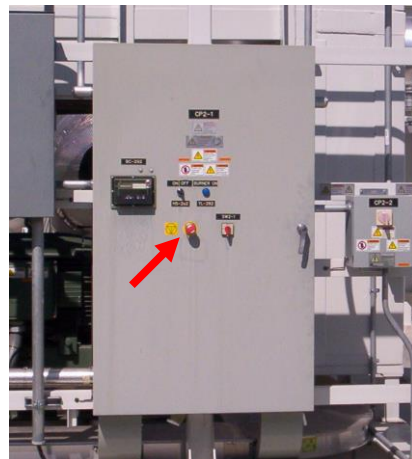
ShutDown (ESD) of the fuel cell plant. In the case of combustible gases, detection of a concentration of approximately 25% LEL will result in a high LEL warning alarm. EBOP smoke detectors provide an alarm function only as other performance shutdowns protect the equipment in case of actual fire.



Tie Breaker Switchgear
(Typical, Site Electrical Disconnect)



Electrical Balance of Plant



Skid 2, Main Process Skid Control Panel

Figure 1: Typical Emergency ShutDown (ESD) Pushbuttons

Fuel cell plant operating personnel are provided with portable gas detectors for use in operating and maintenance tasks including surveillance for gas leaks should such be necessary.

C. Fire prevention

The fire prevention strategy for the fuel cell power plant consists of the following Plan elements:

- **Housekeeping**

The area around the fuel cell power plant shall be kept orderly and free of combustible and flammable materials, including combustible and flammable liquids, flammable gases and combustible and flammable solid materials. Trash shall not be allowed to accumulate. The water treatment system container shall not be used for storage of any flammable or combustible materials.

- **Storage and Handling of flammables/combustibles**

STORAGE OF FLAMMABLE AND COMBUSTIBLE MATERIALS IS PROHIBITED WITHIN THE PLANT ENCLOSURE WITHOUT PRIOR WRITTEN PERMISSION FROM THE LOCAL AUTHORITY HAVING JURISDICTION. Transient flammables and combustibles may include gases, small containers of flammable liquids such as gas/solvents, trash and virgin and spent consumables used in the fuel cell process. These materials are to always be stored in packaging appropriate for their material properties and retained on site for as short of a duration as feasible. Flammable and combustible materials are to be kept separated from sources of ignition, fuel piping and processing equipment and electrical equipment and shall be protected from weather. Appropriate packaging materials for consumable materials are as follows:

- Catalysts, virgin or spent – closed/sealed steel drums
- Desulfurizer media, virgin – manufacturer's original packaging, weather protected
- Desulfurizer media, spent – closed/sealed steel drums

- **Flammable/combustible materials and potential ignition sources**

The following are flammable/combustible materials *potentially* present at the fuel cell power plant:

- Natural gas (present in piping and desulfurizer vessels only - no on-site storage)
- Electrical equipment
- Plastics
- Insulation jacketing
- Desulfurizer media (activated carbon)
- 50% aqueous solution Propylene Glycol EBOP chiller coolant and heat transfer medium
- Misc. new and used filter elements, PPE, packaging, etc.
- Granular nickel based catalyst (DOT Div. 4.2, PG II/III; transient storage only, never long-term)

Natural gas piping within the plant security fencing is identified with yellow “Natural Gas” pipe markers, complying with ANSI A13.1 requirements.

The following are potential ignition sources present at the fuel cell power plant:

- Heat from process
- Electrical equipment
- Catalysts
- Hot work
- Unauthorized Smoking or open flame
- Internal combustion equipment/vehicles

The fuel cell power plant design and procedures established to operate and maintain the plant have been formalized to minimize any potential for fire.

- The entire plant has been designed to and complies with the provisions of the ANSI/CSA safety code FC 1-2014.
- The plant is equipped with automatic safety sensors to safely shut down the process in cases of leaking fuel or fire (Section B.)
- All fuel is pipeline supplied with minimal fuel holdup within the process.
- Desulfurizer vessels have been provided with pressure safety relief valves sized for fire emergencies.
- All of the plant piping has been designed in accordance with ASME B31.3 standard for process piping code. Piping is marked in accordance with ANSI A13.1.
- Areas of potential hazardous (classified) atmospheres have been identified and sources of potential ignition have been removed and any electrical equipment within complies with the area classification designation.
- Electrical equipment is designed to and complies with the provisions of UL1741.
- Smoking is NOT allowed within the fuel cell plant area.
- Hot Work within the fuel cell plant area is by Permit only, with potential sources of flammable materials removed from the area of potential ignition when hot work is conducted. Hot Work Permits are to be issued by the plant owner/operator. Additionally, any hot work conducted under the supervision of FuelCell Energy will also be permitted under the FCE Hot Work Permit program.

- **Portable Fire Extinguisher**

Sufficient type A:B:C portable fire extinguishers (20 lb. minimum), depicted in the drawing in Appendix A, are installed at the plant such that the travel distance to nearest extinguisher does not exceed 50 feet. Portable fire extinguishers required for specific maintenance procedures are brought to site by service personnel as special equipment for that procedure.

- **Inspections of plant area and fire prevention equipment**

All inspections and maintenance of fuel cell components and systems are to be performed in accordance with the latest revision of the plant maintenance manual. Operating personnel also conduct an informal “walk around” inspection every time they visit the plant site. As the plant operates remotely without the presence of operators, the walk around inspection is simply to check for any out of the ordinary situations or accumulated materials. FuelCell Energy operators log any negative findings into a Computerized Maintenance Management System (CMMS) database. Sensors are calibrated or replaced in accordance with an established maintenance schedule based on equipment manufacturer’s instructions; with work orders scheduled and records maintained by the database.

If, during an operator site visit or walkaround inspection a fuel leak is discovered, an immediate evaluation and disposition shall be undertaken. For sizeable leaks, an immediate plant shutdown may be necessary, while leaks of a very minor nature may be able to be addressed by such remedies as flange bolt retorquing or other measures. FCE operators are equipped with portable fuel gas (LEL) meters to assist in the evaluation of leak severity. Any discovered leak and its corrective measures shall be recorded in the CMMS database.

UV/IR flame detectors, combustible gas (LEL) sensors and smoke detector automatic sensors shall be tested, calibrated, maintained and/or replaced at the frequency provided in the SureSource plant maintenance manual. A summary of these requirements is provided below:

| Automatic Sensor | Frequency | Maintenance Action |
|---------------------------|------------------|------------------------------------|
| Skid 1 Smoke Detectors | 18 mos. | Test & replace if required |
| EBOP Smoke Detectors | 18 mos. | Test & replace if required |
| Combustible Gas Detectors | 6 mos. | Clean, test & calibrate, if req'd. |
| UV/IR Flame Detectors | 18 mos. | Clean & Test |

- **Fire protection system/equipment impairment**

Unintended impairment of any fire protection sensor system will automatically ESD the plant. Manual short-term sensor impairment for the purpose of on-site maintenance occurs only at times when maintenance personnel are on-site and vigilant for signs of fire or potential fire. As a policy, extended system impairment is not permitted with rare exceptions and only when alternative monitoring methods can be implemented by remote monitoring and for as short of a duration as possible.

- **Incident investigation and reporting**

Any fire-related incident shall be immediately reported to the Local Fire Department as “lead investigator.” Plant owner representatives as well as FuelCell Energy qualified personnel will be called upon to assist the Department in the site and technical aspects of the investigation. Such incidents will also be investigated by the fuel cell operator/manufacturer (FCE) as required by the manufacturer’s Certifying Agency. Results/conclusions of the investigation will be reported to the plant owner. External reporting to other agencies will be as directed by the responding Department commanders and as required by regulation, as established at the time of incident.

2.3 Plant/Project Safety Plan

Following is the Safety Plan for the subject plant. This Safety Plan will be updated as necessary to appropriately reflect specific site conditions and limitations, as FCE becomes aware and as construction progresses.

Safety Plan

FCE will address site security and personnel safety as the highest priority to ensure a safe and healthy work environment. Minimum safety requirements and policies have been identified and will be provided and enforced on all levels and for all organizations performing work at the facility during both the construction and operation phases of the project.

In addition, all contractors and subcontractors will be required to provide, adhere to, enforce, and report on their own safety policies and practices. Such policies, procedures and/or handbook will be provided to FCE prior to contract execution for FCE's review and consideration.

A. Site Supervision

FCE, or their prime construction subcontractor, will provide a construction/safety manager to be present while any work is being performed on site at any time. FCE Project Management representatives and EHS professionals will perform additional on-site review and inspections to further enforce all safety policies and practices.

Further, contractors and subcontractors will be required to have their own safety supervisor on site at all times when work is being performed. The safety supervisor is responsible for their personnel's adherence to all required and prudent safety policies and practices. The supervisor is to be responsible for:

- Enforcing safety policies and practices,
- Providing safety orientation for any new personnel onsite,
- Daily safety “toolbox” meetings covering daily activities and associated risks, by trade,
- Recording the daily safety meetings,
- Weekly safety status meetings and discussion topics,
- Performing and reporting on weekly safety audits,
- Maintaining a daily personnel attendance log (for personnel accounting),
- Site walks with FCE’s safety and construction managers on request, and
- Monthly formal reports including labor hours worked, incidents (including near misses, recordable events, and reportable events) along with a detailed description of corrective actions, audit results, and a summary of any site walks that occurred during that period.

At any time, FCE or subcontractor’s safety or construction management personnel can enforce a stop work directive to correct any safety infractions.

