

Petition No. 1076
ClearEdge Power Corporation
2061 State Street, Hamden
Staff Report
January 23, 2014

On October 7, 2013, the Connecticut Siting Council (Council) received a petition from ClearEdge Power Corporation (ClearEdge) for a declaratory ruling that no Certificate of Environmental Compatibility and Public Need is required for the installation of a 400 kilowatt (kW) ClearEdge fuel cell as a customer-side distributed resources project at the CT Transit Bus Maintenance Facility located at 2061 State Street, Hamden. The petition was withdrawn and then subsequently re-filed on December 20, 2013.

The re-filed fuel cell petition was field reviewed by Council member Phil Ashton and Council staff Christina Walsh and Michael Perrone on January 13, 2014. The following individuals also attended the field review: Cheryl Nicholas, Project Manager, ClearEdge; Daniel Kops, Assistant Town Planner, Town of Hamden; Scott Willis, Division Manager, CT Transit; Stan Kostka, Superintendent of Maintenance, CT Transit; Cole Pouliot, Construction Manager, CT Transit; Pierre Margnaff, Meter Engineer, United Illuminating; and Larry Mai, Account Manager, United Illuminating.

Specifically, ClearEdge seeks to install a 400-kW fuel cell with approximate dimensions of 28-foot 8-inches long, 8-foot 4-inches wide, and 9-foot 11-inches high on a concrete pad in front of the CT Transit Bus Maintenance Facility located near the intersection of State Street and Edmund Street. See Figure 1. The fuel cell would have a box shape and would be located near the front, northern corner of the building. The cooling module would be approximately 15-foot 11-inches long, 7-foot 10-inches wide, and 6 feet high. It would be located on the south side of the fuel cell on a concrete pad. The site has some existing landscape shrubs, but is largely cleared. Access was originally proposed from an existing gate to the north, but was recently revised. The revised access for fuel cell maintenance is via a new 3-foot wide concrete walkway in front of the building. The most up to date site plan is attached. See Figure 2.

The fuel cell would provide baseload power to the building. Any surplus power could be sold to the grid. In addition, the waste heat from the fuel cell would be supplied to the building. High grade (i.e. higher temperature) waste heat would be used to supplement the building's boilers. Low grade (i.e. lower temperature) waste heat would be used for hot water. Overall, this would further increase the efficiency of the fuel cell project.

The fuel cell is designed in accordance with American National Standards Institute and Canada Standards Association (ANSI/CSA) America FC 1-2004 for stationary fuel cell power systems and includes extensive safety control systems, including an automatic shutdown mechanism, that comply with pertinent engineering standards.

Gas and electric utility lines are located in the vicinity of the fuel cell's proposed location in front of the building. The fuel cell would be interconnected to the CT Transit's electrical system via aboveground conduits. The gas line would be underground from the building to the fuel cell.

The nearest residence is located to the north on the opposite side of Edmund Street. The residence is approximately 200 feet from the fuel cell. The maximum worst-case noise level at the residence would be 49.3 dBA. Under the State noise regulations, a “transportation facility” is considered an industrial emitter. Thus, the daytime standard would be 61 dBA, and the nighttime standard would be 51 dBA. The project would fully comply with both standards without the need for noise mitigation.

Visual impact is not expected to be a significant concern. The fuel cell would be on display and intended to be seen. The graphic design would display how the fuel cell works. See Figure 3. In addition, the cooling module would be located next to the southern end of the fuel cell to obscure its view from Edmund Street. Staff suggests that landscape plantings that are removed during the construction process be re-located around the north side of the fuel cell to improve aesthetics as viewed from Edmund Street.

