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April 14, 2022

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

Re: Petition of SCEF1 Fuel Cell, LLC for a Declaratory Ruling that a Certificate of Environmental Compatibility and Public Need is not Required for the Installation of a 2.8 MW Fuel Cell Facility at 49 Coon Hollow Road, Derby Road, Connecticut

Dear Ms. Bachman:

Pursuant to Connecticut General Statutes Sections 4-176 and 16-50k(a), SCEF1 Fuel Cell, LLC, a wholly-owned subsidiary of FuelCell Energy, Inc., hereby submits to the Connecticut Siting Council a Petition for a Declaratory Ruling that no Certificate of Environmental Compatibility and Public Need is necessary for the installation of a 2.8 megawatt fuel cell facility, including associated equipment and related site improvements (collectively, the "Project") located at 49 Coon Hollow Road, Derby, Connecticut (the "Property").

Should you have any questions regarding this filing, please do not hesitate to contact me.

Very truly yours,



Bruce L. McDermott

Enclosure

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STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL

Petition of SCEF1 Fuel Cell, LLC for a : Petition No.
Declaratory Ruling that a Certificate of :
Environmental Compatibility and Public Need :
is not Required for the Installation of a 2.8 MW :
Fuel Cell Facility at 49 Coon Hollow Road, :
Derby Road, Connecticut :
: April 14, 2022

PETITION FOR DECLARATORY RULING OF
SCEF1 FUEL CELL, LLC

I. INTRODUCTION

Pursuant to Connecticut General Statutes (“Conn. Gen. Stat.”) Sections 4-176 and 16-50k, SCEF1 Fuel Cell, LLC (“SCEF1”), 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 2.8 megawatt (“MW”) fuel cell power generating facility, including all associated equipment and related site improvements located at 49 Coon Hollow Road, Derby, 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

SCEF1 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.

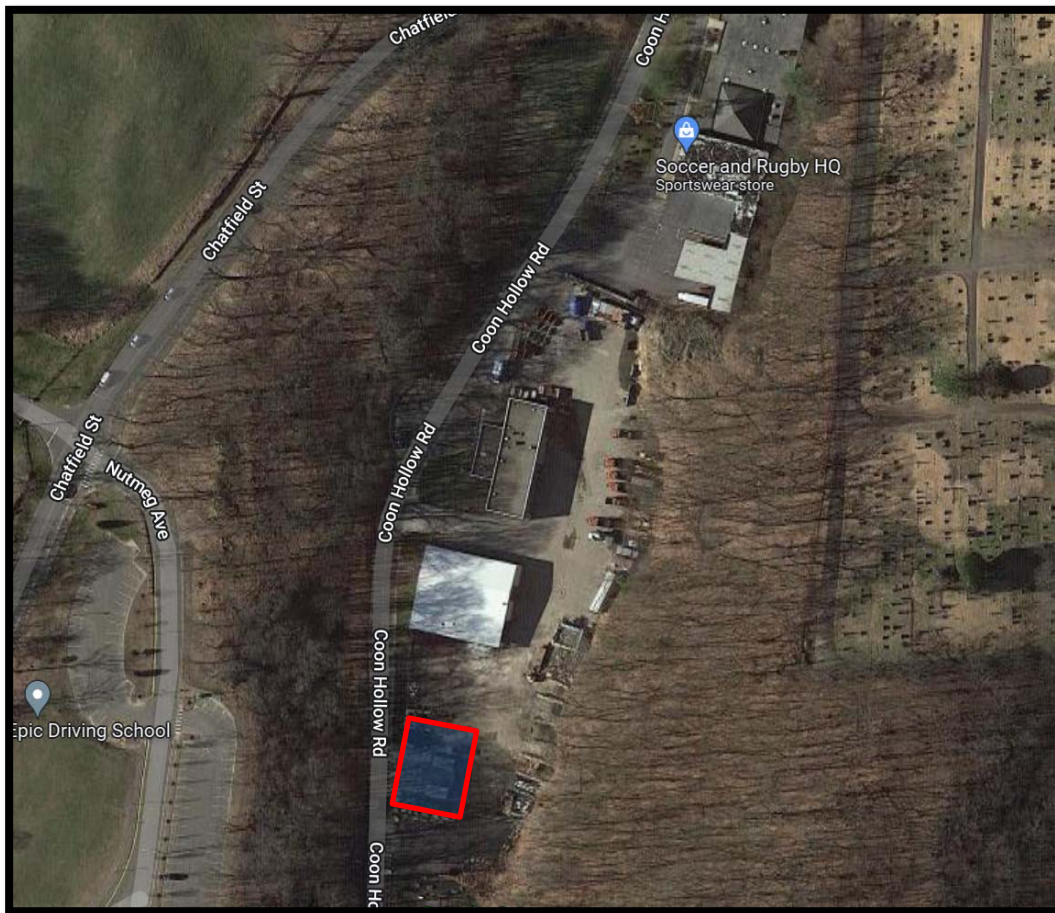
II. PROJECT BACKGROUND / THE PETITIONER

SCEF1 is a wholly-owned special purpose subsidiary of FCE created for the financing and development 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).

Under the Shared Clean Energy Facility ("SCEF") Program, SCEF1 has entered into a long-term (20 years) Tariff Terms Agreement (the "TTA") with The United Illuminating Company("UI") whereby SCEF1 will design, install, own and operate one of FCE's SureSource 3000 fuel cell power plants nominally rated at 2.8 MW each, with a total nominal Project capacity of 2.8 MW. FCE will be responsible for the construction and long-term service of the Project under a contract with SCEF1 for the term of the TTA.

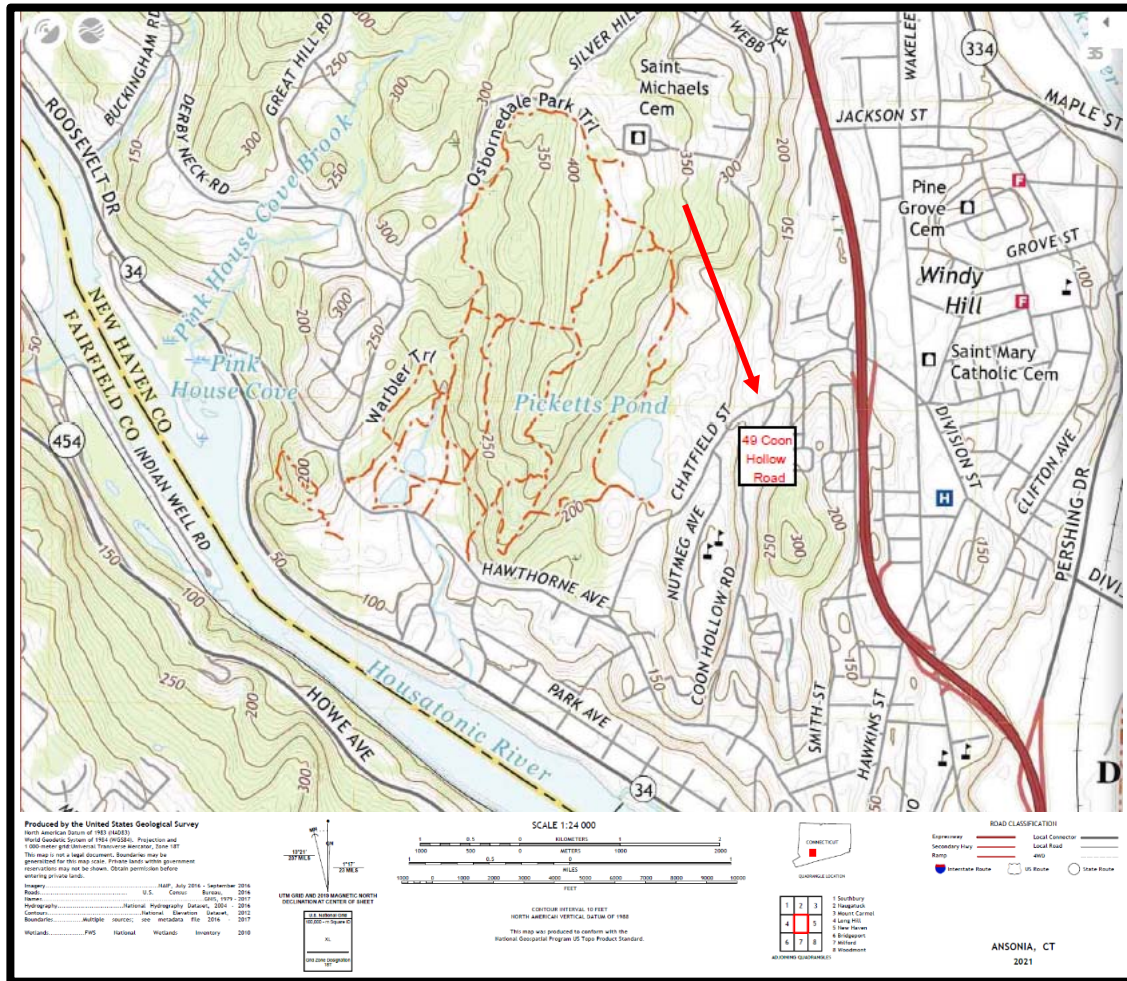
SCEF1 has entered into a lease agreement with the City of Derby, pursuant to which SCEF1 shall rent from the City an approximately 13,000 square foot portion (the “Site”) of the City’s approximately 8.84-acre property at 49 Coon Hollow Road, Derby, Connecticut (the “Property”), for purposes of the Project. The Property is located in a wooded valley that is cut through by Coon Hollow Road, and is bound by (1) a municipal depot owned by the City of Derby to the north; (2) Coon Hollow Road to the west and south; and (3) a wooded area to the east. See Figure 1A (Area Map of the Project).

Figure 1A (Aerial Area Map)



Aerial map of the proposed Project area and approximation of the fuel cell system.

Figure 1B (Topographic Map)



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

On April 30, 2020, the Connecticut Light and Power Company d/b/a Eversource Energy (“Eversource”) and UI (collectively, the “EDCs”), issued a joint request for proposals (the “RFP”) seeking bids for renewable energy projects across Connecticut as part of the SCEF Program. See RFP, §§ 1.1-1.2; 1.4; Public Act 18-50 and Connecticut General Statutes § 16-244z(a)(6).

Successful bidders under the RFP are awarded long-term contracts with the appropriate EDC for the purchase of electricity and associated renewable energy credits generated by the successful bidder's SCEF facility. See RFP, § 1.4.

SCEF1 submitted its bid in response to the RFP for Year 1 of the SCEF Program on August 11, 2020 (the "SCEF1 FC Bid"). The SCEF1 bid was for a 2.8 MW fuel cell facility on land owned by the City located at the Property, within UI's service territory. SCEF1 was selected as a winning bidder on September 28, 2020, and the bid received final approval by PURA on January 22, 2021.

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

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A copy of all such correspondence or communications should also be sent to SCEF1's attorney:

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Email: bmcdermott@murthalaw.com

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 plant will be manufactured in Connecticut, and installed and operated by FCE on behalf of SCEF1. Thus, the Project satisfies the articulated goals of the CES and the state's energy policy goals.

B. Project

FCE will construct and operate the Project to be located at the Site in the City of Derby. Upon the Council's approval, the twelve (12) month construction period is expected to begin in early 2023, and commercial operation of the facility will be expected to commence by the first quarter of 2024. 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 13,000 square feet area. The Project will be enclosed by an approximately eight foot-high fence. The fuel cell system will be installed on a concrete foundation approximately one foot above finished grade. The individual vertical exhaust stack of the SureSource 3000 fuel cell power plant, the highest feature of the fuel cell system, will be approximately 32 feet above the top of the concrete pad. The areas underneath the pads will be underlain with two (2) inches of stone over fabric and a maintenance access area directly in front of the fuel cell pads accessible from Coon Hollow Road. See Exhibit A for a preliminary project drawing and Site photographs.

The Project will include one (1) natural gas-fueled SureSource 3000 power plant, manufactured by FCE, and is nominally rated to generate up to 2.8 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.

The fuel cell plant will consist of multiple skids classified into three (3) major subsystems: (i) the mechanical balance of plant (“MBOP”); (ii) the electrical balance of plant (“EBOP”); and (iii) the fuel cell modules. The 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. The 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. The SureSource 3000¹ fuel cell power plant is comprised of two SureSource modules. Each SureSource module contains four fuel cell stacks that house an assembly of electrochemical cells that produce DC electric power from a fuel source’s chemical energy. Resembling a large battery, each of the four stacks is constructed of approximately 400 individual fuel cells clamped together with manifolds inside an insulated container.

The power generated from the proposed facility will be exported to the electric distribution grid through an interconnection at the Ansonia substation, specifically through an underground connection to the existing 13.8 kV distribution system running next to the

¹ A specification sheet for the SureSource 3000 fuel cell power plant is attached hereto as Exhibit B.

facility and leading to the substation. A feasibility study was conducted by UI and confirmed that the Ansonia substation could accommodate the generation of the fuel cell power plant with minor upgrades. Up to 2.8 MW generated from the system will be exported to the utility per the terms of the TTA.

UI will purchase 100% of the proposed facility's electrical output and any associated Renewable Energy Credits ("RECs"). SCEF1 does not anticipate using the proposed facility as part of a microgrid. Additionally, the proposed facility can be configured for combined heat and power operation. Although SCEF1 does not presently intend to utilize the waste heat from the fuel cell power plant, waste heat will be available for potential off-takers should the area develop a higher thermal energy demand.

Lastly, the proposed facility will have back-up capabilities. Pursuant to the applicable utility interconnection rules, if needed, the fuel cell will disconnect itself from the utility grid and return as guided by IEEE 1547 for Smart Inverter guidelines.

The decommissioning plan for the proposed facility, upon the expiration of the TTA (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 have met with officials from the City of Derby, including Mayor Richard Dziekan, on a number of occasions to discuss the Project and provide updates.

FCE is in the process of constructing a 14 MW fuel cell system in Derby at 200 Roosevelt Drive. See *Petition No. 1372* (Approved, July 18, 2019).

D. Notice of Petition

A notice of this Petition has been sent (return receipt requested) to each person that owns 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 Derby and representatives of the City of Derby (set forth on Exhibit C-2).

Additionally, given that the City of Ansonia is approximately one thousand four hundred fifty feet to the northeast of the Site, Ansonia will also require notice of this Petition under Conn. Gen. Stat. 16-50/(b) (set forth on Exhibit C-2).

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

The Project will provide 2.8 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 and 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.²

² 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.

Approximately 1500 liters (400 gallons) of liquid nitrogen will be stored at the Site. This volume of liquid nitrogen is equivalent to approximately 2700 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 the nitrogen that will be stored on Site as a cryogenic liquid is classified by the Department of Transportation as a Division 2.2 (non-flammable gas) hazardous material, the amount of nitrogen stored on-site will be less than the applicable EPCRA reporting threshold. As such, SCEF1 will have no Section 311 or Section 312 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 a cleared portion of the Property that was a former dog pound (the use of which by the City has long been discontinued) in a wooded valley cut through by Coon Hollow Road. Immediately north of the Site, the Property supports a municipal storage depot run by the City, which includes the storage of heavy trucks and equipment, 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?
School 1, West	490	31	51	Yes
School 2, West	605	25	51	Yes
School Parking	285	45	51	Yes
Park, NW	610	25	61	Yes
Commercial, North	580	34	61	Yes
Cemetery, (P/L) East	445	41	61	Yes
Residential, East	725	21	51	Yes
Property Line South	290	43	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 City of Derby required City ordinance levels for the zoning in which it is located (i.e., “Public and Semi-Public Zone (P)”)³ 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 required for the construction and operation of the Project. The Site is accessible from Coon Hollow Road.

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 personnel vehicles. Heavy equipment will be brought on Site over a two-day period associated with the fuel cell plant delivery totaling roughly fifteen (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

³ See Derby Municipal Code Section § 118-3:

A. It shall be unlawful for any person to emit or cause to be emitted any noise beyond that person's property line in excess of the following noise levels:

	<i>Non-Residential Daytime</i>	<i>Residential Daytime</i>
<i>Residential emitter</i>	<i>55 dBA</i>	<i>55 dBA</i>
<i>Nonresidential emitter</i>	<i>62 dBA</i>	<i>55 dBA</i>

B. It shall be unlawful for any person to or cause to be emitted any noise beyond the boundaries of that person's premises in excess of 45 dBA in a Zone of Quiet.

C. It shall be unlawful for any person to emit or cause to be emitted any noise beyond the boundaries of that person's premises in excess of 45 dBA at nighttime.

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 operated remotely and only visited periodically by technicians.