B. FCE Safety Program Policies

Construction contractor and plant operator shall plan and conduct all work to safeguard persons and property from injury and will direct performance of work in compliance with reasonable safety and work practices and with applicable federal, state and local laws, rules, and regulations including but not limited to "Occupational Safety and Health Standards" promulgated by the U.S. Department of Labor. Work in areas adjacent to electrically energized equipment and/or operating natural gas equipment shall be performed in accordance with said practices, laws, rules, and regulations.

As part of FCE’s continuing efforts to provide a safe and healthy workplace, it is required that all work activities be performed in accordance with all applicable regulatory requirements. While impossible to foresee all potential circumstances, the below list of Environmental, Health and Safety requirements constitutes the minimum basic elements to be followed during both the construction and operation phases of the fuel cell power plant project.

- SIGN IN: All individuals must sign in/out at the office each day that they are on site.
- ACCIDENT, ILLNESS & INJURY: All accidents and injuries occurring on the premises shall be reported immediately to the Construction Manager in charge of the work being performed, or during operation phase of plant, to the FCE EHS department as soon as possible.
- CHEMICAL RELEASE OR SPILL: Any release of chemicals on site, regardless of volume, must be immediately reported to the Construction Manager, or during operation phase of plant, to the FCE EHS department as soon as possible.
- COMPRESSED GAS MANAGEMENT: The management and use of compressed gas is to be performed in accordance with OSHA standard 29 CFR 1910.101 "Compressed Gasses, General Requirements."
- CONFINED SPACES: All work in "confined spaces" is to be managed in accordance with OSHA standard 29 CFR 1910.146.
- CRANE HOIST & SLING SAFETY: The operation of cranes and hoists is to be performed in accordance with OSHA standard 29 CFR 1910.179; and the use of slings is to be in accordance with OSHA standard 29 CFR 1910.184.
- ELECTRICAL SAFETY: All work involving electricity is to be performed in accordance with OSHA standards 29 CFR 1910 Subpart S, "Electrical Safety"; 1910.269 "Electric Power Generation, Transmission & Distribution; and NFPA 70E-2004 "Electrical Safety In The Workplace" as applicable.
- EYE PROTECTION: During all times that ANY work is being performed anywhere on the facility, all personnel at the facility must be wearing eye protection.
- FALL PROTECTION: All work performed at heights of six feet or greater must be provided with at least one form of fall protection that will either prevent a fall from occurring, or properly arrest a person's fall once the event has occurred. However, platforms, or other surfaces designed primarily for walking, shall be provided with an approved guardrail system when they are either; >4' above the adjacent floor or ground level, or, above dangerous equipment (conveyor belts, chemical baths, exposed rebar, etc...) regardless of height. In all cases, work at height must be performed in accordance with OSHA standards 29 CFR 1910.23, 132, and 503.
- HAND & PORTABLE POWER TOOL SAFETY: Hand and portable power tools are to be used in accordance with OSHA standard 29 CFR 1910 Subpart P.
- HAZARD COMMUNICATION; RIGHT to KNOW: 29 CFR OSHA standard 29 CFR 1910.1200: Employees shall not be exposed to Hazardous Chemicals without first receiving training on the associated physical and health hazards and the measures needed to protect the employee from these hazards.
 - FCE utilizes green on white Target Organ Labels identifying the Name and the Physical & Health hazards of a material; these labels shall be

used for all containers not otherwise adequately labeled by the manufacturer.

- Hazardous materials brought on site shall be labeled and a Safety Data Sheet (SDS) supplied to the Environmental Health and Safety (EHS) Department prior to working with the chemical.
- An SDS station detailing all chemicals currently onsite is available for review.
- HAZARDOUS MATERIALS: FCE EHS is to be notified in advance of all hazardous materials to be brought on site. Storage, use and off-site transportation of these materials shall be performed in accordance with applicable requirements of the Connecticut General Statutes, the Regulations of Connecticut State Agencies and Titles 29 (OSHA), 40 (EPA), 49 (DOT) of the Code of Federal Regulations.
- HOT WORK PERMIT SYSTEM: A formal "Hot Work Permit" program is used as part of FCE's overall Fire Prevention Program. Hot work is any operation that introduces a potential ignition source, which in the presence of combustible or flammable materials can result in a fire. HOT WORK includes, but is not limited to, operations such as brazing, cutting, grinding, soldering, torching, and welding. The use of a Hot Work Permit is required for all hot work operations outside of designated hot work areas. Hot work can be performed without a permit only in areas specifically designated and posted as a "Hot Work" area.
- LADDER SAFETY: The use of ladders is to be done in compliance with the following OSHA standards:
 - 29 CFR 1910.25 - PORTABLE WOOD LADDERS
 - 29 CFR 1910.26 - PORTABLE METAL LADDERS
 - 29 CFR 1910.27 - FIXED LADDERS
 - 29 CFR 1910.29 - MANUALLY PROPELLED MOBILE LADDER STANDS & SCAFFOLDS

- LOCKOUT TAGOUT PROGRAM: All servicing and maintenance of equipment is to be performed in accordance with the requirements of OSHA standard 29 CFR 1910.147 or 269 as applicable. These standards require locking out all potential energy sources prior to the performance of work.
- PERSONAL PROTECTIVE EQUIPMENT: In accordance with OSHA standard 29 CFR 1910.132-138 and Subpart I, work is to be performed using all necessary PPE. Hazard Assessments and Training in the use of required PPE are to be performed and documented prior to performance of work. PPE shall be removed before leaving the work area and disposed of according to waste management procedures to ensure that contaminants are not spread to personnel, through the facility(s), and/or to the environment.
- POWERED INDUSTRIAL TRUCKS: Forklifts and other industrial lift trucks are to be operated only by personnel trained in accordance with OSHA standard 29 CFR 1910.178.
- POWERED PERSONAL LIFT TRUCKS: Powered personal lift trucks are to be operated only by personnel trained in accordance with OSHA standard 29 CFR 1910.67 and 29 CFR 1926.453.
- SAFETY DEVICES: Equipment safety devices are not to be removed, bypassed or otherwise modified without review and approval by FCE EHS Dept.
- SCAFFOLDING: All use of scaffolding shall be in accordance with the following OSHA standards:
 - 29 CFR 1910.28 – "Safety Requirements for Scaffolding"
 - 29 CFR 1910.29 – "Manually Propelled Mobile Ladder Stands & Scaffolds"
- STORMWATER POLLUTION PREVENTION: In accordance with the Connecticut Department of Environmental Protection (CTDEP) "General Permit for the Discharge of Stormwater Associated with Industrial Activity"; activities which will directly or indirectly release hazardous or non-hazardous materials into the storm water system are not permitted. All site practices will be to prevent or minimize pollution of stormwater. Operation of the fuel cell plant in and of itself does not invoke stormwater permitting requirements, however, with a site disturbance area during construction greater than 1 acre, registration under the State of Connecticut *General Permit for the Discharge of Stormwater and Dewatering Wastewaters from Construction Activities* will be required during the construction phase of the project. Stormwater Permit Registration and Compliance under this General Permit will be the responsibility of the construction contractor.
- WASTE MANAGEMENT: FCE is to be notified in advance of all waste to be generated. Under state and federal rules, FCE, as the site operator, is the

“Generator” of all waste generated/created on site(s). As such, FCE is responsible for the proper Management, Storage, Transportation and Disposal of all wastes generated at site. This is to be done in accordance with all applicable requirements of the Connecticut General Statutes, the Regulations of Connecticut State Agencies and Titles 29 (OSHA), 40 (EPA) and 49 (DOT) of the Code of Federal Regulations.

- **WORKING ALONE:** Working alone can introduce additional hazards not necessarily present during the course of performing work with other personnel. The biggest risk in working alone is during the occurrence of an incapacitating injury to the lone employee; a lack of timely medical attention could exacerbate the injury leading to greater harm. To prevent this, tasks must be assessed for hazards before assigning the employee(s) to perform them alone. If hazards do exist, either periodic monitoring, assignment of additional personnel, or re-scheduling of the work must be done. Further, it is important that task limitations be clear in order that new hazards are not introduced during any work performed alone. Employees performing work alone shall always contact GTAC by cell phone upon entering the facility site and upon leaving.
- **GENERAL DUTY CLAUSE:** The General Duty Clause of the Occupational Safety and Health Act requires that employers provide a place of employment that is free of recognized health or safety hazards to employees. It is FCE policy to provide such a workplace. Employees are encouraged to discuss any known or perceived health or safety issues or concerns with FCE management or EHS associates.

3 SITE SECURITY & ACCESS

Public access to the fuel cell equipment is restricted by a locked, eight foot high twist selvage chain link fence enclosure surrounding the plants. The enclosure is equipped with personnel and equipment doors or gates for necessary access. All doors/gates are kept locked when facility personnel are not present. Emergency Fire Department access to the site would be obtained by removing the lock with a bolt cutter.

All FCE power plants are remotely monitored 24 hours per day, 7 days per week, year round by FCE's GMCC personnel. Any tampering or unauthorized manipulation of fuel cell components that would result in any significant performance change for the plant will be immediately detected by the GTAC operator and/or result in an Emergency ShutDown of the plant, restoring the plant to a safe condition. All FCE fuel cell power plants are designed for "fail-safe" operation, where all foreseeable process deviations have been considered and the consequences minimized, through a hazard and operability (hazop) analysis.