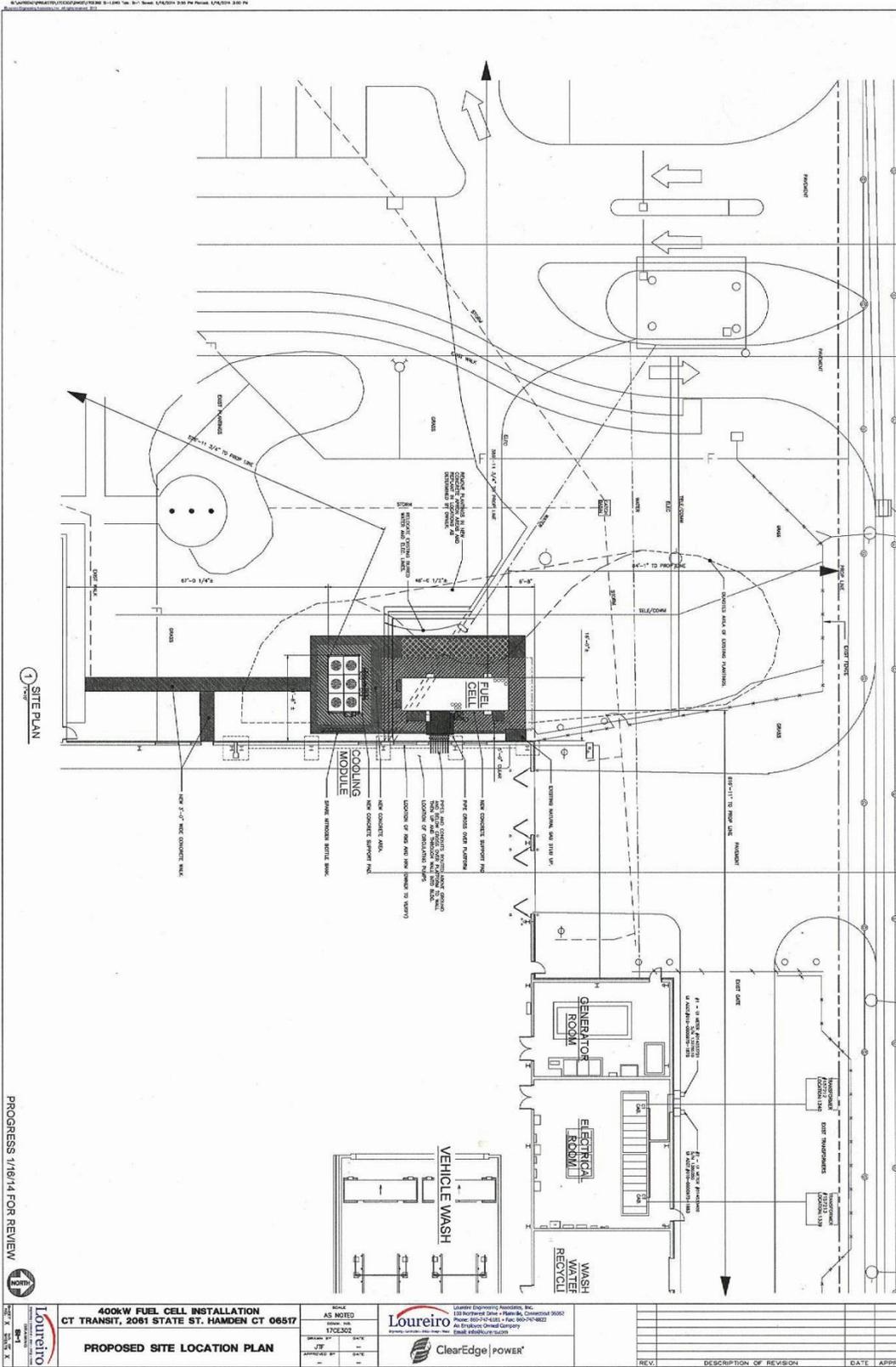
Notice was provided to abutters, the Town of Hamden, and other public officials and State agencies as required on December 20, 2013. Upon request from Council staff, notice was also provided to the Town of North Haven because the project is located within 2,500 feet of the North Haven town line. One inquiry was received by ClearEdge from an abutter, but no objections have been received to date.

The proposed installation of the fuel cell is not expected to have any substantial adverse environmental impacts. It would reduce the emission of air pollutants that contribute to smog, acid rain, and global climate change. It would also contribute to the state’s use of renewable energy.

Figure 1: Aerial Photograph



Figure 2: Updated Site Plan



LOUREIRO ENGINEERING ASSOCIATES, INC.
 100 Northford Drive • Plainville, Connecticut 06062
 Phone: 860-242-4343 • Fax: 860-242-4822
 An Employee Owned Company
 Email: info@loureiro.com

REV.	DESCRIPTION OF REVISION	DATE	APPR.

NO.	DATE	BY	CHKD.	APPR.
1	1/18/14			
2				
3				

LOUREIRO
 ENGINEERING ASSOCIATES, INC.

100 Northford Drive • Plainville, Connecticut 06062
 Phone: 860-242-4343 • Fax: 860-242-4822
 An Employee Owned Company
 Email: info@loureiro.com

ClearEdge POWER

NO.	DATE	BY	CHKD.	APPR.
1	1/18/14			
2				
3				

Figure 3: Fuel Cell Graphics Design