Prior to operation, FCE will discuss the Project with the City of Derby's Fire Department. Additionally, as part of the building permit application review process, the City of Derby'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, SCEF1 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.

As of the date of this filing, project design has begun. 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

power 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 fuel cell power plant complies with the applicable provisions of mechanical, piping, fire protection, safety and electric codes.

The proposed facility's maintenance and pipe cleaning procedures will meet the requirements of 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. No gas blows of any flammable gas will be used for pipe cleaning. All fuel pipe-cleaning operations will be conducted in accordance with Public Act 11-101 and Connecticut Siting Council Docket NT-2010.

D. Scenic Values

The proposed Project will have little impact on the visual character of the immediate area. 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 existing use of the Property (immediately north of the Site) by the City as a storage depot filled with heavy trucks and equipment as well as an electric utility high-voltage transmission tower immediately east of the Site. The closest residential property and structure is more than 725 feet to the east of the Site (see Exhibit A). The Site is bound by (1) a municipal depot owned by the City of Derby to the north; (2) Coon Hollow Road to the west and south (including a utility transmission tower immediately behind the Site); and (3) a wooded area to the east. See Figure 1A (Area Map of the Project).

Figure 2A (View from North of Site)



View from north of current site conditions.

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 ”)	0.07
Oxides of Sulfur (“SO _x ”)	0.001
Particulate Matter (“PM”)	0.0002
Carbon Monoxide (“CO”)	0.1
Volatile Organic Compounds (“VOC”)	0.2
Carbon Dioxide (“CO ₂ ”)	12,000
*Emissions data based on 2.8 MW capacity.	

Table 3 lists the greenhouse gas projected emissions, based on 8,760 hours per year of full power operation of the natural gas-fueled SureSource power plant. However, it should be noted that methane is generally completely converted to hydrogen by the reforming reaction within the fuel cell stacks, with any remaining unconverted methane (for example at low power conditions) destroyed by a subsequent catalytic oxidation reactor in the fuel cell process. Between the reforming and oxidation processes, virtually all of the methane is expected to be destroyed, although trace amounts may survive and be present in the exhaust at very low concentrations (parts per million).

Table 3

Greenhouse Gas	Facility Projected Emissions with no waste heat recovery	
	tpy CO ₂ e	tpy GHG
Carbon Dioxide (CO ₂) (GWP=1)	12,000	12,000
Methane (CH ₄) (GWP=23)	215	9
Total GHG	12,215	12,009

In addition to the emissions from the fuel cell power plant, there will be minor emissions associated with the 10 MMBtu/hour gas-fired startup burner that will be used

with the fuel cell power plant. The burner will be used only intermittently to heat up the fuel cell to its required operating temperature.⁴ The criteria pollutant combined total potential emissions for the proposed Project (assuming maximum burner heat input and 8,760 hours of operation) will be less than 15 tpy for each individual criteria air pollutant. Consequently, a New Source Review permit will not be required for the construction and operation of the proposed Project.

The Project will be located in a serious non-attainment area for ozone. Total emissions from the proposed Project will also be below levels that will render the Project a “major stationary source” as defined in RCSA Section 22a-174-1(65) or a major source of hazardous air pollutants. Thus, the Project will be considered a minor stationary source and will not be subject to Non-Attainment New Source Review or require emission offsets for its construction.

The Project will also not be subject to the DEEP’s “permit by rules” because the potential emissions from the fuel cell or the proposed Project 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 1399.6 lbs CO₂ per

⁴ This burner will have a negligible noise impact and will not materially add to the overall dBA output of the Project.

MWh (EPA EGRID 2020 (January 2022) US, non-baseload). Consequently, the Project will generate 420 lbs/MWh less CO₂—or approximately 5146 fewer tons per year—than utility grid power.⁵

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 media.⁶ 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 the 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

⁵ Data based on 2.8 MW capacity.

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

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 monthly waste generation rate resulting from media replacements for the fuel cell plant will be within the range for generators that operate under Small Quantity Generator rules. SCEF1, as plant owner/operator, will comply with all applicable rules for hazardous waste generators in RCRA Section 22a-449(c)-1 through 22a-449(c)-119.

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 100-year floodplain nor a 500-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 Picketts Pond approximately 900 feet away across a steep rise and several streets to the west. 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 not require a DEEP general permit construction stormwater pollution prevention plan as the Site is less than one (1) acre. 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 Project⁷ and no wastewaters will be discharged on-site.⁸

The fuel cell power plant to be installed as part of this Project (*i.e.*, the SureSource 3000 power plant) will require approximately 13,000 gallons per day (“gpd”) of raw water and will discharge approximately 6,500 gpd of wastewater. Approximately half 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 South Central Regional Water Authority; and the wastewater will be discharged to Derby’s Water Pollution Control Authority. 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

The DEEP Natural Diversity Data Base (“NDDB”) Map for the City of Derby shows that the Site is not located within an endangered, threatened, and special concern species area or a significant natural community in Connecticut. For this reason, the Project is not expected to impact any extant populations of Federal or State Endangered, Threatened or Special Concern Species in Connecticut. See NDDB Map attached as Exhibit H. The proposed facility is not within a DEEP designated Aquifer Protection Area. Given that the Site is in an open space with no existing trees, no trees six inches in diameter or greater will be removed for installation of the proposed facility.

⁷ All soils will remain onsite and no cuts or fill will be required.

⁸ Comment from Rob Fournier: The water treatment skid will discharge degraded water as part of the clean-up process.

L. FAA Determinations

The nearest airports to the proposed facility are (1) the Flying Ridge Airstrip-CT52 approximately 10 miles to the west-northwest; (2) the Waterbury-Oxford Airport approximately 10.4 miles to the north; (3) Sikorsky Memorial Airport approximately 11.54 miles to the south; and (4) Tweed New Haven Airport approximately 12 miles 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 C.F.R. 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 provide an environmental benefit to the State of Connecticut by reducing CO₂ emissions by approximately 5,146 tpy as compared to utility grid power.

V. CONCLUSION

For all the foregoing reasons, SCEF1 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,

Bruce L. McDermott

By:  _____

Bruce L. McDermott
Murtha Cullina LLP
265 Church Street
New Haven, CT 06510

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: NDDB Map.

EXHIBIT I: 14 C.F.R. § 77.9.

EXHIBIT A

SITE PLAN



Figure A1

View of Site from the northwest corner looking southeast at Transmission Tower.



Figure A2-1

View from the south of the Site looking North at another Transmission Tower and the City DPW Depot.



Figure A2-2

Zoomed-in view from the south of the Site looking North at existing debris on Site.



Figure A3
Existing Site Conditions– Looking South at Coon Hollow Rd.



Figure A4
Proposed Site Condition Rendering – Looking South at Coon Hollow Rd.



Figure A5
Existing Site Condition– Roadside From Coon Hollow Rd. and Looking Southeast



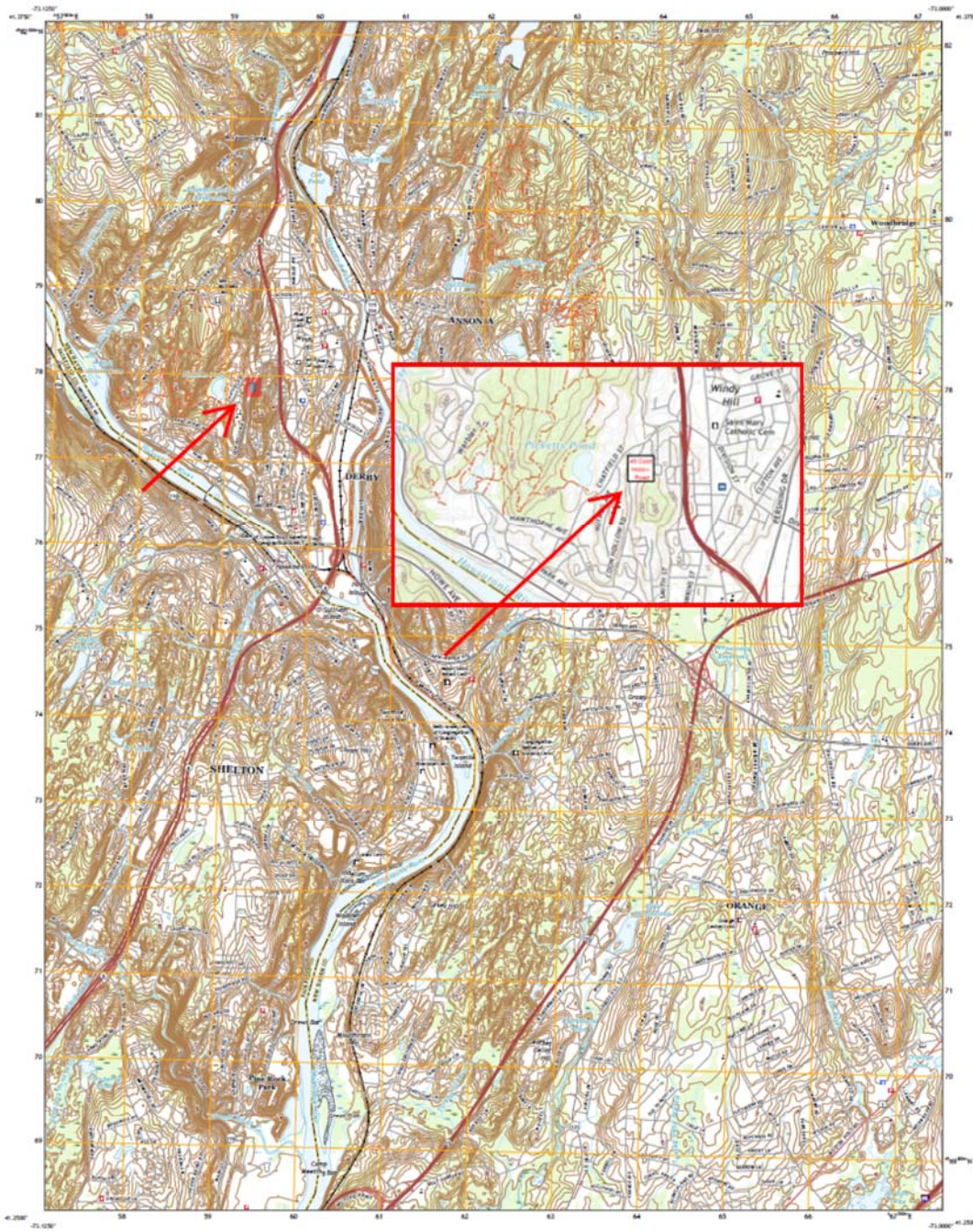
Figure A6
Proposed Site Condition Rendering – Roadside From Coon Hollow Rd. and Looking Southeast



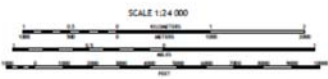
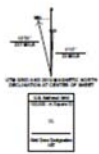
U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY



ANSONIA QUADRANGLE
CONNECTICUT
7.5-MINUTE SERIES



Produced by the United States Geological Survey
North American Datum of 1983 (NAD 83)
Map Scale: 1:24,000
Map Date: 2001
Map Series: 7.5-Minute Series
Map Sheet: 2301
Map Title: ANSONIA, CT
Map Number: 2301
Map Date: 2001
Map Series: 7.5-Minute Series
Map Sheet: 2301



ROAD CLASSIFICATION

Interstate	Local Collector
Arterial	Local Road
State	Other
Unimproved Road	Other Road