4 EMERGENCY RESPONDER / LOCAL COMMUNITY COORDINATION & NOTIFICATION SYSTEM









FCE will coordinate with local emergency response departments to familiarize personnel with the operations and equipment installed at the site. At a point prior to plant mechanical completion, FuelCell Energy will contact the Local Fire Department to schedule a walk around tour and training event for the near-completed installation. Either prior to or at this time, a compilation of Safety Data Sheets for chemicals used on the site can be provided to the Fire Department. It is anticipated that only the on-site storage of liquid nitrogen will exceed Emergency Planning and Community Right-to-know Act (EPCRA) notification or reporting thresholds (Threshold Planning Quantities) and require EPCRA Section 311 notification and Section 312 annual Tier II reporting.

During the construction phase, prior to a scheduled delivery of any piece of major equipment, the site owner will be notified. Prior to connecting or making natural gas available at the facility, FCE will coordinate with the local fire department, provide training regarding the facility equipment and facility safety features, tour Department personnel and provide description of how the plant facility will respond should a fire, smoke, or volatile gas release occur, if necessary.

FuelCell Energy will record the names and contact information of those local residents that request to be informed of any actual emergency response situation that may develop at the subject power plant which may affect them. The names and contact information of the local residents will be incorporated into the Emergency Action Plan in the table provided for notification in an emergency response situation that could potentially affect these residents. Responsibility for making such notifications will be the on-site manager during the construction phase of the project, and GMCC during the operation phase of the project.

| REVISION HISTORY | | | | |
|------------------|------------------------------------|-----------|-----------|----------|
| REV | DESCRIPTION | BY | APPROVED | DATE |
| A | ISSUED FOR PRODUCTION PER ECN-4127 | H.E.B. II | R. KENT | 03/02/09 |
| B | REVISION PER ECN #5321 | HEB II | C. THOMAS | 6/13/11 |
| C | REVISION PER ECN #5871 | MHB | R. KENT | 08/01/12 |

LEGEND:

-  CLASS 1, DIVISION 1
-  CLASS 1, DIVISION 2
-  NON-CLASSIFIED
-  ASH-YYY
UV/IR FLAME DETECTOR (2)
-  AE YYY
COMBUSTIBLE GAS DETECTOR (LEL) (3)
-  HS YYY
E-STOP (5)
-  XS YYY
HEAT OR PHOTO ELECTRIC SMOKE DETECTOR (5)
-  F
RECOMMENDED FIRE EXTINGUISHER LOCATION, TYPE A,B,C, 20LB MIN. (1) (SEE DETAIL SHEET 3) (SEE NOTE 6)

NOTES:


1. GRADE ELEVATION = 0'-0" (DATUM).
2. ROCKWELL EBOP SHOWN. DIVISION DETERMINATIONS ARE IDENTICAL FOR OTHER EBOPS.
3. DIVISION DETERMINATIONS ARE FOR NATURAL GAS (GROUP D) AND ANAEROBIC DIGESTER GAS (ADG, GROUP D) FUELED PLANTS. NATURAL GAS AND ADG (55% METHANE, MIN.) HAVE AUTO IGNITION TEMPERATURES > 1000°F. ELECTRICAL EQUIPMENT PRESENT IN DIVISION 1 AND DIVISION 2 LOCATIONS MUST BE RATED FOR CLASS 1 USE AND APPROPRIATE DIVISION.
4. CLASSIFICATION DRAWING DOES NOT ASSESS LEAK SOURCES FROM CUSTOMER SUPPLIED NG OR ADG FUEL UTILITY TIE-INS IN THE VICINITY OF PLANT.
5. PCU HEAT & SMOKE DETECTORS ARE ALARMS ONLY.
6. FIRE EXTINGUISHER(S) SUPPLIED BY CUSTOMER.
7. THIS DRAWING APPLIES TO OUTDOOR INSTALLATION.
8. SP-203 SHALL NOT BE DIRECTED TOWARDS, OR LOCATED WITHIN 15 FT OF ANY HEATING, VENTILATION OR AIR-CONDITIONING AIR INTAKE, WINDOWS, DOORS OR OTHER OPENINGS INTO BUILDINGS.

REFERENCE SHEETS - THIS DRAWING

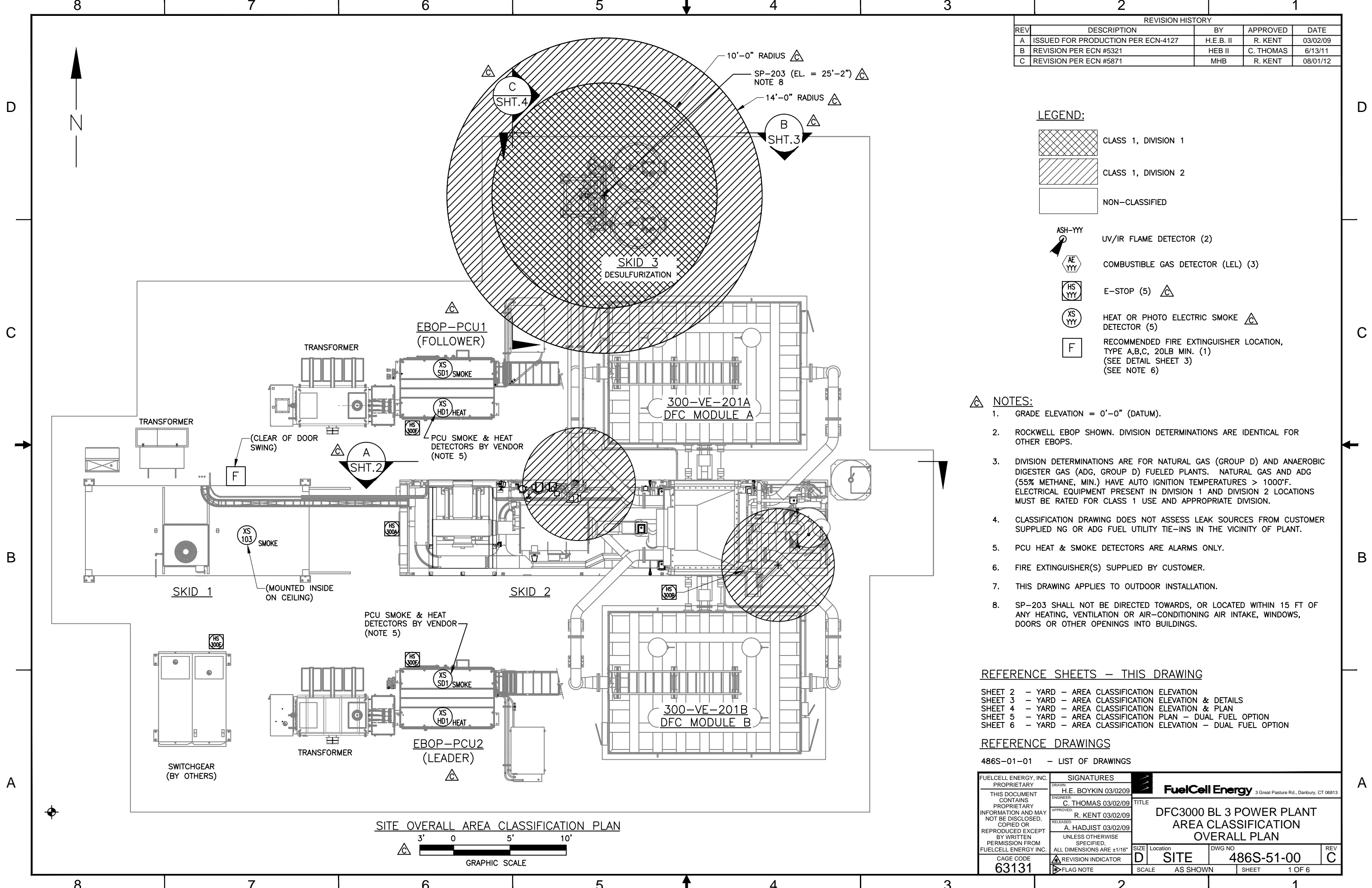
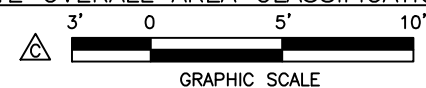
- SHEET 2 - YARD - AREA CLASSIFICATION ELEVATION
- SHEET 3 - YARD - AREA CLASSIFICATION ELEVATION & DETAILS
- SHEET 4 - YARD - AREA CLASSIFICATION ELEVATION & PLAN
- SHEET 5 - YARD - AREA CLASSIFICATION PLAN - DUAL FUEL OPTION
- SHEET 6 - YARD - AREA CLASSIFICATION ELEVATION - DUAL FUEL OPTION

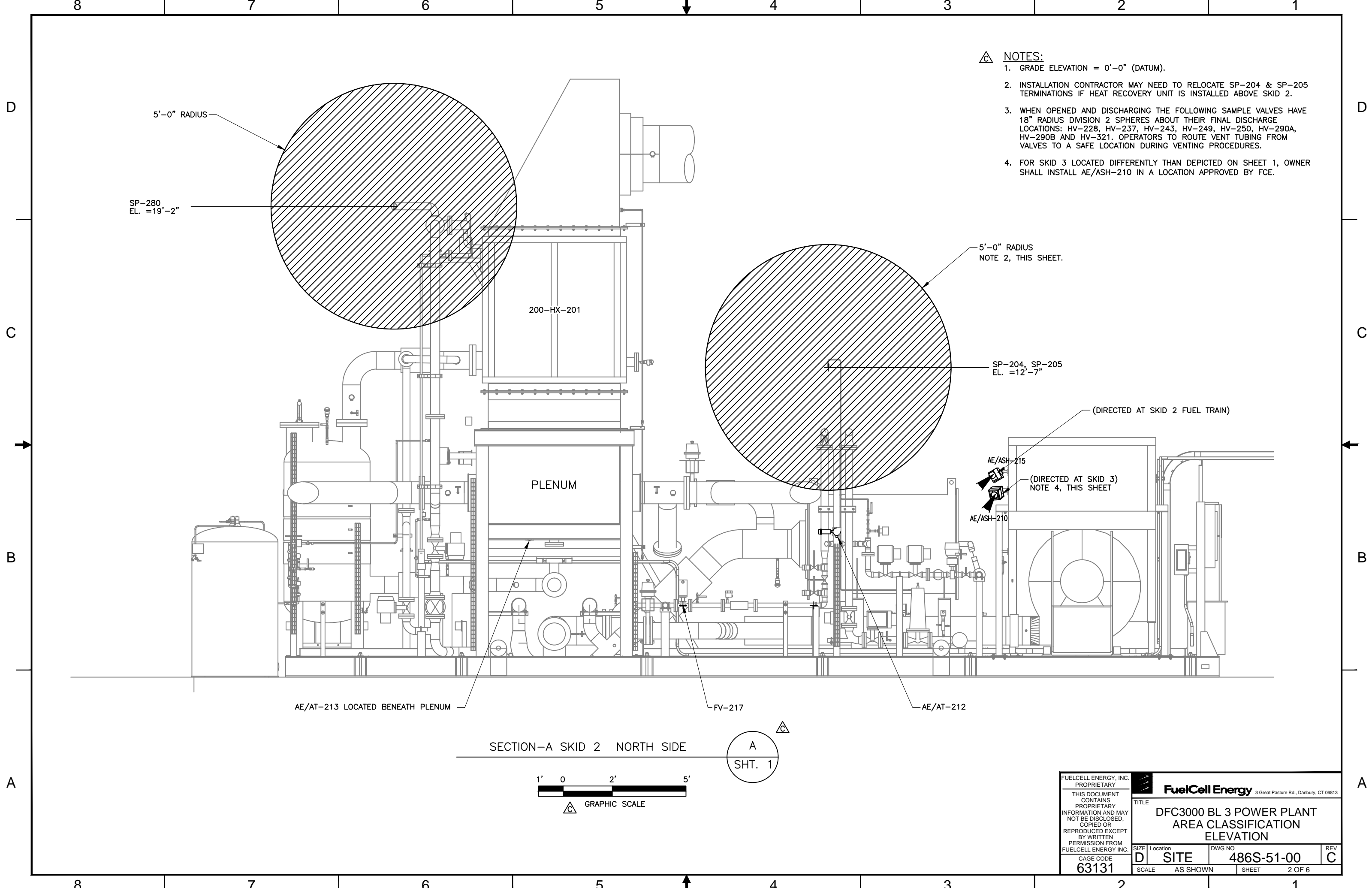
REFERENCE DRAWINGS

486S-01-01 - LIST OF DRAWINGS

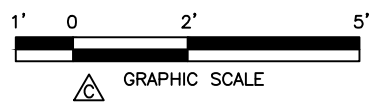
| | | | | | |
|---|--|--|--------------------------------|-----------------------------|-----------------|
| FUELCELL ENERGY, INC. PROPRIETARY THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND MAY NOT BE DISCLOSED, COPIED OR REPRODUCED EXCEPT BY WRITTEN PERMISSION FROM FUELCELL ENERGY INC. CAGE CODE 63131 | SIGNATURES DRAWN: H.E. BOYKIN 03/02/09 ENGINEER: C. THOMAS 03/02/09 APPROVED: R. KENT 03/02/09 RELEASED: A. HADJIST 03/02/09 UNLESS OTHERWISE SPECIFIED, ALL DIMENSIONS ARE ±1/16" REVISION INDICATOR FLAG NOTE |  FuelCell Energy 3 Great Pasture Rd., Danbury, CT 06813 TITLE DFC3000 BL 3 POWER PLANT AREA CLASSIFICATION OVERALL PLAN | SIZE Location D SITE | DWG NO 486S-51-00 | REV C |
| | SCALE AS SHOWN | | SHEET 1 OF 6 | | |

SITE OVERALL AREA CLASSIFICATION PLAN



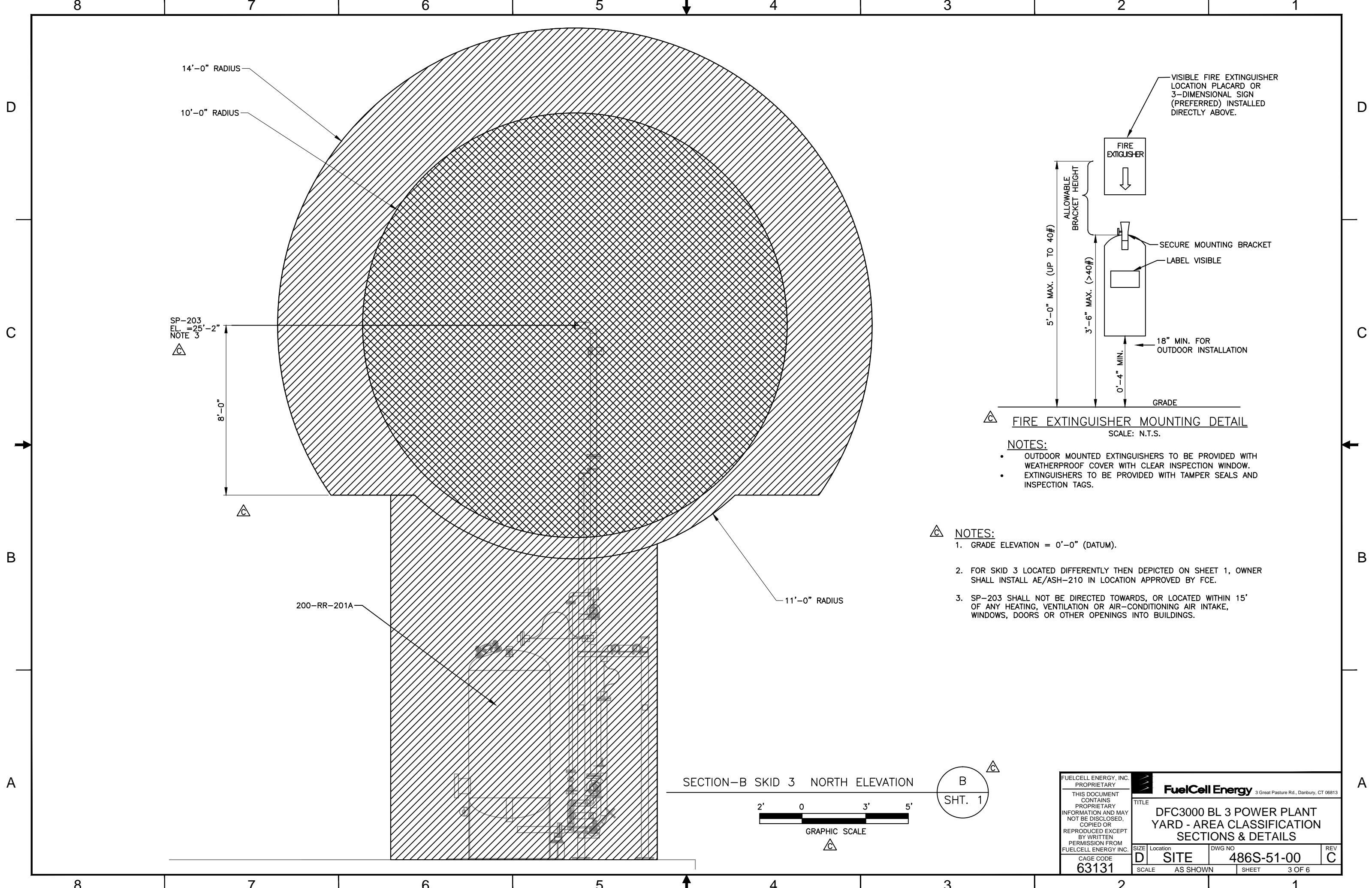


- NOTES:**
1. GRADE ELEVATION = 0'-0" (DATUM).
 2. INSTALLATION CONTRACTOR MAY NEED TO RELOCATE SP-204 & SP-205 TERMINATIONS IF HEAT RECOVERY UNIT IS INSTALLED ABOVE SKID 2.
 3. WHEN OPENED AND DISCHARGING THE FOLLOWING SAMPLE VALVES HAVE 18" RADIUS DIVISION 2 SPHERES ABOUT THEIR FINAL DISCHARGE LOCATIONS: HV-228, HV-237, HV-243, HV-249, HV-250, HV-290A, HV-290B AND HV-321. OPERATORS TO ROUTE VENT TUBING FROM VALVES TO A SAFE LOCATION DURING VENTING PROCEDURES.
 4. FOR SKID 3 LOCATED DIFFERENTLY THAN DEPICTED ON SHEET 1, OWNER SHALL INSTALL AE/ASH-210 IN A LOCATION APPROVED BY FCE.