1	1	1	1
2	2	2	2
3	3	3	3
4	4	4	4

ANSONIA, CT
2001



Figure A7
USGS Area Topo Map

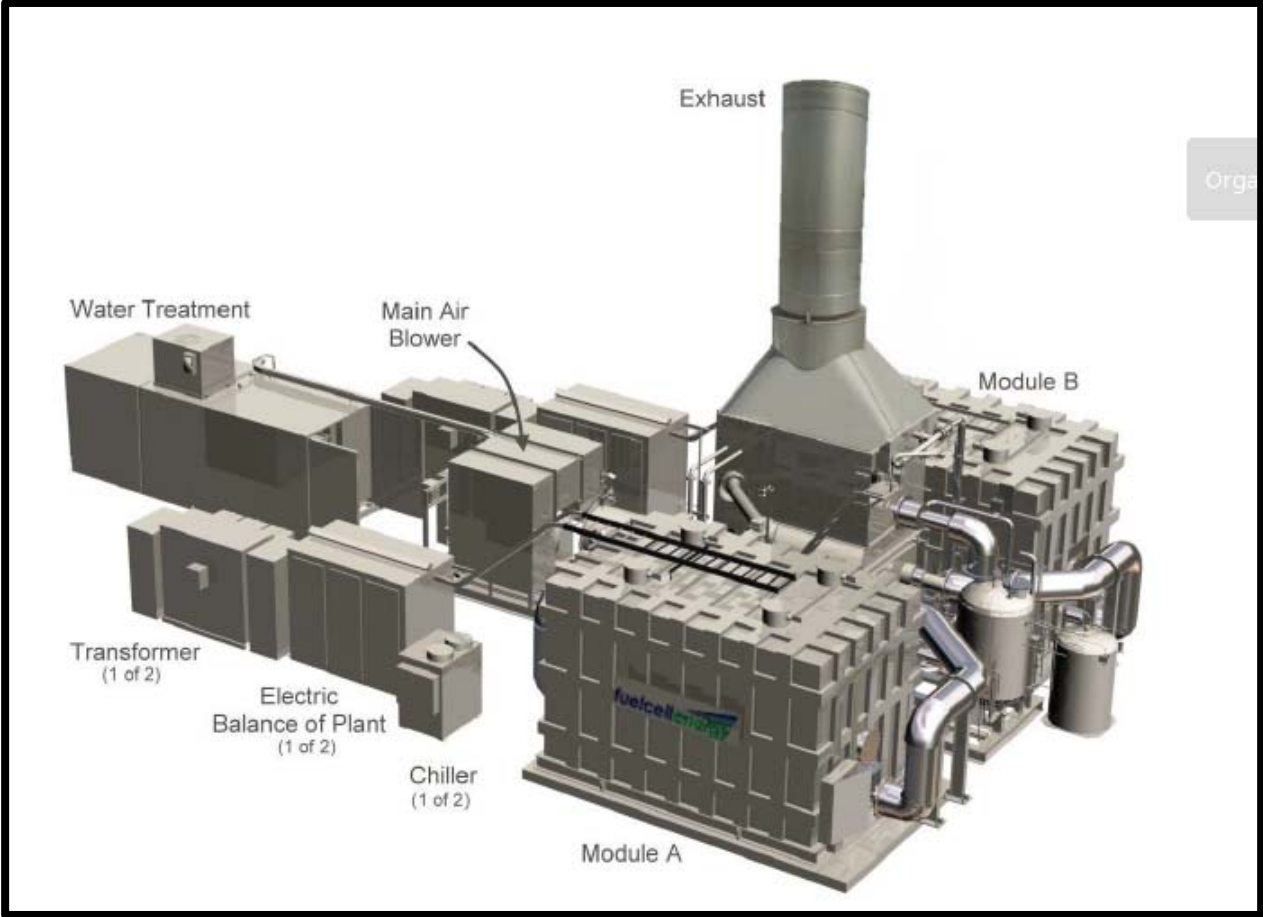


Figure A8
Diagram of a Typical Fuel Cell Unit

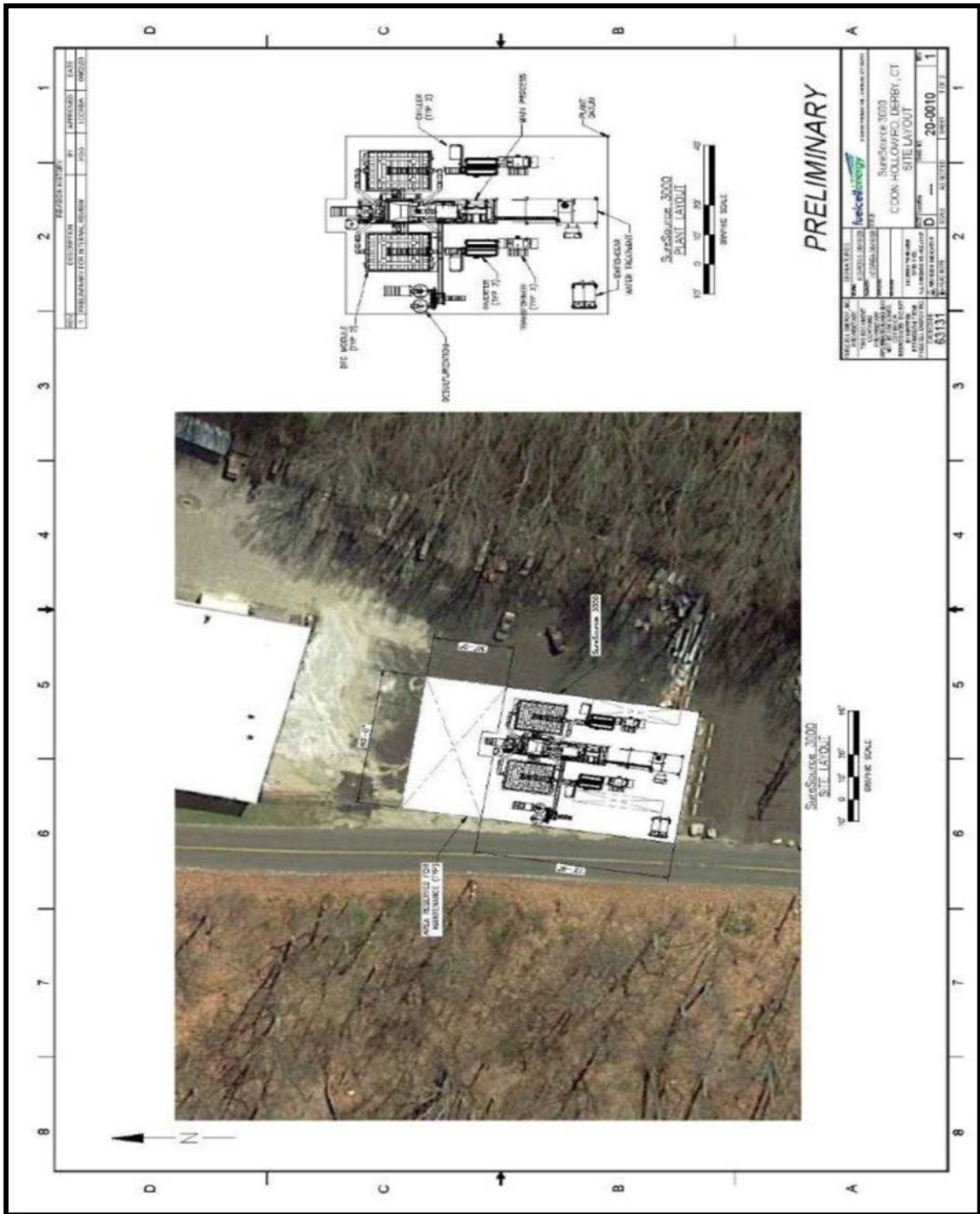


Figure A9
 Aerial View and Distances

EXHIBIT B

(SureSource 3000 Spec Sheet)



SureSource 3000

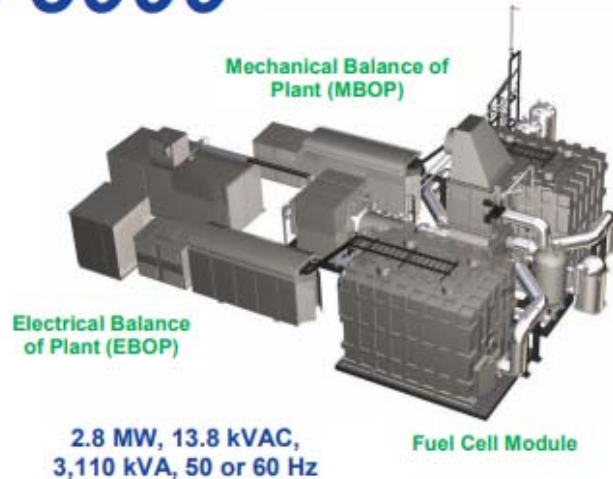
2.8 MEGAWATTS

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

CO ₂	980 lb/MWh
CO ₂ (with waste heat recovery)	520-680 lb/MWh

Sound Level

Standard	72 dB(A) at 10 feet
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SPECIFICATIONS

SureSource 3000

WEIGHTS

Water Treatment Skid

20,000 lb

Main Process Skid

50,000 lb

Desulfurization

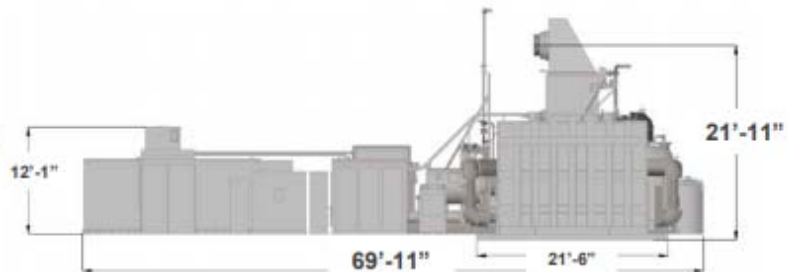
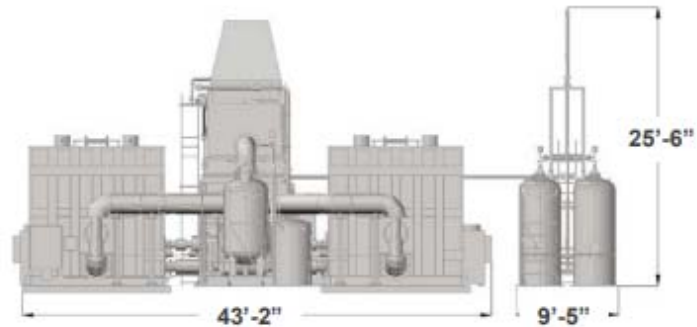
15,000 lb

Electrical Balance of Plant

52,000 lb

Fuel Cell Module

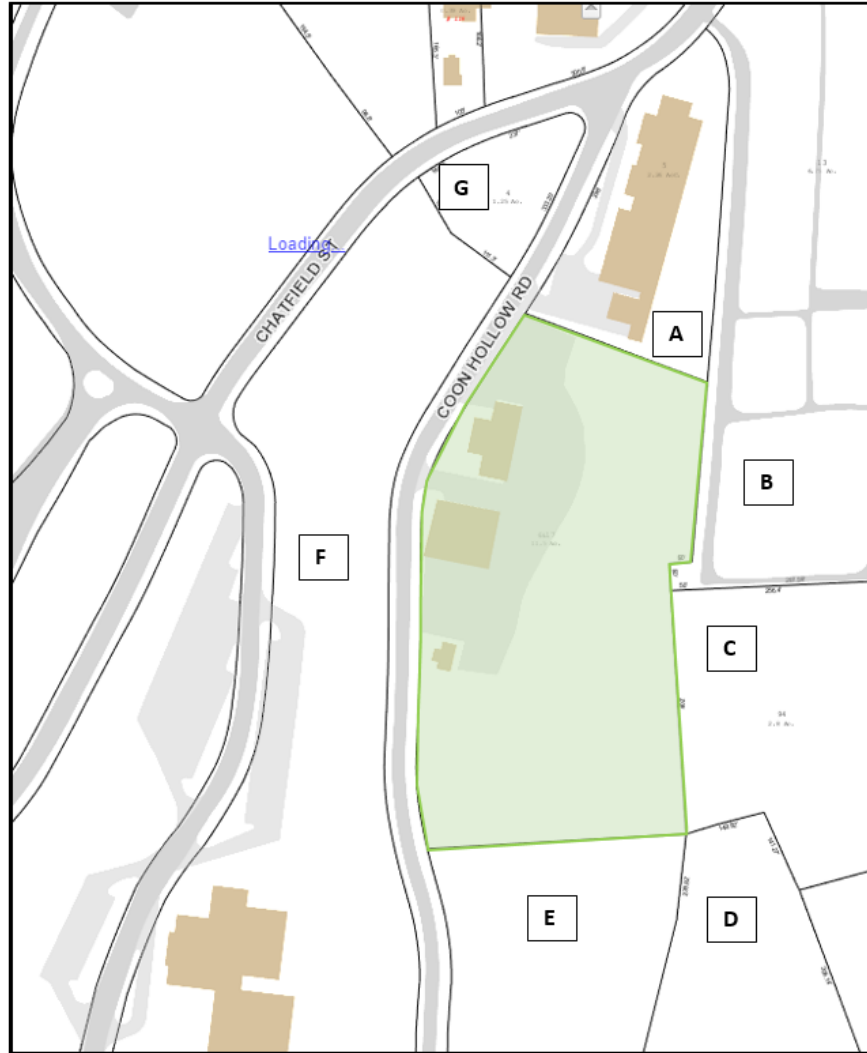
107,000 lb (each module)



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



e	Parcel Address	Property Owner	Mailing Address	Unique ID
A	55 Coon Hollow Road	GJM 2000, LLC	3683 Post Rd Southport, CT 06890	10265
B	Chatfield Street	St Peter & St Paul Cemetery	105 Clifton Ave., Ansonia, CT 06401-0000	10298
C	Mountain Street	Summitt Hill LLC	70 Platt Rd., Shelton, CT 06484- 0000	8116
D	Summit Street	Summit Hill LLC	70 Platt Rd., Shelton, CT 06484- 0000	8803
E	Coon Hollow Road	Valentino Dominick	52 Summit St, Derby, CT 06418- 000	10298
F	73 75 Chatfield Street	City of Derby	73 Chatfield Street, Derby, CT 06418-0000	9630
G	Chatfield Street	St. Peter & Paul Ruthenian	105 Clifton Ave, Ansonia, CT 06401-0000	10294

EXHIBIT C-2
(Local and State Agencies/Officials Notice List)

City of Derby

Mayor Richard Dziekan
Derby City Hall
1 Elizabeth Street, 2nd Floor
Derby, CT 06418

Planning & Zoning
Commission
Theodore J. Estwan, Jr. Chairman
1 Elizabeth Street, 2nd Floor
Derby, CT 06418

Paul M. Dinice, Jr.,
Chair
Inland Wetlands Commission
City of Derby
1 Elizabeth Street
Derby, CT 06418

City of Ansonia

Mayor David S. Cassetti
City Hall
253 Main Street
Ansonia, CT 06401

Planning and Zoning Commission
Jared Heon, Chairman
City Hall
253 Main Street
Ansonia, CT 06401

Inland Wetlands Commission
Timothy Holman, Chair
City Hall
253 Main Street
Ansonia, CT 06401

State and Federal Officials

Attorney General William Tong
Office of the Attorney General
165 Capitol Avenue
Hartford, CT 06106

Deputy Attorney General Margaret Q.
Chapple
Office of the Attorney General
Ten Franklin Square
New Britain, CT 06051

Consumer Counsel Claire E.
Coleman
Office of Consumer Counsel
Ten Franklin Square
New Britain, CT 06051

Bryan P. Hurlburt, Commissioner
Connecticut Department of
Agriculture
450 Columbus Boulevard, Suite 701
Hartford, CT 06103

David Lehman, Commissioner*
Economic & Community
Development Department
450 Columbus Boulevard
Hartford, CT 06103

James C. Rovella, Commissioner*
Department of Emergency
Services and Public Protection
1111 Country Club Road
Middletown, CT 06457

Conservation Commission
Frank Pergola, Chair
253 Main Street
Ansonia, CT 06401

Susan D. Merrow, Chair
Connecticut Council on
Environmental Quality
79 Elm Street
Hartford, CT 06106

Melissa McCaw, Secretary*
Office of Policy and Management
450 Capitol Avenue
Hartford, CT 06106

Manisha Juthani, M.D.,
Commissioner
Department of Public Health
410 Capitol Avenue
Hartford, CT 06134

Katie Dykes, Commissioner
Connecticut Department of Energy
and Environmental Protection
79 Elm Street
Hartford, CT 06106-5127

Marissa Paslick Gillett, Chairman
Public Utilities Regulatory Authority
Ten Franklin Square
New Britain, CT 06051

Joseph Giuliatti, Commissioner
Department of Transportation
2800 Berlin Turnpike
Newington, CT 06111

Christine Castonguay,
Interim Director*
Connecticut Office of Tourism
450 Columbus Boulevard
Suite 5
Hartford, CT 06103

Josh Geballe, Commissioner*
Department of Administrative
Services
Office of the Deputy Commissioner
450 Columbus Boulevard
Hartford, CT 06103

State Elected Officials

Representative Nicole Klarides-Ditria
Legislative Office Building
Room 4200
300 Capitol Avenue
Hartford, CT 06106

Senator Jorge Cabrera
Legislative Office Building
Room 3100
300 Capitol Avenue
Hartford, CT 06106

EXHIBIT C-3

(Affidavits of Service and Notice)

AFFIDAVIT OF SERVICE OF NOTICE UPON ABUTTING PROPERTY OWNERS

STATE OF CONNECTICUT)
) ss. New Haven
COUNTY OF NEW HAVEN)

Pursuant to section 16-50/(b) of the Connecticut General Statutes, I hereby certify that on or about April 14, 2022, I caused notice regarding SCEF1 Fuel Cell, LLC's intent to file a petition with the Connecticut Siting Council for a declaratory ruling that a Certificate of Environmental Compatibility and Public Need is not required for the installation of a 2.8 MW fuel cell power generating facility, including all associated equipment and related site improvements at 49 Coon Hollow Road, Danbury, Connecticut (the "Project Site") to be sent by certified or registered mail to abutting property owners to the Project Site. The list of abutting property owners who were notified and a sample letter can be found on Exhibit C-1 and Exhibit C-4, respectively.



Bruce L. McDermott, Esq.

On this 14th day of April, 2022, before me, the undersigned officer, personally appeared, Bruce L. McDermott, known to me (or satisfactorily 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 hand and office seal.



Liza Blair

My Commission Expires January 31, 2026

AFFIDAVIT OF SERVICE OF APPLICATION

STATE OF CONNECTICUT)
) ss. New Haven
COUNTY OF NEW HAVEN)

Pursuant to section 16-50(b) of the Connecticut General Statutes, I hereby certify that on or about April 14, 2022, I caused a copy of the petition of SCEF1 Fuel Cell, LLC to the Connecticut Siting Council for a declaratory ruling that a Certificate of Environmental Compatibility and Public Need is not required for the installation of a 2.8 MW fuel cell power generating facility, including all associated equipment and related site improvements at 49 Coon Hollow Road, Danbury, Connecticut (the "Project Site") to be served upon the individuals and agencies set forth on Exhibit C-2.



Bruce L. McDermott, Esq.

On this 14th day of April, 2022, before me, the undersigned officer, personally appeared, Bruce L. McDermott, known to me (or satisfactorily 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 hand and office seal.



Liza Blair

My Commission Expires January 31, 2026

EXHIBIT C-4

(Sample Notice Letters to Abutters and Agencies/Officials)

BRUCE L. McDERMOTT
203.772.7787 DIRECT TELEPHONE
860.240.5723 DIRECT FACSIMILE
bmcdermott@murthalaw.com

April 14, 2022

GJM 2000, LLC
3683 Post Rd
Southport, CT 06890

Re: Petition of SCEF1 Fuel Cell, LLC for a Declaratory Ruling that a Certificate of Environmental Compatibility and Public Need is not Required for the Installation of a 2.8 MW Fuel Cell Facility at 49 Coon Hollow Road, Derby Road, Connecticut

Dear Sir or Madam:

SCEF1 Fuel Cell, LLC ("SCEF1") is undertaking a project that involves the installation of a fuel cell system with a capacity up to 2.8-megawatts and associated equipment (collectively, the "Project") to be located at 49 Coon Hollow Road, Derby, Connecticut (the "Property").

Since the Project abuts your property, SCEF1 is committed to keeping you informed. This letter is to provide you notice that SCEF1 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, SCEF1 anticipates starting construction in early 2023, with completion in 2024. This schedule is approximate and subject to change. Please note this work will not interrupt electric service to homes or businesses.

Murtha Cullina LLP
265 Church Street
New Haven, CT 06510
T 203.772.7700
F 203.772.7723

If you would like more information concerning the proposed Project, please visit the Council's website at <https://portal.ct.gov/CSC>. Information about the Project can be found under "Pending Matters". In the alternative, you may call Derek Phelps at (860) 452-4648.

Very truly yours,

A handwritten signature in blue ink, appearing to read "Bruce L. McDermott". The signature is stylized with a large initial "B" and a long horizontal stroke.

Bruce L. McDermott

April 14, 2022

VIA CERTIFIED MAIL

Mayor Richard Dziekan
Derby City Hall
1 Elizabeth Street, 2nd Floor
Derby, CT 06418

Re: Notice to Agencies and Officials

Dear Mayor Dziekan:

SCEF1 Fuel Cell, LLC ("SCEF1") is undertaking a project that involves the installation of a fuel cell system with a capacity up to 2.8-megawatts and associated equipment (collectively, the "Project") to be located at 49 Coon Hollow Road, Derby, Connecticut (the "Property").

This letter is to provide you notice that on or about April 14, 2022, SCEF1 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, SCEF1 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, SCEF1 anticipates starting construction in in early 2023, and commercial operation of the facility will be expected to commence by 2024. This schedule is approximate and subject to change. Please note this work will not interrupt electric service to homes or businesses.

Murtha Cullina LLP
265 Church Street
New Haven, CT 06510
T 203.772.7700
F 203.772.7723

If you would like more information concerning the proposed Project, please visit the Council's website at <https://portal.ct.gov/CSC>. Information about the Project can be found under "Pending Matters". In the alternative, you may call Derek Phelps at (860) 452-4648.

Very truly yours,

A handwritten signature in blue ink, appearing to read "Bruce L. McDermott". The signature is fluid and cursive, with a prominent horizontal stroke across the top.

Bruce L. McDermott

EXHIBIT D

(Facility Sound Assessment)

Facility Sound Assessment



Fuel Cell Project
49 Coon Hollow Road
Derby, Connecticut
February 2, 2021

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 SCEF Derby Coon Hollow Project

Background

A Fuel Cell (FC) Project is proposed at an existing industrial parcel on Coon Hollow Road in Derby, Connecticut. It is part of the Shared Clean Energy Facilities Program authorized by the Connecticut Public Utilities Regulatory Authority. 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 near the City of Derby Department of Public Works garage on Coon Hollow Road in Derby. The hollow is shielded from activities beyond its two ridges of terrain to the east and west. Pinnacle Ridge to the east is a cemetery to the north and open space to the south. Pinnacle Ridge shields the facility area from residences to the east and will shield those nearest residences from activities at the site. The ridge to the west includes the Osbornedale Park and the High School. Figure 1 shows an aerial view of the site and surrounding area. Existing sources of sound include daytime activities at the Public Works and traffic on Coon Hollow Road and nearby Chatfield Street.

The site has a history of industrial and government use. It is largely paved and hosts some of the seasonal equipment used by the City Public Works. No heavy equipment was being operated during any part of the sound survey. The southern portion of the site is labeled as a dog walking park and Humane Society office. Neither seemed to be recently active. North of the DPW offices are some office buildings that have an industrial appearance, but seem to be currently vacant. Field measurements were made between the Coon Hollow roadway and the site fence. The ambient levels can be expected to be higher when there is more DPW activity. In these ways, the study is believed to represent quiet conditions for this commercial/industrial area.

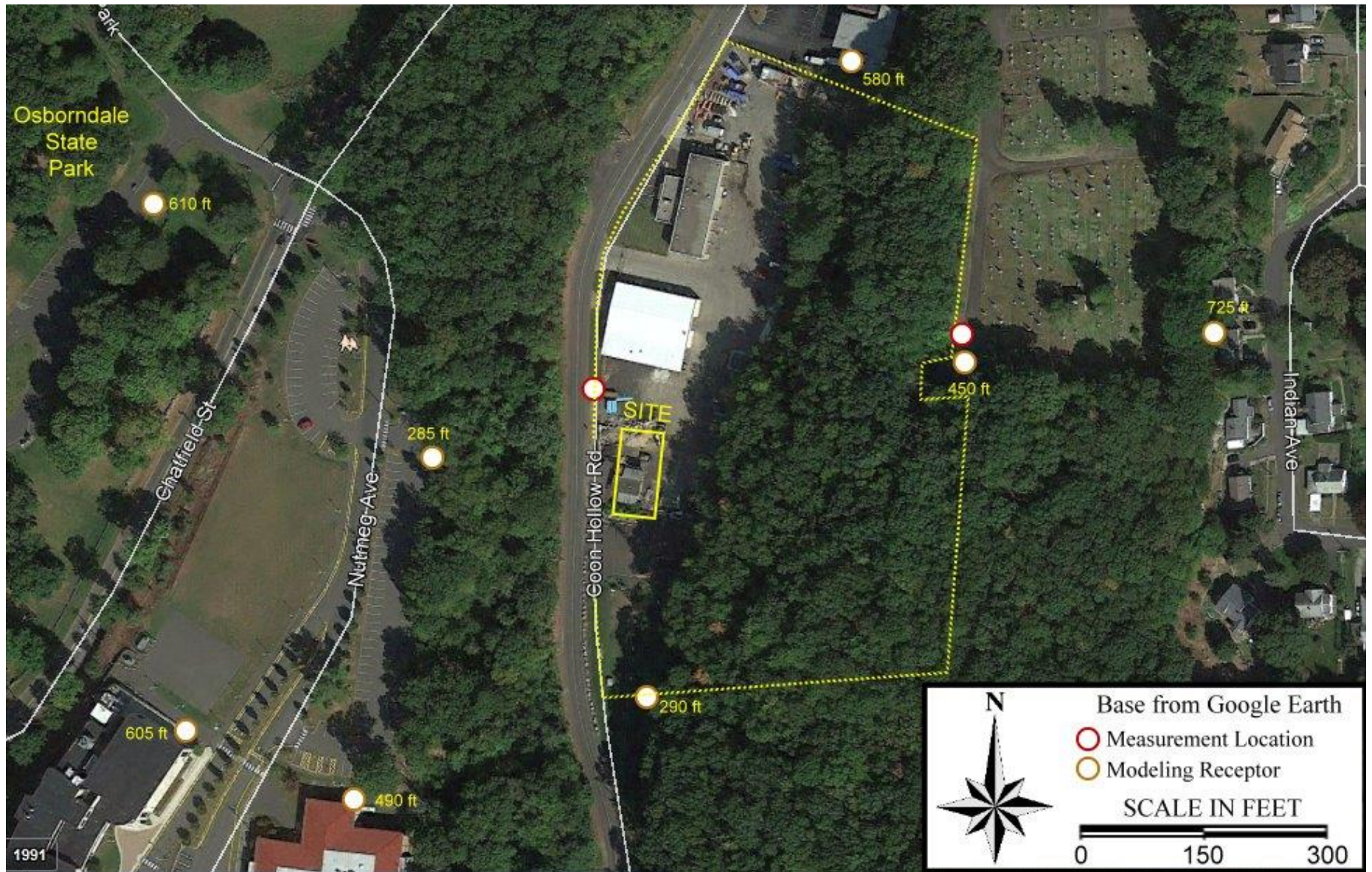


Figure 1: Aerial Overview of the Area Showing the Equipment Location, Measurement Location and Receptors

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.

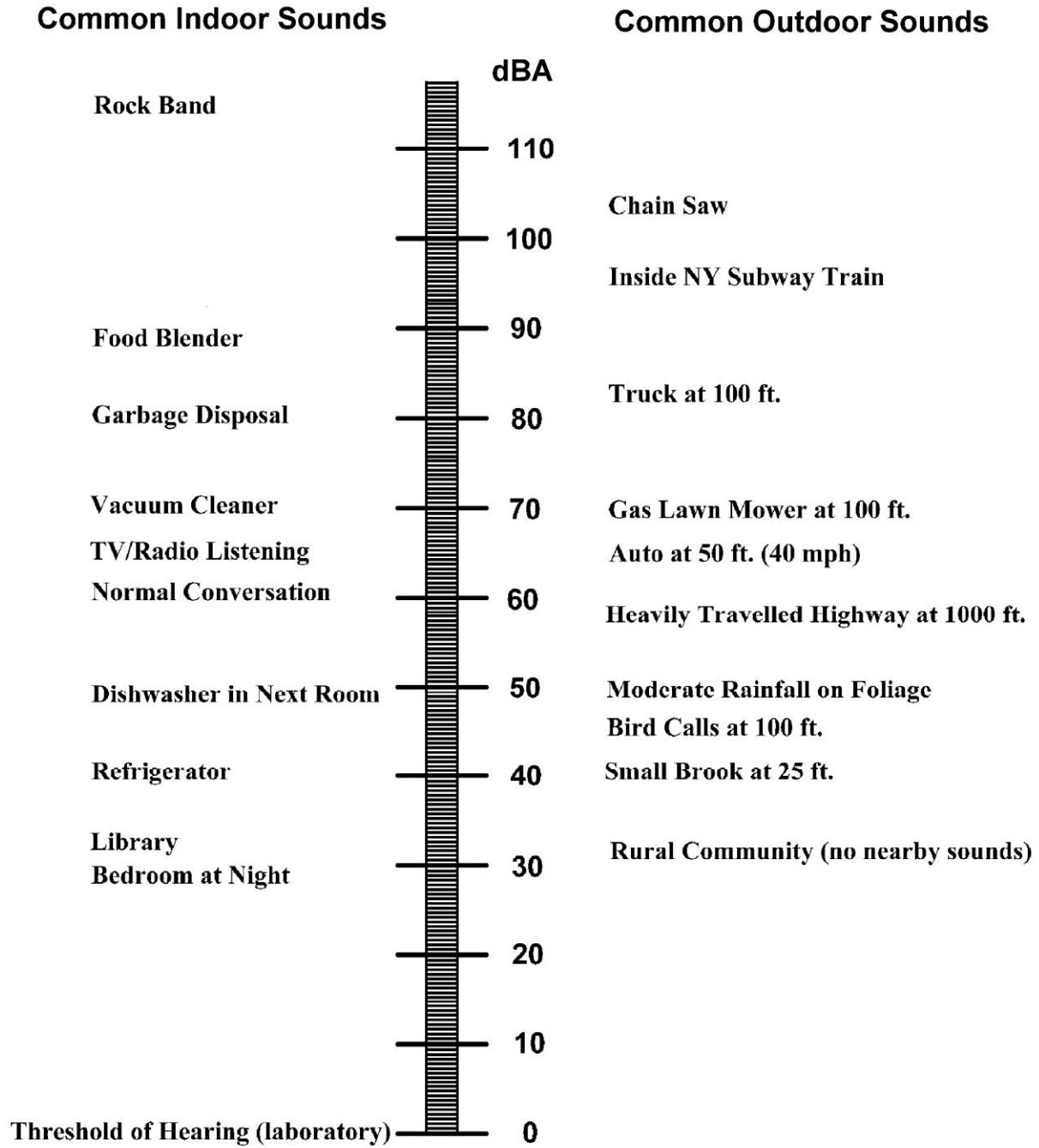


Figure 2: Typical Sound Levels from Everyday Experience

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 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. 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 Derby Requirements**

Electrical generation projects in Connecticut are generally regulated at the State level. In this study, Modeling Specialties has evaluated the site based on the CDEEP criteria at sensitive locations. A review of the Derby Code of Ordinances identified Chapter 118 to regulate noise. While the CDEEP standards are used in this compliance evaluation, specific receptors were selected to be relevant to the Derby noise standards excerpted here:

§ 118-3 Noise Levels: *It shall be unlawful for any person to emit or cause to be emitted any noise beyond that person's property line in excess of the following noise levels:*

	<i>Non-Residential Daytime</i>	<i>Residential Daytime</i>
<i>Residential emitter</i>	<i>55 dBA</i>	<i>55 dBA</i>
<i>Nonresidential emitter</i>	<i>62 dBA</i>	<i>55 dBA</i>

B. It shall be unlawful for any person to or cause to be emitted any noise beyond the boundaries of that person's premises in excess of 45 dBA in a Zone of Quiet.

C. It shall be unlawful for any person to emit or cause to be emitted any noise beyond the boundaries of that person's premises in excess of 45 dBA at nighttime.

Since the noise standards are based on the land use of both the emitter and the receiver, the current land use in the area is important to the study. An excerpt of the Derby Zoning Map is provided in Figure 3 for the project area. The site and properties nearest the site are industrial in use. The zoned land use as well as the observed land use was considered in the selection of relevant noise receptor locations.

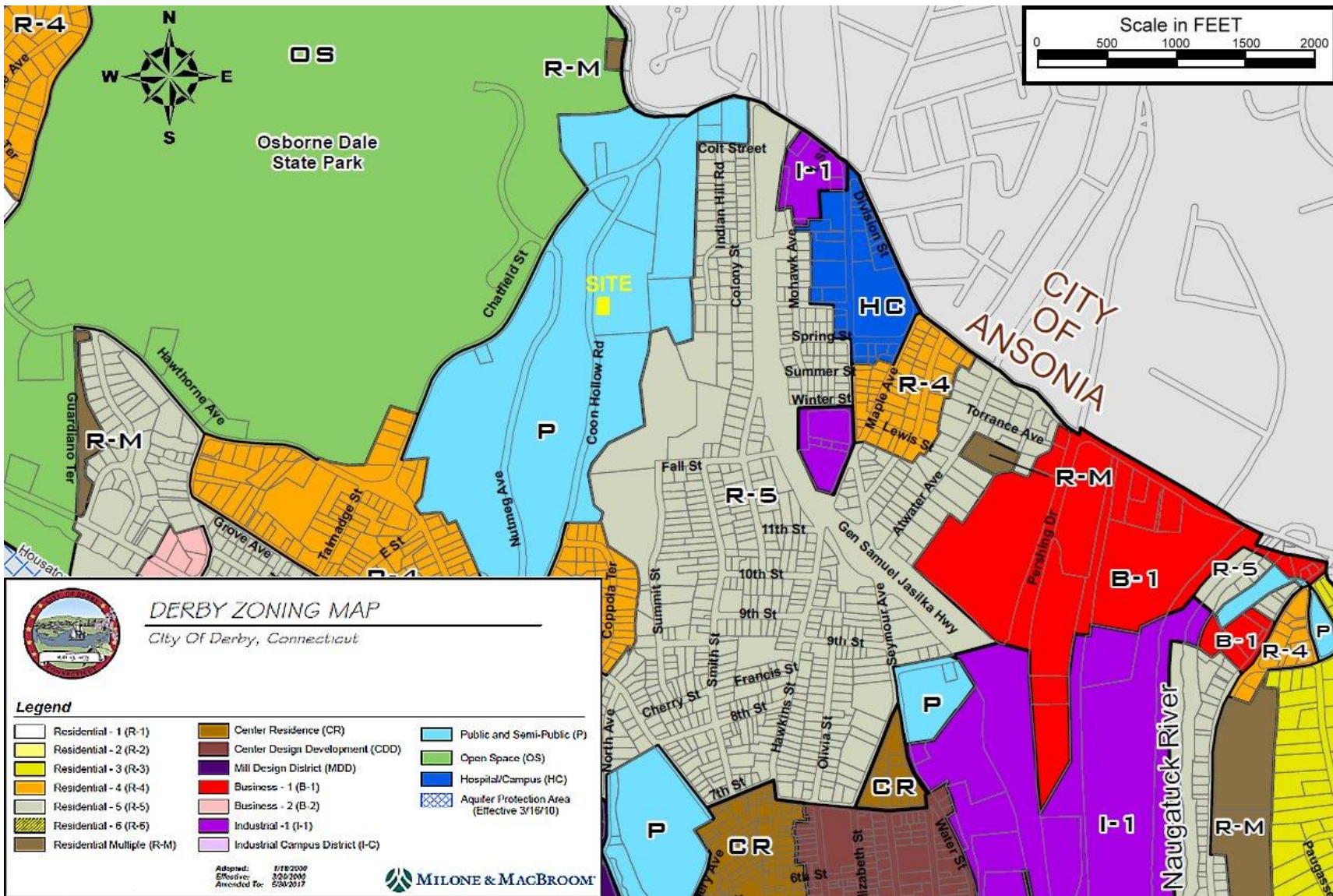


Figure 3: Excerpt from the Derby Zoning Map of the Project Area

Existing Community Sound Levels

A site survey and noise measurement study were conducted for the facility on December 2, 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 represents the 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.

The L_{90} 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 L_{90} 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 L_{90} results.

The host site is part of a larger public or semi-public area that provides an important backdrop for the project. On one hand, some of the DPW equipment and activities tend to be relatively sound intensive. Its location in Coon Hollow provides natural shielding that protects neighboring land uses from the sound. On the other hand, the schools to the west are considered to be a “quiet zone” use by the City.

Sources Excluded from the Ambient Survey

Sound from a new source is most noticed during quiet ambient conditions. During both surveys, the sound was measured under conditions that excluded any equipment or activities at the DPW facility that produced significant sound. Much of the paved area is used for storage of heavy equipment and materials. There was no powered equipment operating on the site during either survey. There was some work being done onsite during the daytime survey, but it only involved hand operated equipment that produced little sound.

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 L_{90} 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 December 2, 2020

Location	Time	Period	L _{eq}	L ₉₀
Daytime at Site	9:25 AM	Day	58 dBA	42 dBA
Daytime at Cemetery	8:20 AM	Day	49 dBA	47 dBA
Nighttime at Site	3:59 AM	Night	40 dBA	36 dBA

Consistent with most 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.