A
SHT. 1

| | | | |
|--|-------------------------|--|------------------------|
| FUELCELL ENERGY, INC. PROPRIETARY THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND MAY NOT BE DISCLOSED, COPIED OR REPRODUCED EXCEPT BY WRITTEN PERMISSION FROM FUELCELL ENERGY INC. | | FuelCell Energy 3 Great Pasture Rd., Danbury, CT 06813 | |
| CAGE CODE 63131 | | TITLE DFC3000 BL 3 POWER PLANT AREA CLASSIFICATION ELEVATION | REV C |
| SIZE D | Location SITE | DWG NO 486S-51-00 | SHEET 2 OF 6 |
| SCALE AS SHOWN | | SHEET 2 OF 6 | |



14'-0" RADIUS
10'-0" RADIUS

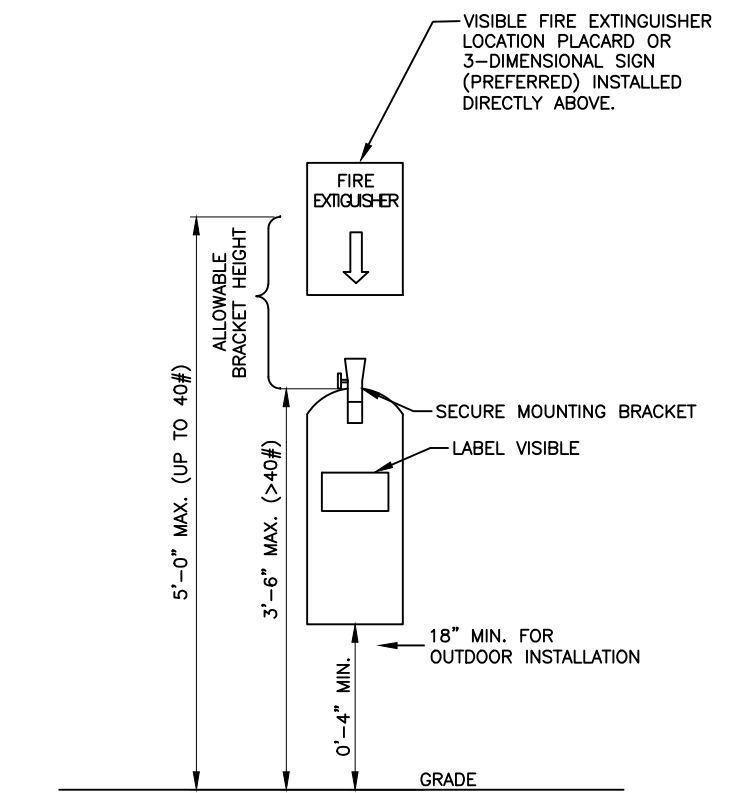
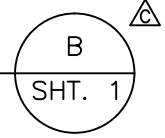
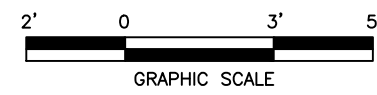
SP-203
EL. = 25'-2"
NOTE 3

8'-0"

200-RR-201A

11'-0" RADIUS

SECTION-B SKID 3 NORTH ELEVATION

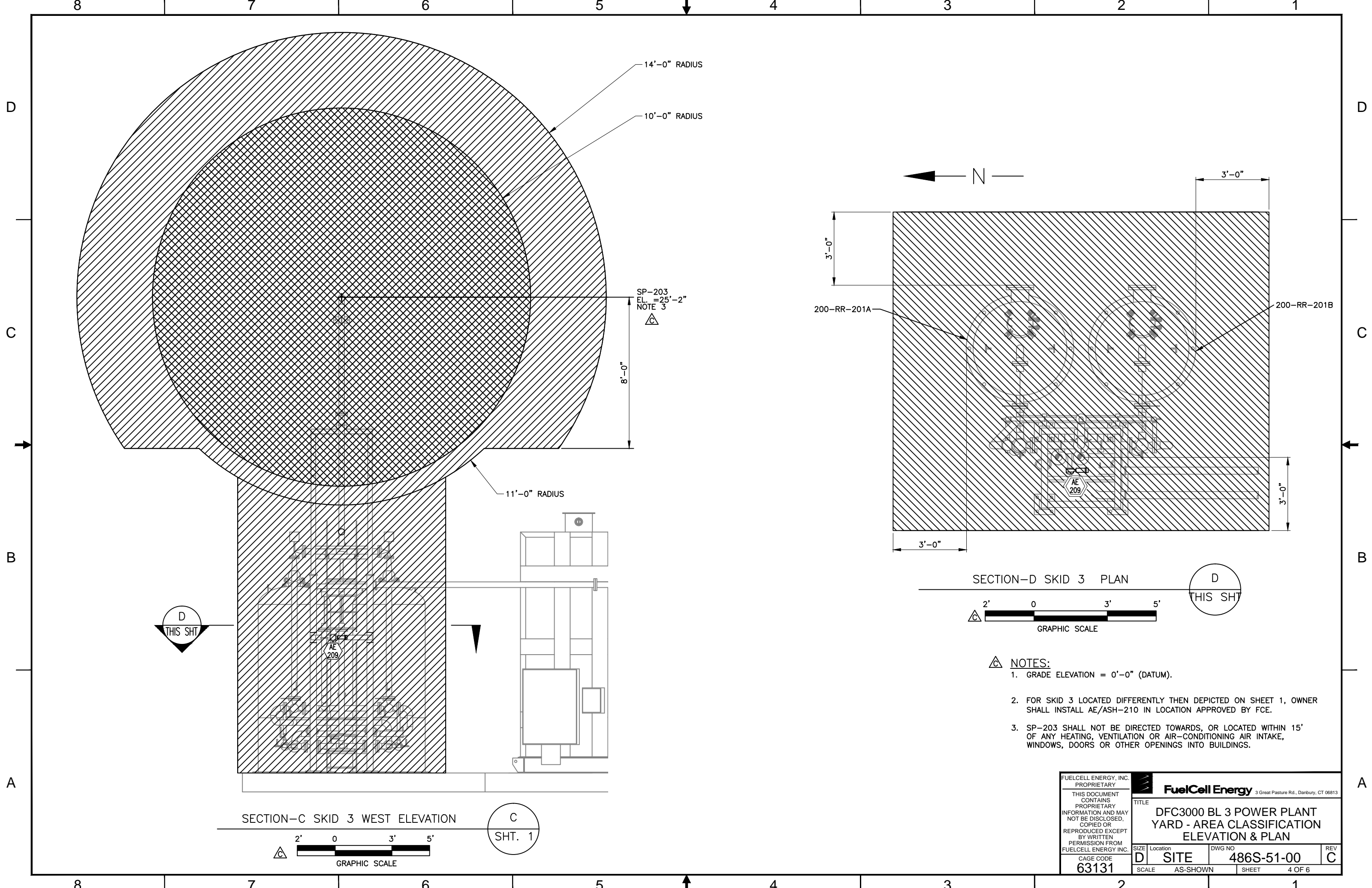


FIRE EXTINGUISHER MOUNTING DETAIL
SCALE: N.T.S.

- NOTES:**
- OUTDOOR MOUNTED EXTINGUISHERS TO BE PROVIDED WITH WEATHERPROOF COVER WITH CLEAR INSPECTION WINDOW.
 - EXTINGUISHERS TO BE PROVIDED WITH TAMPER SEALS AND INSPECTION TAGS.

- NOTES:**
1. GRADE ELEVATION = 0'-0" (DATUM).
 2. FOR SKID 3 LOCATED DIFFERENTLY THEN DEPICTED ON SHEET 1, OWNER SHALL INSTALL AE/ASH-210 IN LOCATION APPROVED BY FCE.
 3. SP-203 SHALL NOT BE DIRECTED TOWARDS, OR LOCATED WITHIN 15' OF ANY HEATING, VENTILATION OR AIR-CONDITIONING AIR INTAKE, WINDOWS, DOORS OR OTHER OPENINGS INTO BUILDINGS.