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 a single SureSource 3000 block of fuel cell equipment. The layout will be similar to the graphic overview shown in Figure 4. The proposed facility layout is sketched in Figure 5 and was put into the context of the site in Figure 1.

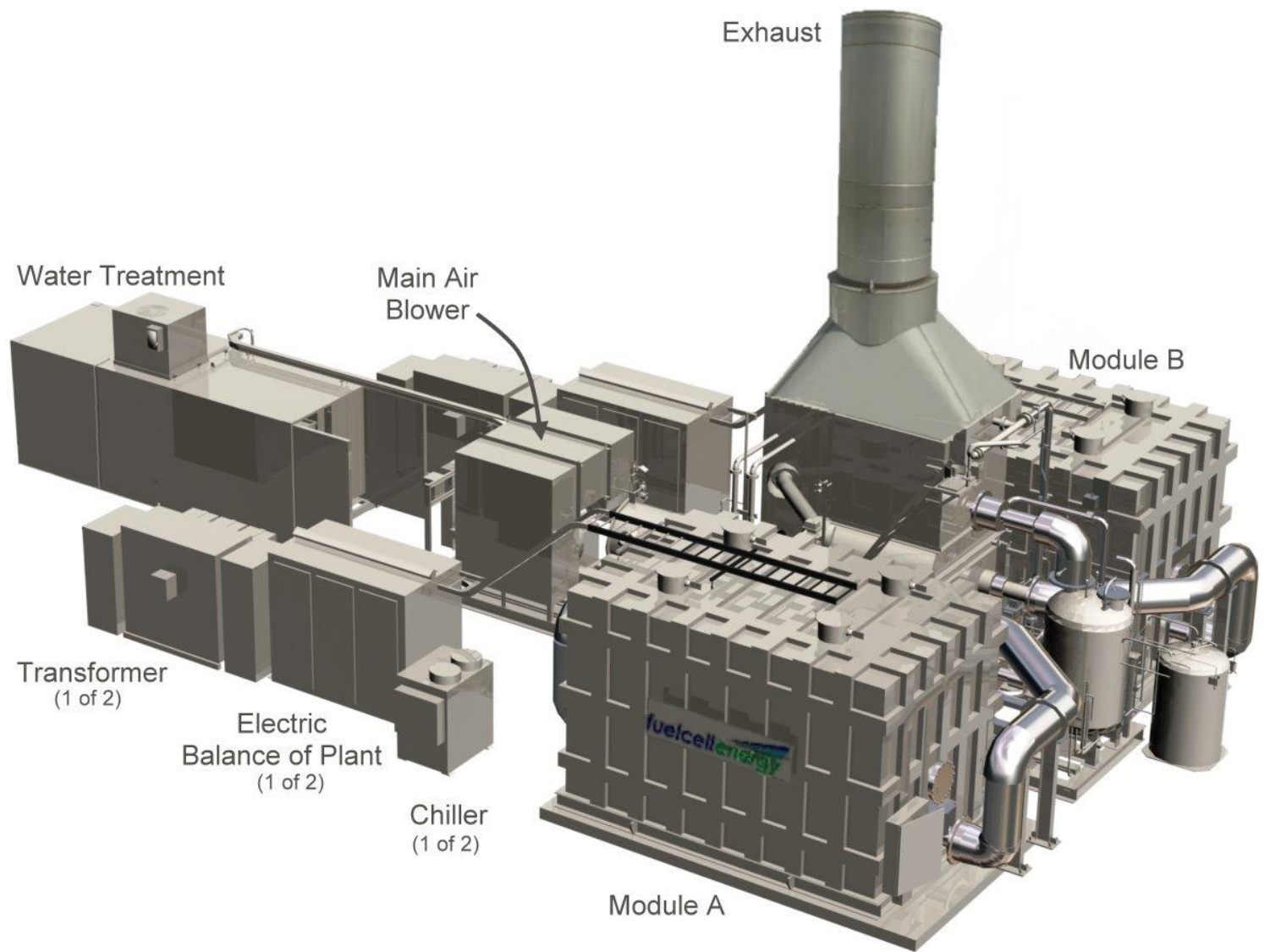


Figure 4: **Layout of Typical Equipment Components of each SureSource 3000 Block**

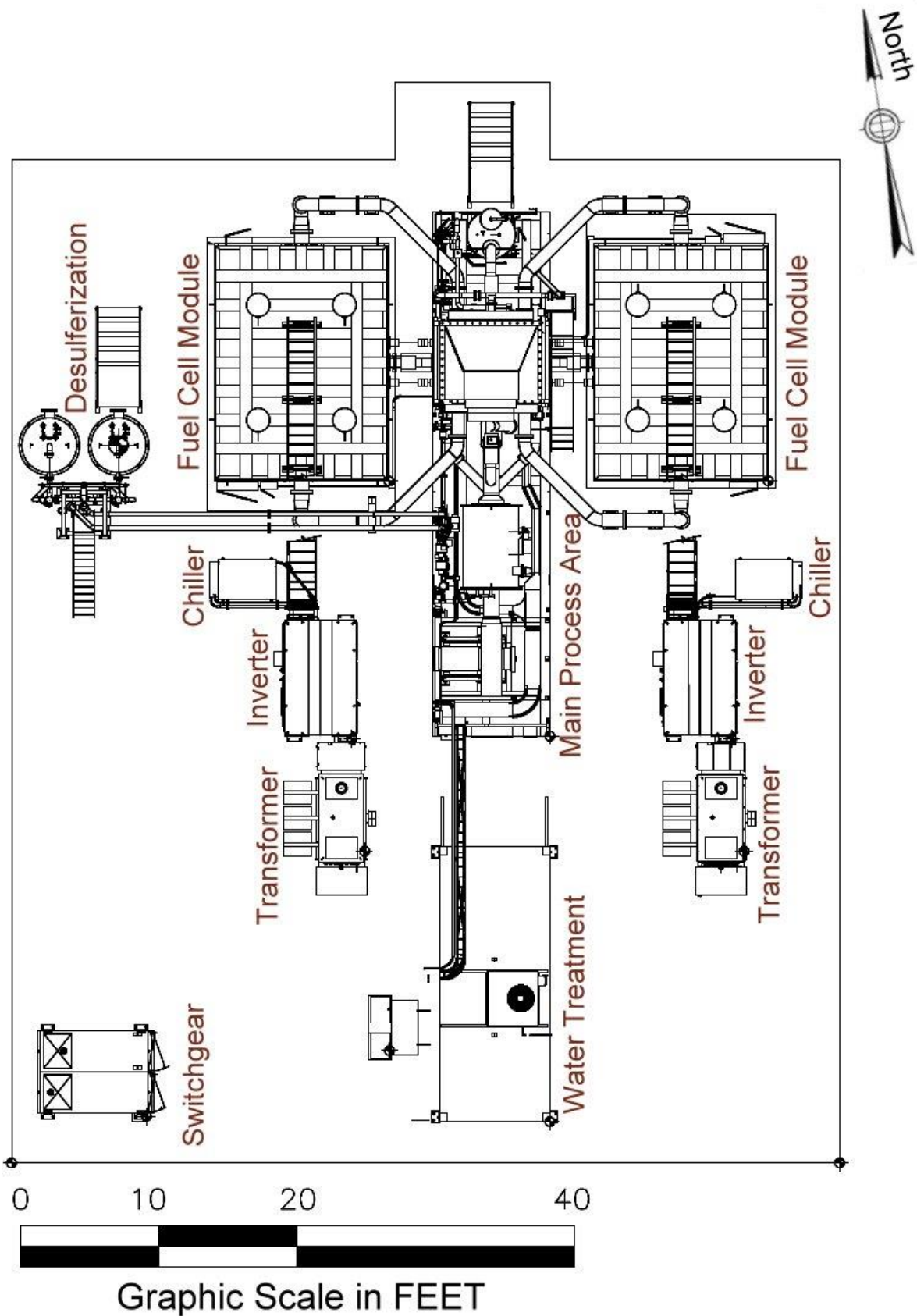


Figure 5: Layout of the Fuel Cell Facility Showing the Major Groups of Equipment

Much of the equipment is acoustically inert such as the water treatment enclosure, fuel desulfurizing 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. 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 existing buildings such as the equipment garage to the north. This would further reduce the sound at the nearest residences along Chatfield Street where very low project sound levels are already expected.

Table 3: Summary of Noise Modeling Results

Receptor	Distance (ft)	Project Sound (dBA)	Criterion (dBA)	Comply?
School 1, West	490	31	51	Yes
School 2, West	605	25	51	Yes
School Parking	285	45	51	Yes
Park, NW	610	25	61	Yes
Commercial, North	580	34	61	Yes
Cemetery, (P/L) East	445	41	61	Yes
Residential, East	725	21	51	Yes
Property Line South	290	43	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. The greatest mitigation for this project is a significant buffer of public and semi-public land between the equipment and the more 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.

The City of Derby criteria were also identified. The differences between the CDEEP and Derby standards are lower nighttime limits (45 dBA) at residences and land uses defined to represent a “quiet zone”. These include the schools to the west. Because of the distance and shielding provided by the terrain, the Derby limits are expected to be met at both schools and the nearest residences.

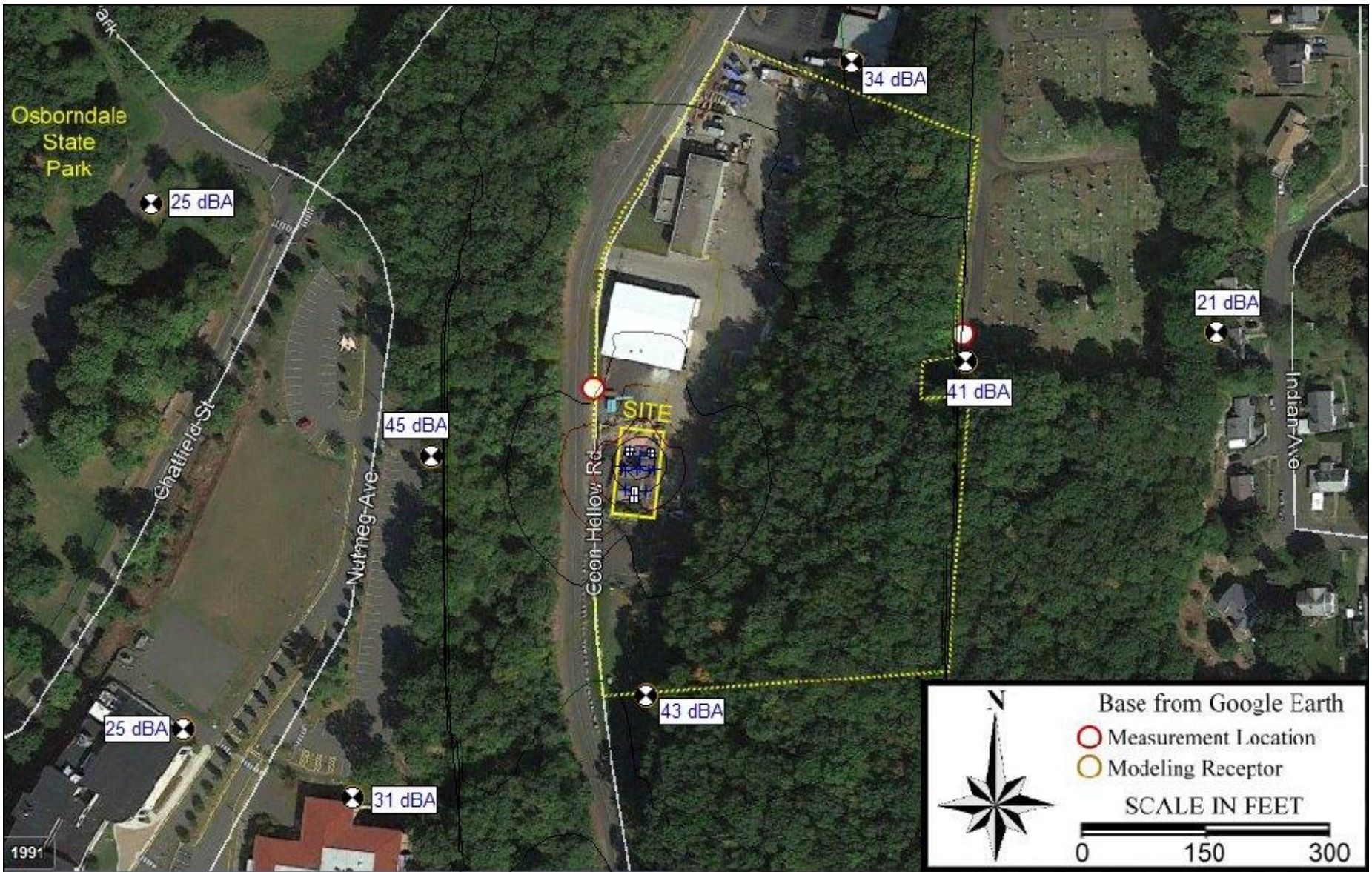


Figure 6: Graphical Summary of the Predicted Facility Sound Levels at Receptor Locations

EXHIBIT E

(Emergency Response Plan)



FuelCell Energy

EMERGENCY RESPONSE/SAFETY PLAN

Prepared for:

SCEF-1 Fuel Cell Project (MM-50)

Located at:

49 Coon Hollow Road

Derby, CT 06418

Owned by:

SCEF 1 Fuel Cell, LLC

c/o: FuelCell Energy, Inc.

3 Great Pasture Road

Danbury, CT 06810

Prepared by:

Fuel Cell Energy, Inc.

3 Great Pasture Road

Danbury, CT 06810

Prepared: March, 2022

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



Plan Contents

- 1 INTRODUCTION..... 1
 - General..... 1**
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 - 2.2 Fire Emergency and Prevention Plan 11**
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- 3 SITE SECURITY & ACCESS..... 28
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Appendices

- Appendix A: Plant Layout with Exit Pathways / Rally Area and Utility Shutoffs – Plan view drawings attached identify that there is no exit pathways on the plant itself since it is an unmanned and a remote operating facility
- Appendix B: Plant Hazardous Area Classification Drawings with ESD pushbutton & Emergency Sensor Locations



1 INTRODUCTION

The DSCEF 1 Fuel Cell Project is a fuel cell power plant whose equipment is owned by SCEF-1 Fuel Cell, LLC, a wholly owned subsidiary of FuelCell Energy, Inc. ("FCE"). The plant is situated on a previously developed area of a City owned utility lot, at 49 Coon Hollow Road, Derby, Connecticut. One fuel cell plant and appurtenant equipment will be constructed on concrete slab pad(s), at an elevation of the site (215 ft. ASL). The power generated from the facility will be fed into the electric distribution grid through an interconnection at the Indian Wells' substation or directly to an overhead power line. The facility will be operated under a service agreement by FCE. The net generating capacity of the single fuel cell power plant is 2.8 MW, nominal. This Emergency Response / Safety Plan has been prepared as required by the Occupational Safety and Health Administration (OSHA) general industry standard at 29 CFR 1910.38. The Fire Prevention & Emergency Plan has been prepared in accordance with the requirements of the National Fire Protection Agency Standard 853.

General

FCE SureSource 3000 fuel cell plant is designed and operated as an unmanned power generation facility. The control system for the plant is designed for the system to be "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 interconnected power grid.

A SureSource 3000 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 plant fuel gas supply connection. An ESD event also triggers automatic isolation of the fuel desulfurizer vessels and initiates the purging of the 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 ESU

Each SureSource 3000 ESU plant consists of two (2) SureSource fuel cell modules, a Mechanical Balance-of-Plant (MBOP – skids 1 & 2), and an Electrical Balance of Plant (EBOP – consisting of (2) power conditioning units (PCU)/inverters, (2) chiller units, (2) EBOP transformers and an MBOP transformer). The project site will also store water and fuel gas treatment and nitrogen supply equipment in addition to electric utility interconnection switchgear and instrumentation.

Number of Fuel Cell Plants:	1 (MM-50)
Fuel Cell Power Output:	2.8 MW nominal. 2.8 MW total plant
Installation Location:	Outdoors
Fuel type:	Pipeline Natural Gas Utility supply pressure: 20-25 psig to site desulfurizers Fuel cell plant reduced operating pressure: <15psig
Plant Output Voltage:	13.8 KV / 3 Phase / 60 Hz
EBOP Manufacturer:	Rockwell
EBOP Transformer Type / Dielectric Fluid:	Air-Cooled / none (Dry Type)
MBOP Transformer Type / Dielectric Fluid:	Oil Cooled/ FR3 less-flammable, seed oil based dielectric fluid (total qty.= 124 gal.)



Additional Appurtenant Equipment

Fuel Cleanup Equipment: (2) natural gas desulfurizer vessels (8'- 0" O.D. x 15'SS)

Water Treatment System: (1) 35gpm dual-pass Reverse Osmosis/Electro-deionization system, incl. chemical pre-conditioning, multimedia prefilter & product water storage tanks, all installed inside two (2) shipping container enclosures.

Nitrogen Supply: (1) bulk liquid nitrogen tank (gallon liquid capacity)

Ancillary Heat Recovery Equipment: None

Project Equipment not in FCE scope: None

SITE COORDINATES: **Latitude:** 41.336388 North
 Longitude: 73.096135° West

Equipment not described above is not covered by this plan.

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 SureSource 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.



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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 SCEF 1 Fuel Cell Project follows:

2.1 *Emergency Action Plan*

The following is the Emergency Action Plan (EAP) for the subject plant. As the plant is at the start of construction, 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.

Site Name: **SCEF - 1 Fuel Cell Project**

Site Address: **49 Coon Hollow Road
Derby, CT 06418**

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

Plant Owner: SCEF 1 Fuel Cell, 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.
Description: 24 hours / 365-day Plant Monitoring
Telephone No: **(800) 326-3052**



FuelCell Energy

Additional Contact information –

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

Name: Valerie Hoffman
Co./Dept./Title: FCE / Field Service / Field Service Manager
Telephone No: (203) 917 1178 (FCE)
REDACTED (work cell)

Name: David Ortiz
Co./Dept./Title: FCE / Field Service / Vice President Service Operations
Telephone No: (203) 825 6023 (FCE)
REDACTED (Cell)

Name: Joseph Zehnder
Co./Dept./Title: FCE / Sr.EHS Engineer
Telephone No: (203) 889-8057 (FCE)
REDACTED (Cell)

Name: Joseph Ulevicus
Co./Dept. /Title: FCE / Sr. Manager, Environmental, Health and Safety
Telephone No: (860) 496-2273 (FCE)
REDACTED (Cell)

Additional Owner Contact:

Name: RESERVED
Co. /Dept: RESERVED
Telephone No: (XXX) XXX-XXXX (Office); (XXX) XXX-XXXX (Cell)

Additional Site Contacts:

Name: RESERVED RESERVED
Co. /Dept: RESERVED RESERVED
Telephone No: (XXX) XXX-XXXX (XXX) XXX-XXXX

Site Utility Contacts:

Company: **Natural Gas – Eversource**
Name/Dept./Title: Gas Leak Emergency Line (CT)
Telephone No: (877) 944-5325 (or 9-1-1)



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Company: **Electric Power – United Illuminating**
 Name/Dept./Title: Emergency Number
 Telephone No: (800) 722-5584 (or 9-1-1)

Company: **Water Service – Regional Water Authority**
 Name/Dept./Title: Water Emergency Number
 Telephone No: (203) 562-4020

Company: **Sewer Service – Derby Water Pollution Control Authority**
 Name/Dept./Title: Derby WPCA Emergency Number
 Telephone No: (203) 736-1475
 Nitrogen Gas Emergency Company: **TBD**
 Name/Dept /Title: TBD
 Telephone No: TBD (24/7 Technical Service and Bulk Deliveries)

Government Official Contacts:

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

City of Derby –

Mayor – Richard Dziekan; (203) 736-1450
 Fire, Police, Ambulance Dispatch ([local] Emergency dispatch) – 9-1-1
 Police, non-emergency – (203) 735-7811
 Fire Dept., non-emergency – (203) 732-1963

State Legislators – Derby, CT

Assembly Representative – Kara Rochelle (District 104); (800) 842-8267; (860) 240-8585
 State Senator – Jorge Cabrera (District S17); (800) 842-1420; (860) 240- 8600

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>		



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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	(203) 732-1963 <small>(verified 04/22/19 - mab)</small> (For calls originating from other than on-site) 9-1-1 (for calls originating on-site only)
Flammable/Hazardous Material Release	
Medical Emergency	
Threat / Violence	
Severe Weather	Coordinate with FuelCell Energy 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 an 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, nature of emergency and additional contact information, as may be requested.

With the exception of a 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.

- **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 SCEF 1 Fuel Cell 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**

FCE 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.



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*The employee alarm system to be used at the SCEF 1 Fuel Cell 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 **both disconnect the fuel cell plant and open the plant utility grid Tiebreaker:**

- 1 on the EBOP Tie Breaker Switchgear (HS-300E)

Note that some Mechanical-Balance-of-Plant and Electrical-Balance-of-Plant devices are also UPS (uninterruptable power supply) powered, so some low voltage equipment may temporarily remain energized even after opening a Tiebreaker Disconnect or depressing an ESD pushbutton. **Note also that a hot fuel cell module may contain hazardous voltage, even when not operating.**

2. Fuel Cell ESD pushbuttons: The following ESD pushbuttons will stop the operation of the fuel cell plant equipment:

- 1 pushbutton on the control panel on the fresh air blower end of Skid 2 (HS-300A)
- 1 pushbutton on the preconverter end corner of Skid 2 (HS-300B)
- 1 pushbutton on each of the EBOP PCUs (HS-300F & HS-300G)

NOTE: Some Mechanical-Balance-of-Plant equipment and Electrical-Balance-of-Plant switchgear, PCU and transformer equipment may remain energized even after depressing one of these ESD pushbuttons. Note also that a hot fuel cell 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 HazCom 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. 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 Emergency and Prevention Plan*

The following is the Fire Emergency and Prevention Plan for the subject plant. As the plant has not been constructed to date, this Fire Emergency and Prevention 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 FCE's SureSource 3000 fuel cell power plant, 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 853-2015.

A. Response to Fire or Other Emergency Condition

- **Overview of fire hazards present**

The aboveground gas meter that supplies the fuel cell site is complete with manual emergency shutoff valves and is located on the fuel gas utility supply fuel train located at grade level just south of the north elevated equipment pad. Natural gas (odorized) at a nominal pressure of 20 psig is supplied to the fuel cell desulfurizers via an aboveground pipe within the fenced enclosure. After the desulfurizers, the fuel cell plants then reduce the fuel gas pressure to less than 15 psig and direct the gas flow into the fuel cells. The host site security fence surrounding the entire fuel cell park provides security for all of the fuel cell plants and the gas utility fuel supply train.

Natural gas is de-odorized by flowing through the two desulfurizer vessels serving the entire site. The desulfurizer vessels are each equipped with a pressure safety relief valve (PSV), sized for both a failed upstream pressure reducing valve and a fire exposure condition. The PSVs discharge to a vent termination approximately 30' 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 humidifiers and the preconverters, before entering into the fuel cell modules. The air heaters also operate 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.



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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 equipment external surfaces at touch-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 is 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 throughout 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 plant/facility owner shall remain on-site throughout the emergency response time frame to assist and support responders with plant/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 locked, restricted access fencing.



- **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 Response 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 the fuel cell power plant, all fuel supplies to the plant are automatically shut off via two in-line fast-acting spring-loaded isolation valves.

Following an ESD, **ELECTRICAL ISOLATION IS NOT ASSURED**. Substantial AC and/or DC voltages may remain for a significant time 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 enclosures.

Transformer dielectric oil – The project site uses dry type EBOP transformers that do not contain dielectric oil. The smaller MBOP transformer contains FR3 “less-flammable” dielectric fluid – a biodegradable soybean oil. The maximum individual transformer’s oil capacity is 124 gallons.

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 upon discovery, 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 is provided in Appendix A. The plant emergency egress paths are depicted on the drawing.

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 B. Photos of typical ESD pushbuttons are shown in Figure 1. Depressing an ESD pushbutton will immediately shut down fuel flow to the power plant as well as shut down all of the 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 SITE switchgear ESD button does open the electric grid tiebreaker; however, hazardous voltage may still remain).

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

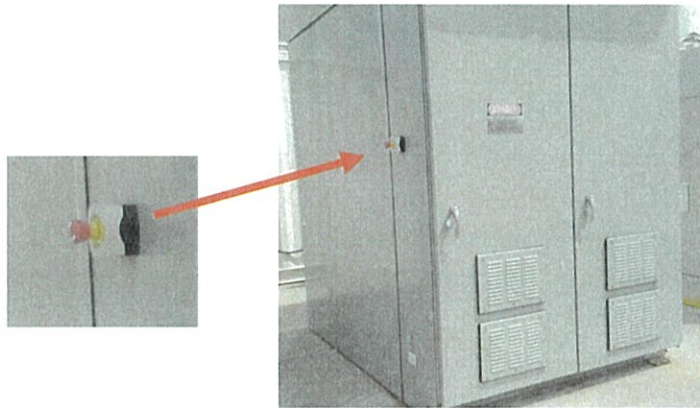
- Combustible gas detectors
- UV/IR Flame detectors
- Smoke detectors

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 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.



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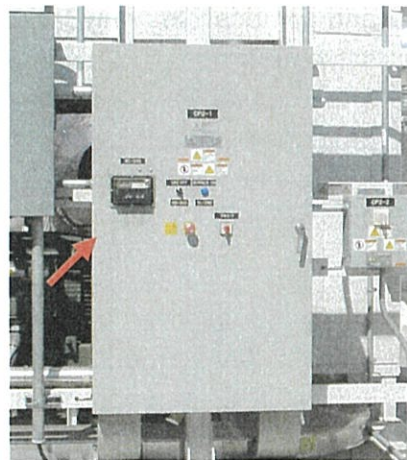
Sensor detection of flame, MBOP smoke, or presence of excessive combustible gas concentration (45% of Lower Explosive Limit [LEL]) will result in an Emergency ShutDown (ESD) of the fuel cell plant. In the case of combustible gases, detection of a concentration of approximately 25% LEL will result in 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
(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 precautionary efforts 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 general material storage.

- **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 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
- 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 (including forms of activated carbon and other, mainly non-flammable formulations)
- 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 (2004).
- 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.



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- 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), 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.



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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 Detector	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 FCE-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

The 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),



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- 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.



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- 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.



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- Hazardous materials brought on site shall be labeled and a Material Safety Data Sheet (MSDS) supplied to the Environmental Health and Safety (EHS) Department prior to working with the chemical.
- An MSDS 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"



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- **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, fuel cells that are installed at and owned by a larger industrial facility may require registration under the General Permit. Construction phase stormwater permitting and compliance for this site, if applicable, is the responsibility of the Construction General 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 GMCC 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.



2 SITE SECURITY & ACCESS

Public access to the fuel cell equipment is restricted by its location at a private facility. Additional security is provided by the limited locked eight-foot-high chain link fence enclosure surrounding the plant. The enclosure is equipped with personnel and equipment doors or gates for necessary operator 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 operations center. 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 GMCC 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 analysis.

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, FCE 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. EPCRA Section 311 New Facility Hazardous Chemical Inventory Notifications will be made to the CT DEEP, Derby Local Emergency Planning Committee and the Derby Fire Department for any chemical exceeded their respective Threshold Planning Quantities. The facility will not have any Extremely Hazardous Substances on site in excess of applicable Threshold Planning Quantities.

During the construction phase, prior to a scheduled delivery of any piece of major equipment, the police department will be notified and contracted to manage and as required, control local traffic. 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 a description of how the plant facility will respond should a fire, smoke, or volatile gas release occur.



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FCE 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.

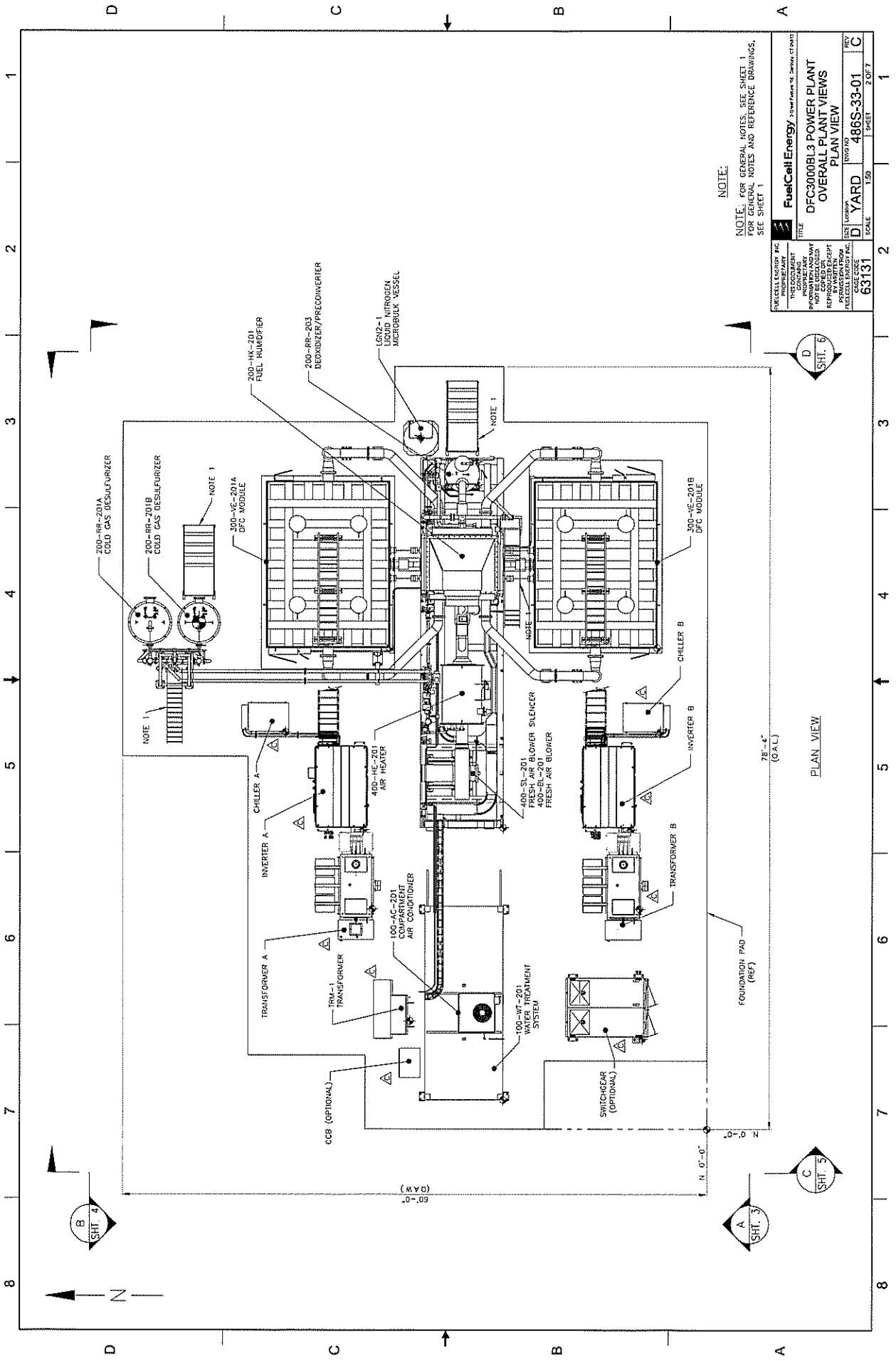


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Appendix A

DFC3000 Power Plant Views - Plan View 486S-33-01 rev. C
Sheets 2 through 7

SureSource 3000 Utilities Layout Drawing C-004 rev. 0 Plant Utilities



NOTE:
 NOTE: FOR GENERAL NOTES, SEE SHEET 1
 FOR GENERAL NOTES AND REFERENCE DRAWINGS,
 SEE SHEET 1

FuelCellEnergy <small>2007 Patent No. 7,269,971 (US)</small> <small>THE INFORMATION CONTAINED HEREIN IS UNCLASSIFIED EXCEPT WHERE SHOWN OTHERWISE</small>	
DFC3000RL3 POWER PLANT OVERALL PLANT VIEWS PLAN VIEW	
PROJECT NO. D YARD 486S-33-01	SHEET NO. 2 OF 7
SCALE 1:50	SHEET 63131

D
SHT. 6

PLAN VIEW

A
SHT. 3

C
SHT. 5

B
SHT. 4

(O.A.W.)
 60'-0"

N. 0'-0"

78'-4"
 (O.A.L.)