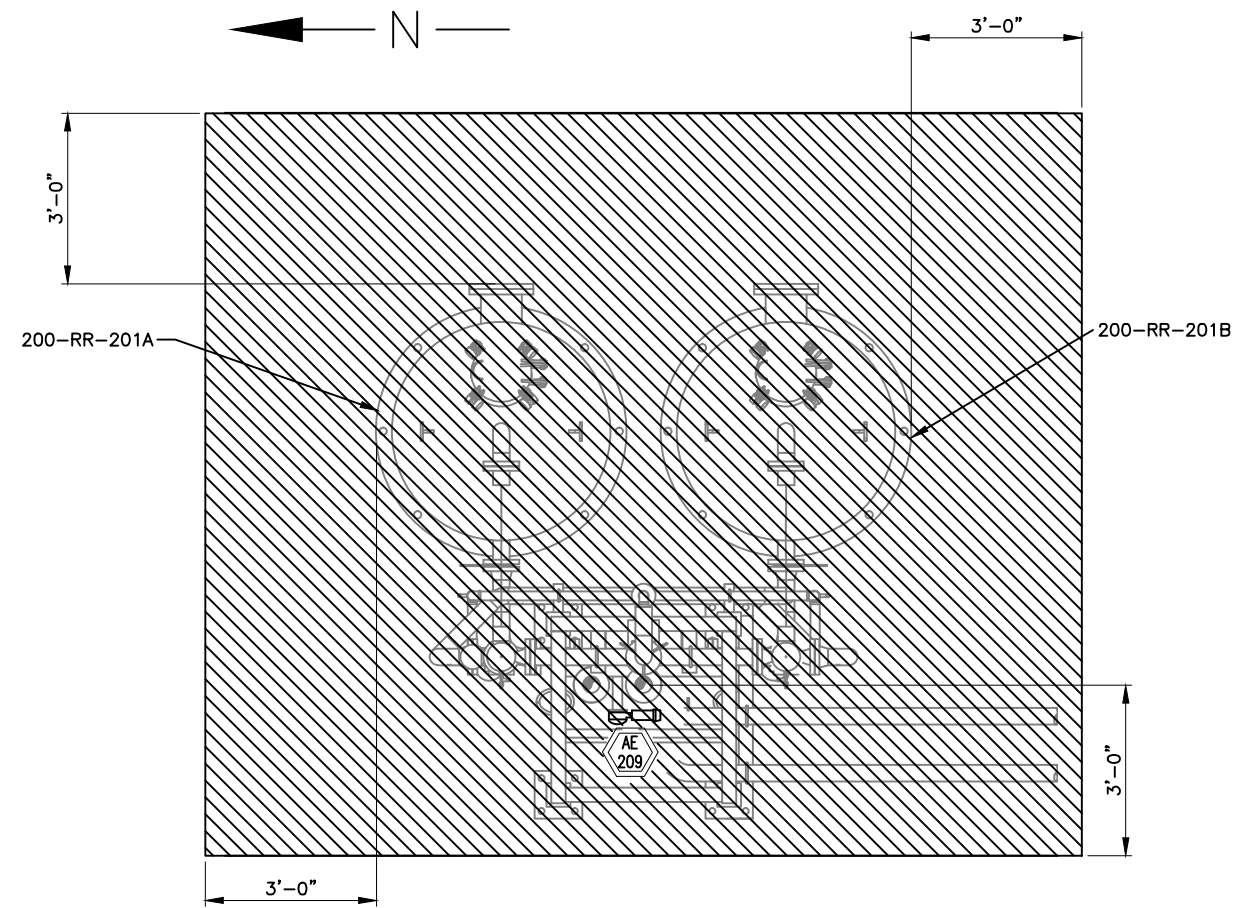
| | | | |
|--|--------------------------------|---|-----------------|
| FUELCELL ENERGY, INC. PROPRIETARY | | FuelCell Energy 3 Great Pasture Rd., Danbury, CT 06813 | |
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| CAGE CODE 63131 | SIZE Location D SITE | DWG NO 486S-51-00 | REV C |
| SCALE AS SHOWN | SHEET 3 OF 6 | | |



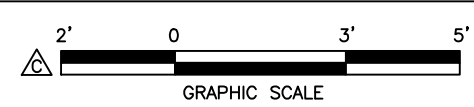
14'-0" RADIUS
10'-0" RADIUS

SP-203
EL. = 25'-2"
NOTE 3

11'-0" RADIUS



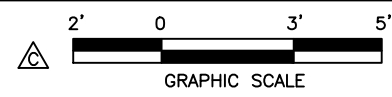
SECTION-D SKID 3 PLAN



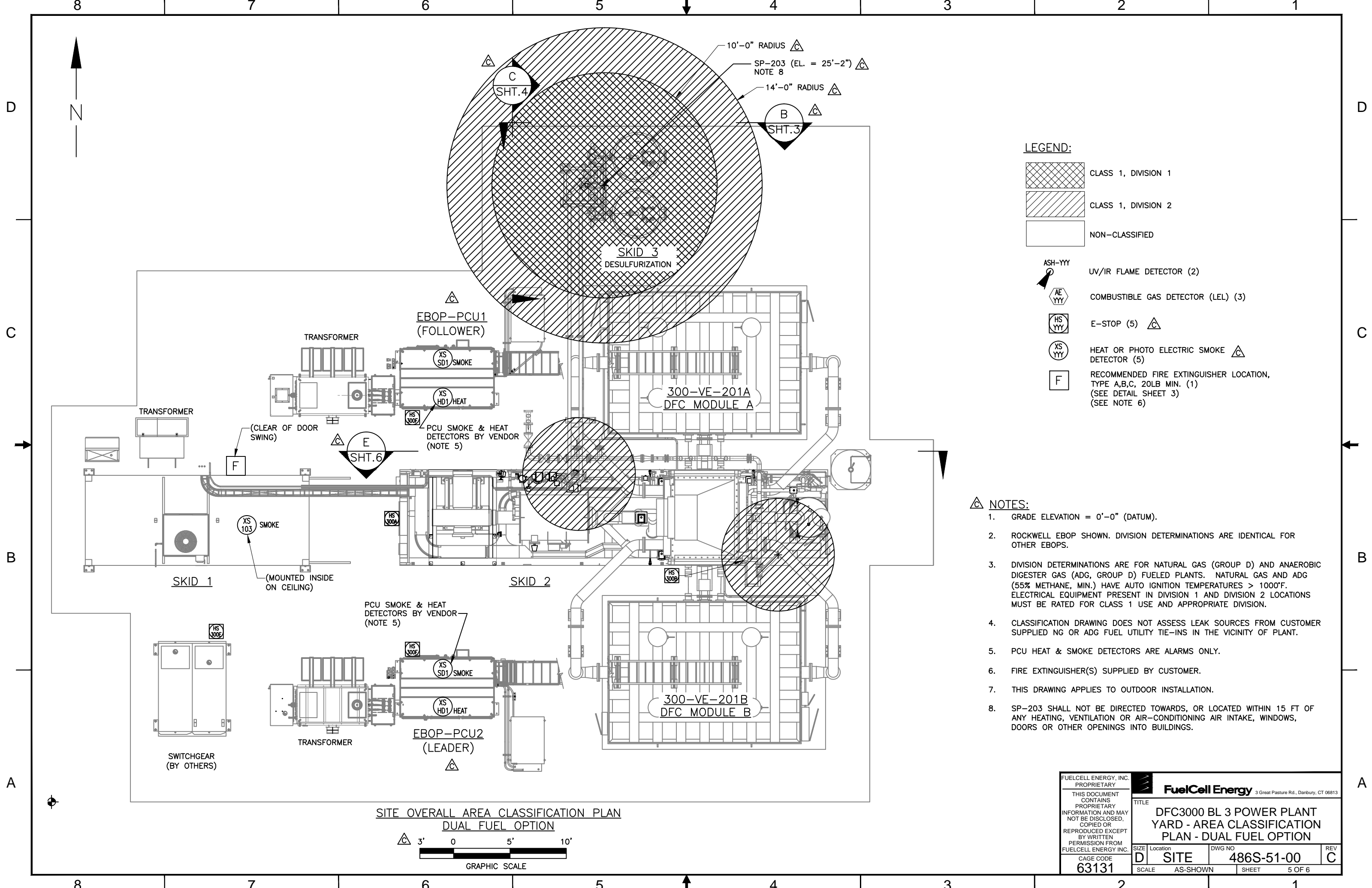
NOTES:

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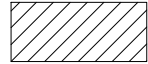








SECTION-C SKID 3 WEST ELEVATION



| | | | |
|--|--------------------------------|--|-----------------|
| FUELCELL ENERGY, INC. PROPRIETARY | | FuelCell Energy 3 Great Pasture Rd., Danbury, CT 06813 | |
| THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND MAY NOT BE DISCLOSED, COPIED OR REPRODUCED EXCEPT BY WRITTEN PERMISSION FROM FUELCELL ENERGY INC. | | TITLE DFC3000 BL 3 POWER PLANT YARD - AREA CLASSIFICATION ELEVATION & PLAN | |
| CAGE CODE 63131 | SIZE Location D SITE | DWG NO 486S-51-00 | REV C |
| SCALE AS-SHOWN | SHEET 4 OF 6 | | |



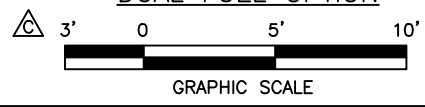
LEGEND:


-  CLASS 1, DIVISION 1
-  CLASS 1, DIVISION 2
-  NON-CLASSIFIED
-  ASH-YYY
UV/IR FLAME DETECTOR (2)
-  AE-YYY
COMBUSTIBLE GAS DETECTOR (LEL) (3)
-  HS-YYY
E-STOP (5) 
-  XS-YYY
HEAT OR PHOTO ELECTRIC SMOKE DETECTOR (5) 
-  F
RECOMMENDED FIRE EXTINGUISHER LOCATION, TYPE A,B,C, 20LB MIN. (1) (SEE DETAIL SHEET 3) (SEE NOTE 6)