FOUNDATION PAD
 (REF)

SWITCHGEAR
 (OPTIONAL)

100-WT-201
 WATER TREATMENT
 SYSTEM

100-AC-201
 COMPARTMENT
 AIR CONDITIONER

400-HE-201
 AIR HEATER

300-VE-201A
 DFC MODULE

200-RR-201A
 COLD GAS DESULFURIZER

200-RR-201B
 COLD GAS DESULFURIZER

200-HK-201
 FUEL HUMIDIFIER

200-RR-203
 DEWATERIZER/PRECONVERTER

LONG-1
 LIQUID NITROGEN
 MICROBULK VESSEL

300-VE-201B
 DFC MODULE

CHILLER B

400-SI-201
 FRESH AIR BLOWER SILENCER
 FRESH AIR BLOWER
 FRESH AIR BLOWER

INVERTER B

TRANSFORMER B

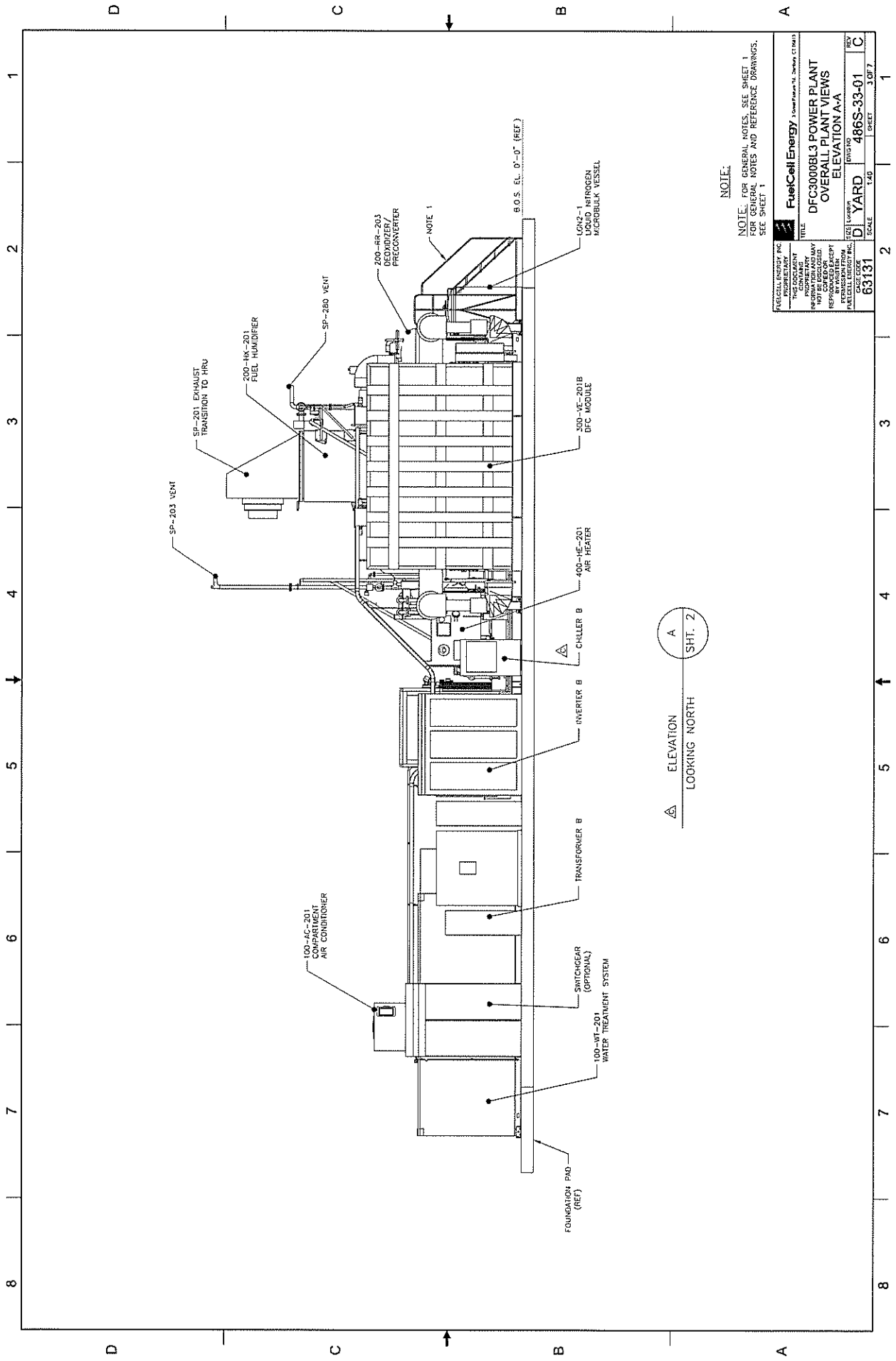
CHILLER A

INVERTER A

TRANSFORMER A

TRM-1
 TRANSFORMER

CCB (OPTIONAL)

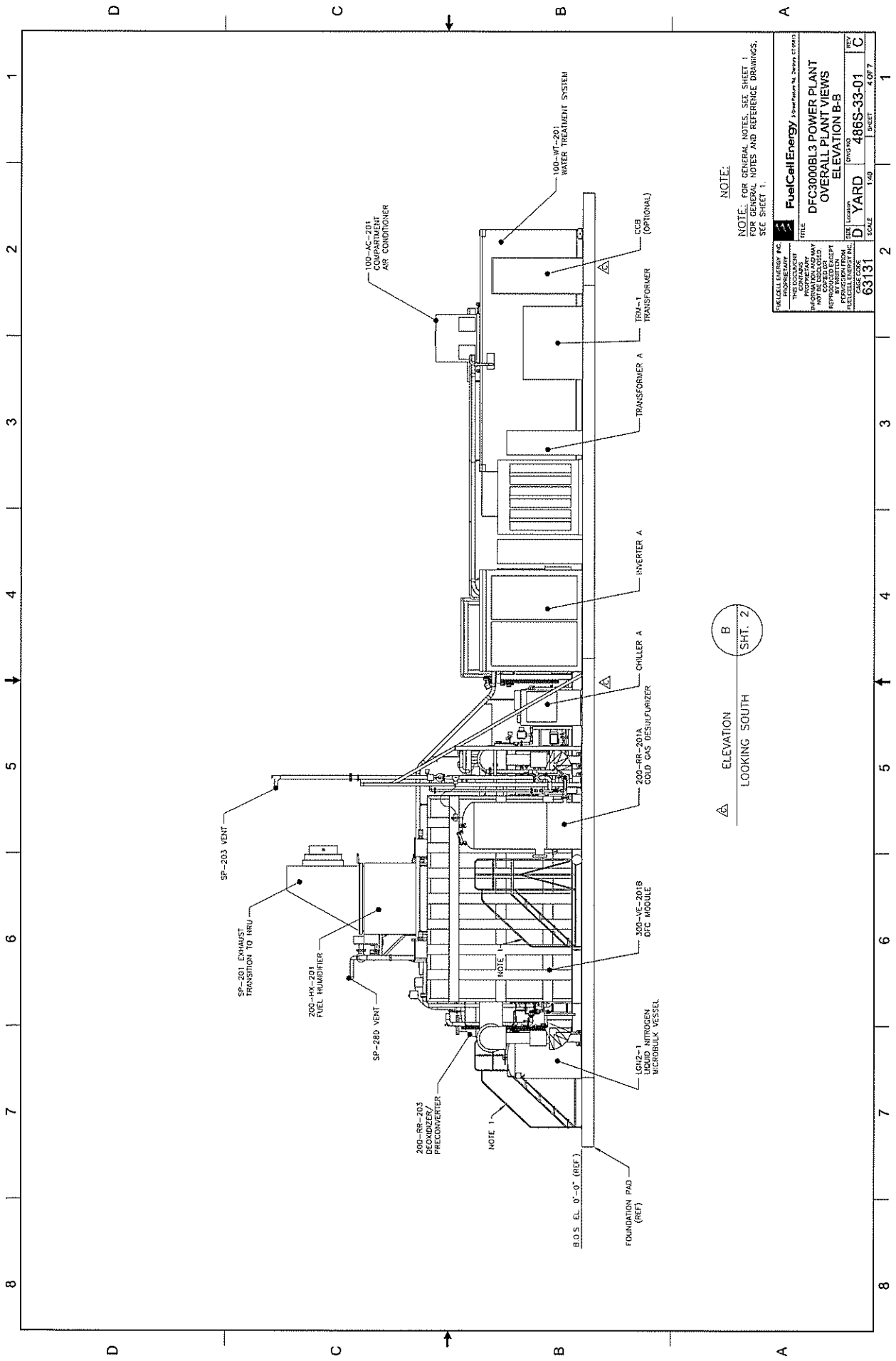


NOTE.

NOTE: FOR GENERAL NOTES, SEE SHEET 1
 FOR GENERAL NOTES AND REFERENCE DRAWINGS,
 SEE SHEET 1

FuelCell Energy	
TITLE: DFC3000BL3 POWER PLANT OVERALL PLANT VIEWS ELEVATION A-A	
PROJECT: D YARD	SHEET: 486S-33-01
SCALE: 1/8" = 1'-0"	SHEET: 3 OF 7

ELEVATION A
 SHT. 2
 LOOKING NORTH



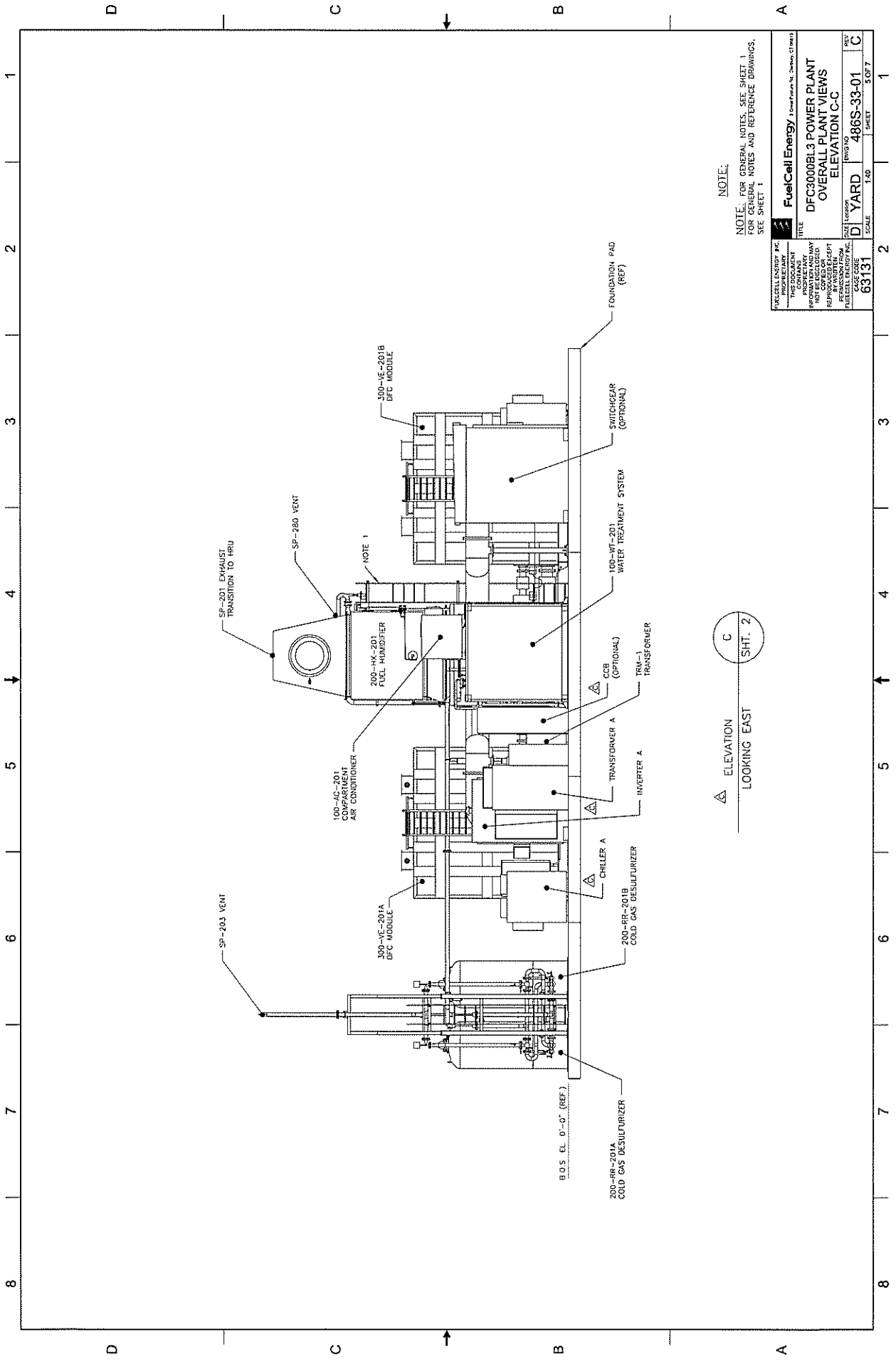
△ ELEVATION
LOOKING SOUTH

B
SHT. 2

NOTE:

FOR GENERAL NOTES, SEE SHEET 1
FOR GENERAL NOTES AND REFERENCE DRAWINGS,
SEE SHEET 1.

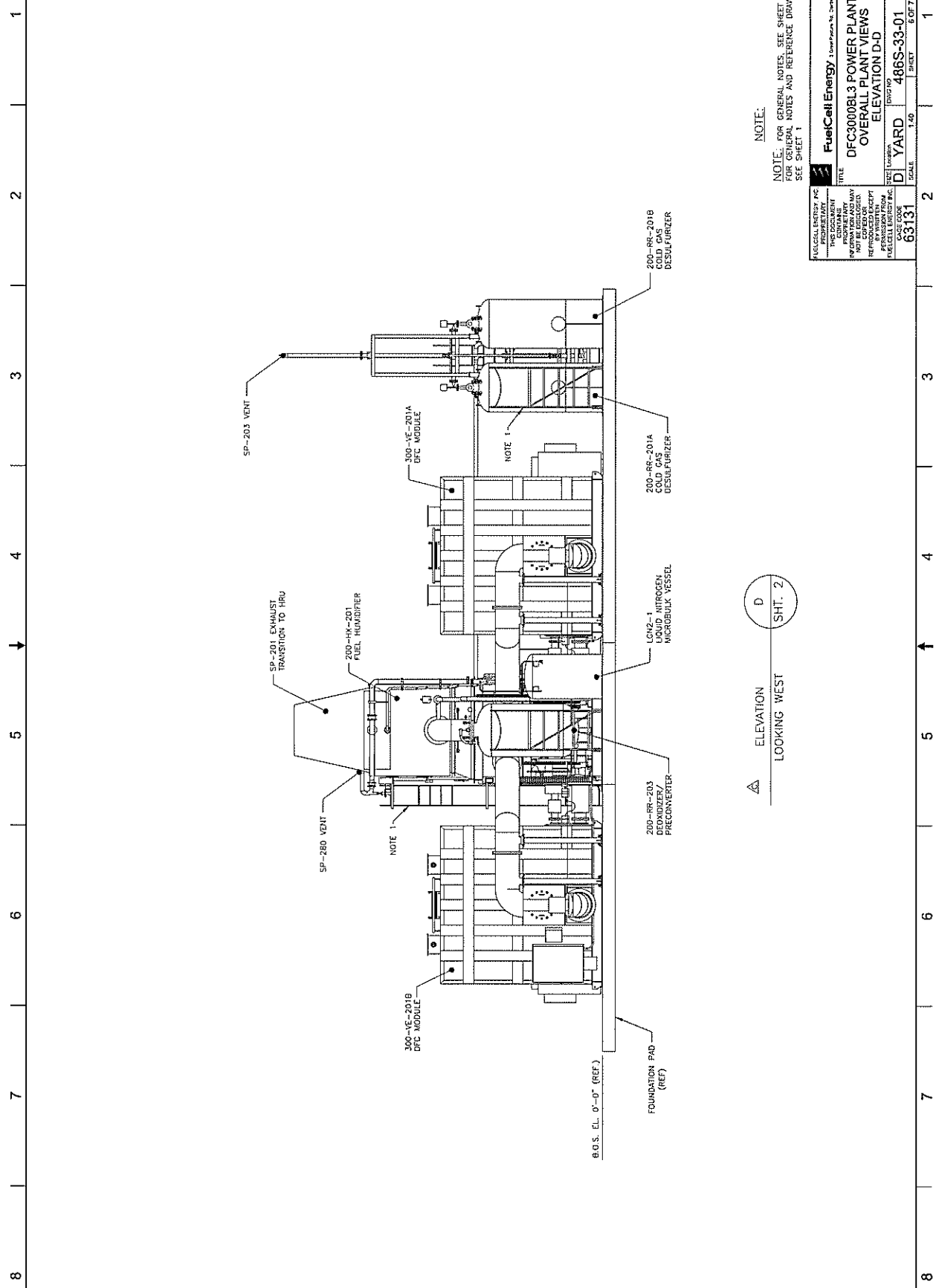
FuelCell Energy		1000 Park St., Danvers, VT 05172	
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PROJECT NO.	63131	DATE	10/11/11
SCALE	AS SHOWN	SHEET	4 OF 7
D YARD		486S-33-01	C
DFC3000BL3 POWER PLANT OVERALL PLANT VIEWS ELEVATION B-B			