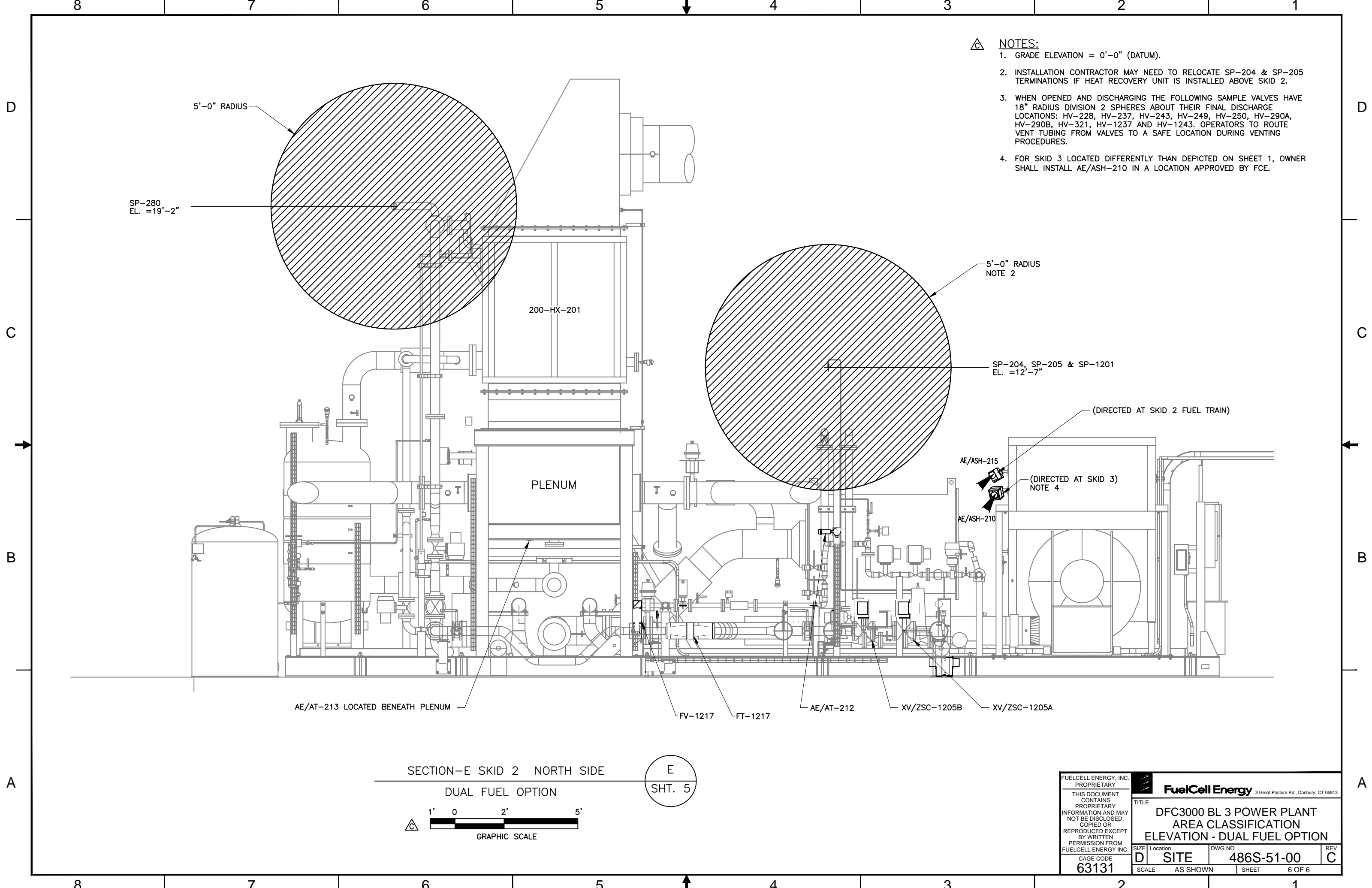
NOTES:

1. GRADE ELEVATION = 0'-0" (DATUM).
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3. DIVISION DETERMINATIONS ARE FOR NATURAL GAS (GROUP D) AND ANAEROBIC DIGESTER GAS (ADG, GROUP D) FUELED PLANTS. NATURAL GAS AND ADG (55% METHANE, MIN.) HAVE AUTO IGNITION TEMPERATURES > 1000°F. ELECTRICAL EQUIPMENT PRESENT IN DIVISION 1 AND DIVISION 2 LOCATIONS MUST BE RATED FOR CLASS 1 USE AND APPROPRIATE DIVISION.
4. CLASSIFICATION DRAWING DOES NOT ASSESS LEAK SOURCES FROM CUSTOMER SUPPLIED NG OR ADG FUEL UTILITY TIE-INS IN THE VICINITY OF PLANT.
5. PCU HEAT & SMOKE DETECTORS ARE ALARMS ONLY.
6. FIRE EXTINGUISHER(S) SUPPLIED BY CUSTOMER.
7. THIS DRAWING APPLIES TO OUTDOOR INSTALLATION.
8. SP-203 SHALL NOT BE DIRECTED TOWARDS, OR LOCATED WITHIN 15 FT OF ANY HEATING, VENTILATION OR AIR-CONDITIONING AIR INTAKE, WINDOWS, DOORS OR OTHER OPENINGS INTO BUILDINGS.

**SITE OVERALL AREA CLASSIFICATION PLAN
DUAL FUEL OPTION**



| | | | | | |
|--|------------|---|--------|--|------|
| FUELCELL ENERGY, INC. PROPRIETARY | |  | | 3 Great Pasture Rd., Danbury, CT 06813 | |
| THIS DOCUMENT CONTAINS PROPRIETARY INFORMATION AND MAY NOT BE DISCLOSED, COPIED OR REPRODUCED EXCEPT BY WRITTEN PERMISSION FROM FUELCELL ENERGY INC. | | | | | |
| CAGE CODE | 63131 | SIZE | D | Location | SITE |
| DWG NO | 486S-51-00 | SHEET | 5 OF 6 | REV | C |
| SCALE | AS-SHOWN | | | | |



- △ NOTES:
1. GRADE ELEVATION = 0'-0" (DATUM).
 2. INSTALLATION CONTRACTOR MAY NEED TO RELOCATE SP-204 & SP-205 TERMINATIONS IF HEAT RECOVERY UNIT IS INSTALLED ABOVE SKID 2.
 3. WHEN OPENED AND DISCHARGING THE FOLLOWING SAMPLE VALVES HAVE 18" RADIUS DIVISION 2 SPHERES ABOUT THEIR FINAL DISCHARGE LOCATIONS: HV-228, HV-237, HV-243, HV-249, HV-250, HV-290A, HV-290B, HV-321, HV-1237 AND HV-1243. OPERATORS TO ROUTE VENT TUBING FROM VALVES TO A SAFE LOCATION DURING VENTING PROCEDURES.
 4. FOR SKID 3 LOCATED DIFFERENTLY THAN DEPICTED ON SHEET 1, OWNER SHALL INSTALL AE/ASH-210 IN A LOCATION APPROVED BY FCE.

SECTION-E SKID 2 NORTH SIDE
DUAL FUEL OPTION

GRAPHIC SCALE

1' 0' 2' 5'

△

E
SHT. 5

| | | | |
|--|---------------------------|---|-----------------|
| FUELCELL ENERGY, INC. PROPRIETARY | | FuelCell Energy 3 Great Pasture Rd., Danbury, CT 06813 | |
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| CAGE CODE 63131 | Location D SITE | DWG NO 486S-51-00 | REV C |
| SCALE AS SHOWN | SHEET 6 OF 6 | | |

EXHIBIT F

SHPO Correspondence.

EXHIBIT F

(SHPO Letter)



Department of Economic and
Community Development

State Historic Preservation Office

December 24, 2020

Samuel Volet, Esq.
Homestead Fuel Cell 1, LLC
539 Technology Park Drive
Torrington, CT 06790

Subject: Fuel Cell Generation Facility
441 Homestead Avenue
Hartford, Connecticut
ENV-21-0325

Dear Mr. Volet:

The State Historic Preservation Office (SHPO) has reviewed the submittal for the above mentioned project. The proposed activities are under the jurisdiction of the Connecticut Siting Council and are subject to review by this office pursuant to the Connecticut Environmental Policy Act (CEPA). The proposed undertaking includes the construction of a fuel cell generation facility, which is to occupy an approximately 40,080 square foot project area located at 441 Homestead Avenue.

No previously recorded archaeological sites are located within 500 feet of the project area. Similarly, no properties listed or formally determined to be eligible for listing on the National Register of Historic Places are located within 500 feet of the project area.

Soil profiles of the area are udorthents and urban land, characterized by periods of cutting, fill, grading, and disturbance. Review of historic aerials indicates that a former structure located on the parcel was demolished between 2008 and 2010.

As a result of the information submitted, the subject property does not appear to be eligible for listing on the National Register of Historic Places. Based on the information provided to this office, no historic properties will be affected. However, please be advised that if construction plans change to include previously uninvestigated/undisturbed areas, this office should be contacted for additional consultation.

This office appreciates the opportunity to review and comment upon this project. For additional information, please contact Marena Wisniewski, Environmental Reviewer, at (860) 500-2357 or marena.wisniewski@ct.gov.

Sincerely,

A handwritten signature in black ink that reads "Jonathan Kinney".

Jonathan Kinney
Deputy State Historic Preservation Officer

State Historic Preservation Office

450 Columbus Boulevard, Suite 5 | Hartford, CT 06103 | P: 860.500.2300 | ct.gov/historic-preservation

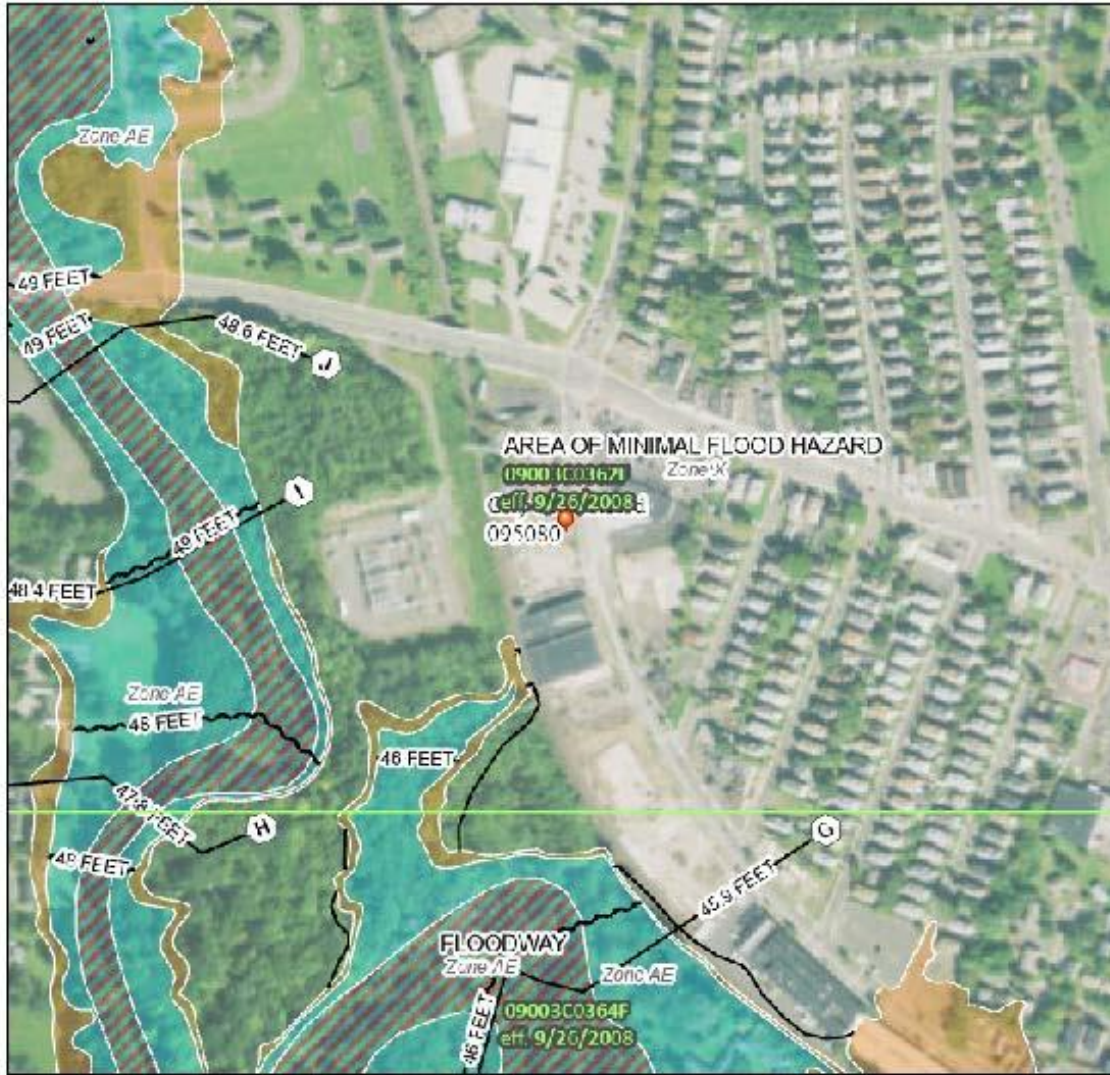
An Affirmative Action/Equal Opportunity Employer An Equal Opportunity Lender

EXHIBIT G
FEMA Flood Maps

National Flood Hazard Layer FIRMette



2294212'W 4174713'N



0 250 500 1,000 1,500 2,000 Feet 1:6,000
 Basemap: USGS National Map, Orthoimagery, Data refreshed October, 2020

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

| SPECIAL FLOOD HAZARD AREAS | Description |
|----------------------------|--|
| | Without Base Flood Elevation (BFE) Zone A, V, AE3 |
| | With BFE and Depth Zone A, C, D, AE, VE, AP |
| | Regulatory Floodway |

| OTHER AREAS OF FLOOD HAZARD | Description |
|-----------------------------|--|
| | 0.2% Annual Chance Flood Hazard, Areas of 1% Annual Chance Flood with average depth less than one foot or with drainage areas of less than one square mile. Zone F |
| | Future Contiguous 1% Annual Chance Flood Hazard. Zone F |
| | Area with Reduced Flood Risk due to Levee. See Notes. Zone F |
| | Area with Flood Risk due to Levee. Zone D |

| OTHER AREAS | Description |
|-------------|--|
| | Area of Minimal Road Hazard. Zone F |
| | Effective 10 MFRs |
| | Area of Undetermined Road Hazard. Zone D |

| GENERAL STRUCTURES | Description |
|--------------------|----------------------------------|
| | Channel, Culvert, or Storm Sewer |
| | Levee, Dike, or Roadwall |

| OTHER FEATURES | Description |
|----------------|---|
| | 20.2 Cross Sections with 1% Annual Chance |
| | 12.6 Water Surface Elevation |
| | Original Tracks |
| | Base Flood Elevation Line (BFE) |
| | Limit of Study |
| | Jurisdiction Boundary |
| | Original Tracks, Baseline |
| | Profile Baseline |
| | Hydrographic Feature |

| MAP PANELS | Description |
|------------|---------------------------|
| | Digital Data Available |
| | No Digital Data Available |
| | Unmapped |



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards.

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was updated on 02/25/2021 at 1:28 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map accuracy data, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmapped areas cannot be used for regulatory purposes.

EXHIBIT H

DEEP Correspondence.

EXHIBIT H



79 Elm Street • Hartford, CT 06106-5127

www.ct.gov/deep

Affirmative Action/Equal Opportunity Employer

November 2, 2020

Samuel Volet Esq
Homestead Fuel Cell, LLC
539 Technology Park Dr
Torrington CT 06790
svolet@fce.com

Project: Homestead Fuel Cell, 441 Homestead Ave, Hartford, CT
NDDB Determination No.: 202065370

Dear Mr. Volet,

I have reviewed Natural Diversity Database (NDDB) maps and files regarding the area of work provided for the proposed construction of a fuel cell generation facility at 441 Homestead Avenue in Hartford, Connecticut. I do not anticipate negative impacts to State-listed species (RCSA Sec. 26-306) resulting from your proposed activity at the site based upon the information contained within the NDDB. The result of this review does not preclude the possibility that listed species may be encountered on site and that additional action may be necessary to remain in compliance with certain state permits. This determination is good for two years. Please re-submit a new NDDB Request for Review if the scope of work changes or if work has not begun on this project by October 30, 2022.

Natural Diversity Data Base information includes all information regarding critical biological resources available to us at the time of the request. This information is a compilation of data collected over the years by the Department of Energy and Environmental Protection's Natural History Survey, cooperating units of DEEP, landowners, private conservation groups and the scientific community. This information is not necessarily the result of comprehensive or site-specific field investigations. Consultations with the NDDB should not be substitutes for on-site surveys necessary for a thorough environmental impact assessment. Current research projects and new contributors continue to identify additional populations of species and locations of habitats of concern, as well as, enhance existing data. Such new information is incorporated into the database as it becomes available.

Please contact me if you have further questions at (860) 424-3378, or karen.zyko@ct.gov. Thank you for consulting the Natural Diversity Database.

Sincerely,

A handwritten signature in blue ink, appearing to read "Karen Zyko".

Karen Zyko
Environmental Analyst

EXHIBIT I

14 C.F.R. § 77.9.

Exhibit I

14 C.F.R. § 77.9

§ 77.9 Construction or alteration requiring notice.

If requested by the FAA, or if you propose any of the following types of construction or alteration, you must file notice with the FAA bf.

- (a) Any construction or alteration that is more than 200 ft. AGL at its site.
- (b) Any construction or alteration that exceeds an imaginary surface extending outward and upward at any of the following slopes:
 - (1) 100 to 1 for a horizontal distance of 20,000 ft. from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway more than 3,200 ft. in actual length, excluding heliports.
 - (2) 50 to 1 for a horizontal distance of 10,000 ft. from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway no more than 3,200 ft. in actual length, excluding heliports.
 - (3) 25 to 1 for a horizontal distance of 5,000 ft. from the nearest point of the nearest landing and takeoff area of each heliport described in paragraph (d) of this section.
- (c) Any highway, railroad, or other traverse way for mobile objects, of a height which, if adjusted upward 17 feet for an Interstate Highway that is part of the National System of Military and Interstate Highways where overcrossings are designed for a minimum of 17 feet vertical distance, 15 feet for any other public roadway, 10 feet or the height of the highest mobile object that would normally traverse the road, whichever is greater, for a private road, 23 feet for a railroad, and for a waterway or any other traverse way not previously mentioned, an amount equal to the height of the highest mobile object that would normally traverse it, would exceed a standard of paragraph (a) or (b) of this section.
- (d) Any construction or alteration on any of the following airports and heliports:
 - (1) A public use airport listed in the Airport/Facility Directory, Alaska Supplement, or Pacific Chart Supplement of the U.S. Government Flight Information Publications;
 - (2) A military airport under construction, or an airport under construction that will be available for public use;
 - (3) An airport operated by a Federal agency or the DOD.
 - (4) An airport or heliport with at least one FAA-approved instrument approach procedure.
- (e) You do not need to file notice for construction or alteration of:
 - (1) Any object that will be shielded by existing structures of a permanent and substantial nature or by natural terrain or topographic features of equal or greater height, and will be located in the congested area of a city, town, or settlement where the shielded structure will not adversely affect safety in air navigation;
 - (2) Any air navigation facility, airport visual approach or landing aid, aircraft arresting device, or meteorological device meeting FAA-approved siting criteria or an appropriate military service siting criteria on military airports, the location and height of which are fixed by its functional purpose;
 - (3) Any construction or alteration for which notice is required by any other FAA regulation.
 - (4) Any antenna structure of 20 feet or less in height, except one that would increase the height of another antenna structure.