△ ELEVATION
 C
 SHT. 2
 LOOKING EAST

NOTE:
 FOR GENERAL NOTES, SEE SHEET 1
 FOR GENERAL NOTES AND REFERENCE DRAWINGS,
 SEE SHEET 1

FuelCell Energy <small>12000 Parkway N., Denver, CO 80231</small> PROJECT INFORMATION PROJECT NO. 486S-33-01 SHEET 5 OF 7	
DFC3000BL3 POWER PLANT OVERALL PLANT VIEWS ELEVATION C-C	
SCALE 1" = 10'-0"	DATE 10/10/07
DESIGNER D. YARD	PROJECT NO. 486S-33-01
SCALE CODE 63131	SHEET 5 OF 7



NOTE:
 NOTE: FOR GENERAL NOTES, SEE SHEET 1
 FOR GENERAL NOTES AND REFERENCE DRAWINGS,
 SEE SHEET 1

FuelCell Energy 10000 Park Ln., 20000 01000 TITLE DFC3000BL3 POWER PLANT OVERALL PLANT VIEWS ELEVATION D-D		SHEET NO. 486S-33-01	REV. C
PROJECT NO. 63131	SCALE 1:40	SHEET 6 OF 7	

▲ ELEVATION
 LOOKING WEST

D
 SHT. 2

1 2 3 4 5 6 7 8

A B C D



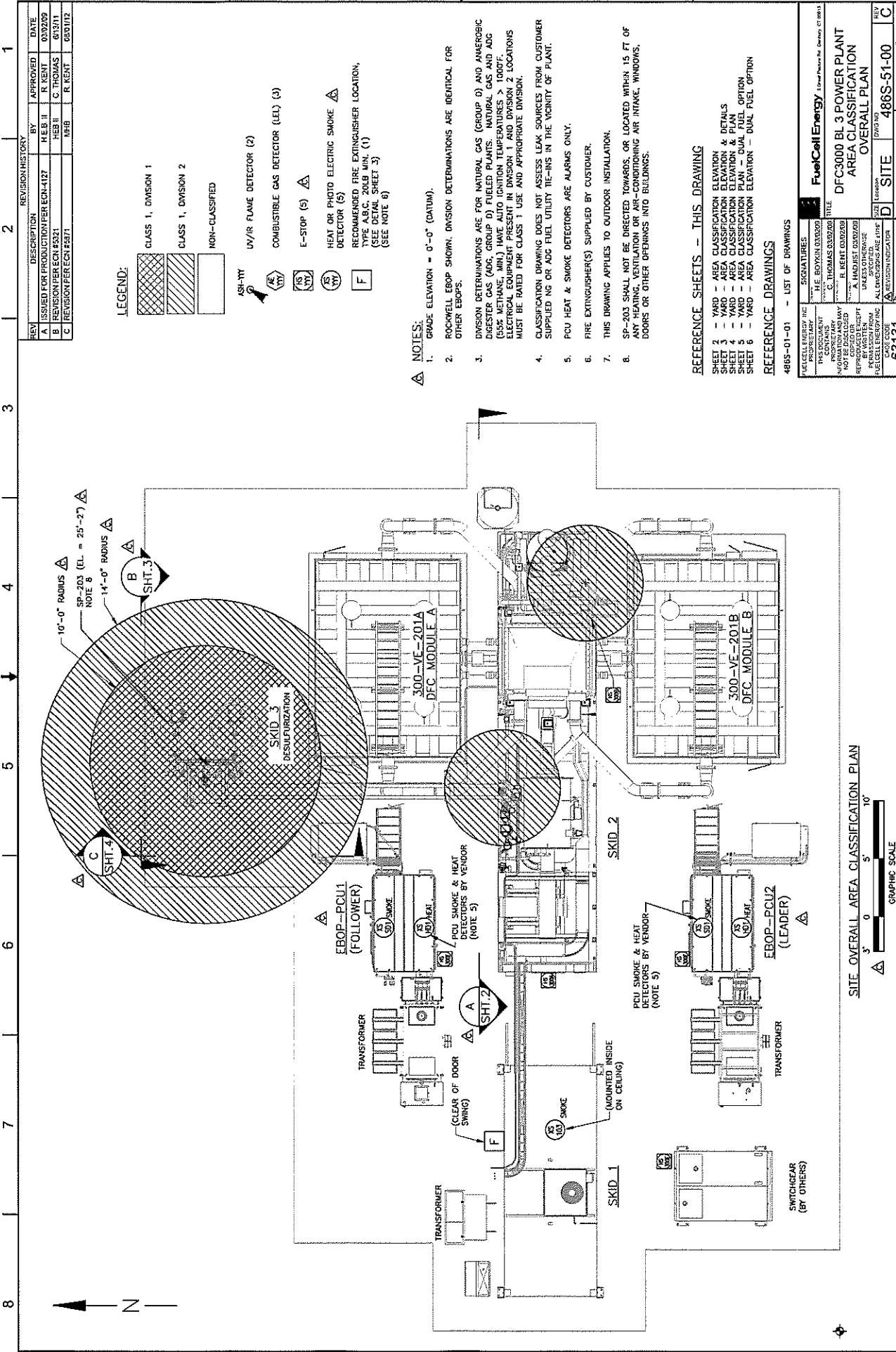
FuelCell Energy

Appendix B

Plant Hazardous Classification Drawings with ESD pushbutton & Emergency Sensor Locations

DRAWING

DFC3000 BL 3 POWER PLANT AREA CLASSIFICATION OVERALL PLAN
NO.486S-51-00 REV. C



REV	DESCRIPTION	REVISION HISTORY	BY	APPROVED	DATE
A	ISSUED FOR PRODUCTION PER ECR-4127		H.E.B. II	R. KEIT	03/26/09
B	REVISION PER ECR-4321		H.E.B. II	C. THOMAS	03/31/11
C	REVISION PER ECR-4321		MFB	R. KEIT	03/01/12

LEGEND:

- CLASS 1, DIVISION 1
- CLASS 1, DIVISION 2
- NON-CLASSIFIED
- UV/IR FLAME DETECTOR (2)
- COMBUSTIBLE GAS DETECTOR (LEL) (3)
- E-STOP (5) (4)
- HEAT OR PHOTO ELECTRIC SMOKE DETECTOR (6)
- 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. RACKWELL EBOP SHOWN. DIVISION DETERMINATIONS ARE IDENTICAL FOR OTHER EBOPS.
3. DIVISION DETERMINATIONS ARE FOR NATURAL GAS (GROUP D) AND ANAEROBIC DIGESTER GAS (ADC, GROUP D) FUELED PLANTS. NATURAL GAS AND ADC (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 ADC 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

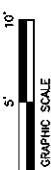
- SHEET 2 — YARD — AREA CLASSIFICATION ELEVATION & DETAILS
- SHEET 3 — YARD — AREA CLASSIFICATION ELEVATION & DETAILS
- SHEET 4 — YARD — AREA CLASSIFICATION ELEVATION & PLAN
- SHEET 5 — YARD — AREA CLASSIFICATION ELEVATION & PLAN
- SHEET 6 — YARD — AREA CLASSIFICATION ELEVATION — DUAL FUEL OPTION

REFERENCE DRAWINGS

4865-01-01 — LIST OF DRAWINGS

PROJECT	SIGNATURES
FUELCELL ENERGY INC. 4865-01-01	
PROJECT MANAGER M.E. BOYKIN 03/30/09	
DESIGNER C. THOMAS 03/30/09	
CHECKER R. KEIT 03/30/09	
APPROVER A. HADJIST 03/30/09	
DATE 03/30/09	
PROJECT NO. 4865-01-01	
SCALE AS SHOWN	
SHEET NO. 4865-01-00	
TOTAL SHEETS 1	

SITE OVERALL AREA CLASSIFICATION PLAN



GRAPHIC SCALE

EXHIBIT F
(SHPO Letter)



Department of Economic and
Community Development

State Historic Preservation Office

October 4, 2021

Mr. Michael Libertine
All Points Technology Corps.
567 Vauxhall Street Extension, Suite 311
Waterford, CT 06385

Subject: Fuel Cell Generation Facility
49 Coon Hollow Road
Derby, Connecticut
ENV-22-0257

Dear Mr. Libertine:

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 9,708 square foot project area within a larger 8.84 acre parcel located at 49 Coon Hollow Road.

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. Several nonhistoric sheds are present on within the project area, and are proposed to be removed.

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 cursive script that reads "Jonathan Kinney".

Jonathan Kinney
Deputy State Historic Preservation Officer

State Historic Preservation Office

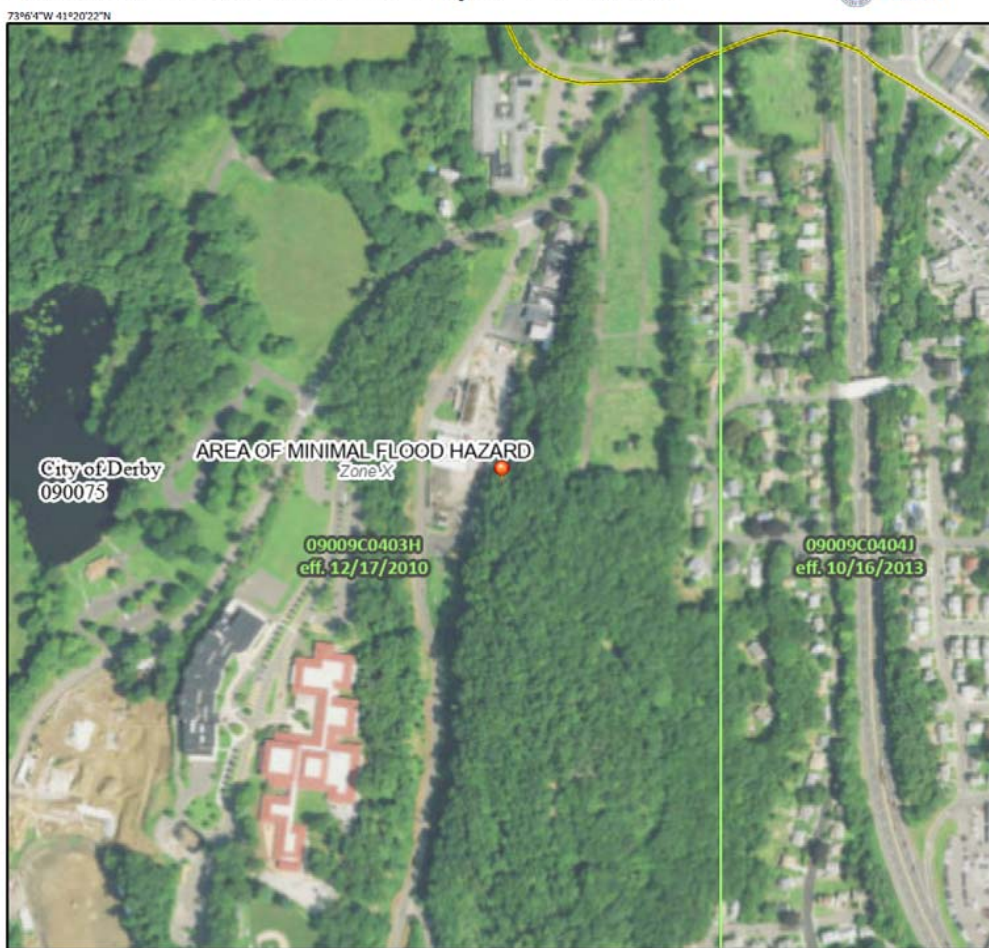
450 Columbus Boulevard, Suite 5 | Hartford, CT 06103 | P: 860.500.2300 | ct.gov/historic-preservation

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EXHIBIT G

FEMA Flood Maps

National Flood Hazard Layer FIRMette



Legend

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

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) <i>Zone A, V, ADP</i>
		With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		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 <i>Zone X</i>
		Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>
		Area with Reduced Flood Risk due to Levees. See Notes. <i>Zone X</i>
		Area with Flood Risk due to Levees <i>Zone D</i>
OTHER AREAS		Area of Minimal Flood Hazard <i>Zone X</i>
		Effective LOMIRs
		Area of Undetermined Flood Hazard <i>Zone D</i>
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
MAP PANELS		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 exported on 3/13/2022 at 6:59 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 creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

EXHIBIT H

NDDDB Map

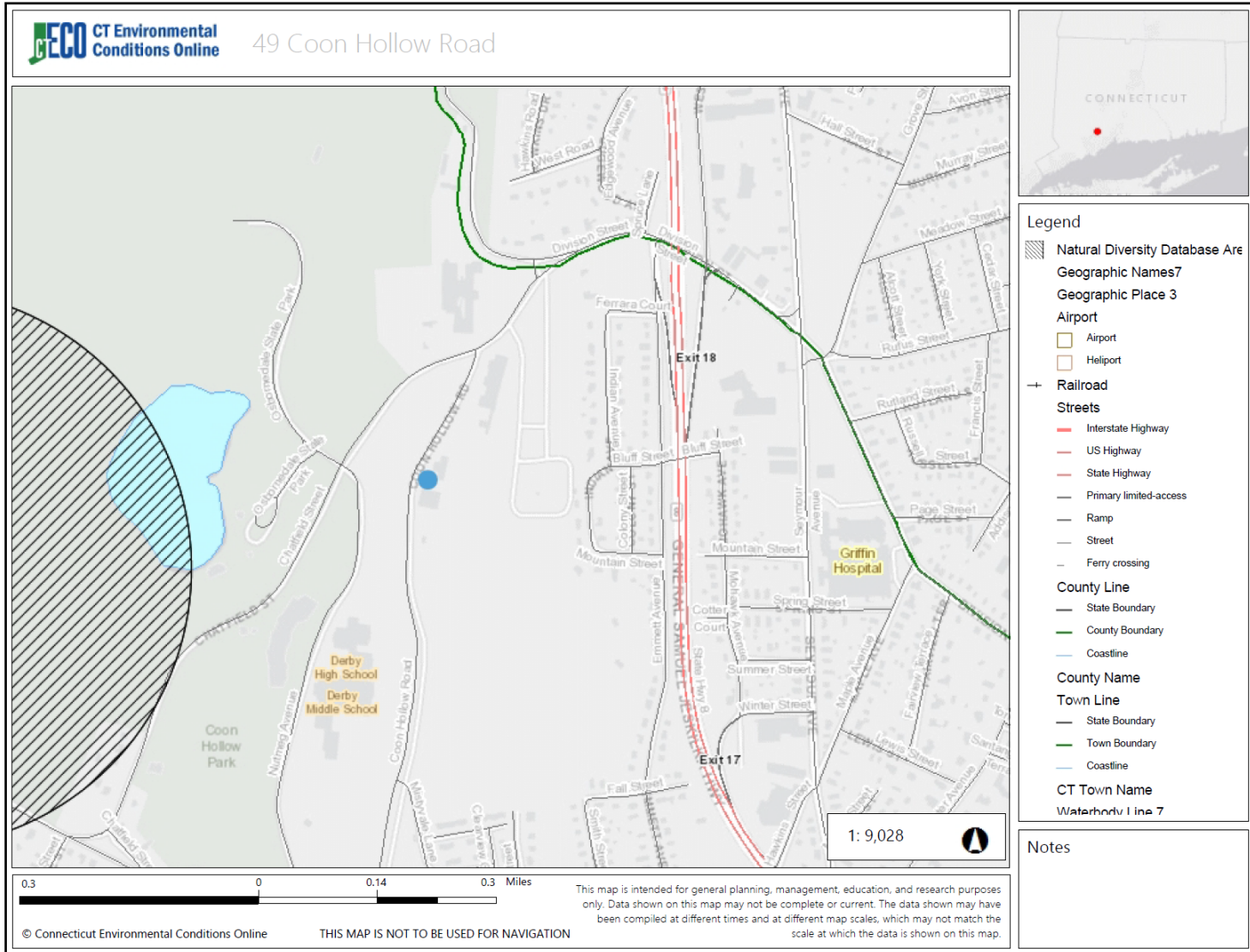


EXHIBIT I

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 of:

- (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.