

**CITY OF NEW YORK
DEPARTMENT OF BUILDINGS**

Pursuant to Administrative Code Section 27-131, the following equipment or material has been found acceptable for use in accordance with the Report of Materials and Equipment Acceptance (MEA) Division.

Gaston Silva, R.A., Commissioner
MEA 8-98-E

Report of Material and Equipment Acceptance Division

Manufacturer - ONSI Corporation, 195 Governor's Highway, South Windsor, CT 06074

Trade Name(s) - ONSI Fuel Cell Power Plant, Model No. PC25™C

Product - Fuel Cell Power Plants

Pertinent Code Section(s) - Building Code Subchapter 14 - Reference Standard RS-14

Test(s) - A.G.A Requirements for Fuel Cell Power Plants No. 8-90 (soon to be published as ANSI Z21.83-1997)

Laboratory - International Approval Services, 8501 East Pleasant Valley Road, Cleveland, Ohio 441131

Test Report(s) - Certification Report No. C2551002 Issued February 29, 1996.

Description - The power plant is designed to produce electrical power from natural gas fuel through an electrochemical process and to supply recoverable heat. The power plant is constructed and shipped in two modules: (1) the Power Module, which converts fuel to alternating current power, and (2) an optional Cooling Module, which rejects heat not utilized by the customer to ambient air. The Cooling Module, if included, is normally located outdoors anywhere on the site within 100 feet of the Power Module.

Table 1.1 outlines the prominent features of the PC25 C and lists the major power plant specifications.

Table 1.1. PC25 C Design Features and Specifications	
Nominal Design Characteristics	
Rated Power Output	200 kW/235 kVA, 480 Volts, 3 phase
Output Frequency	60 Hertz
Power Generating Efficiency (at rated power)	40% LHV 36% HHV
Heat Output (at rated power)	700,000 Btu/hr, 140°F
Fuel Gas Consumption Rate (at rated power)	1900 SCFH (at HHV of 1000 Btu/SCF) ± 100 SCFH
Dynamic Response - Grid Connected	15 Seconds (from 0 to 200 kW)
Heat-Up Time (from ambient temperature)	3 Hours
Location	Outdoor/Indoor
Overall Dimensions (L x W x H)	
- Power Module	18 ft x 10 ft x 10 ft
- Cooling Module	14 ft x 4 ft x 4 ft
Unit Weight	
- Power Module	20 tons
- Cooling	0.85 ton

Features	
<ul style="list-style-type: none"> ● Packaged Power Generating Plant ● AGA Certified Appliance ● Direct Connection to City Natural Gas Line ● Clean Exhaust, Quiet Operation ● Operating Modes - Grid Connected, Grid independent optional 	<ul style="list-style-type: none"> ● Automatic, Unattended Operation ● Excellent Dynamic Response ● Remote Monitoring and Control ● Optional Features - Contact ONSI for Additional Information ● FCC Title 47 Compliance

Pursuant to "Promulgation of the Rules relating to Material and Equipment Application Procedures" dated November 5, 1992. The Bureau of Fire Prevention has no objections letter dated March 3, 1998, F.P. Index No. 9801051A. Bureau of Electrical Control recommends approval Letter dated January 28, 1998.

Recommendation - That the above units be accepted on condition that all uses, configurations, arrangements and functions, locations and installations comply with the New York City Building Code, the Electrical Code of the City of New York, and on further condition that:

1. Installation and use shall meet all conditions and limitations of the Bureau of Electrical Control Advisory Board approval dated January 28, 1998.
2. All requirements of American Gas Association Laboratories Appliance Certificate #C2551002, Standard AGA 8-90, shall be adhered to with reference to construction, performance, and quality assurance.
3. Installation and use of the unit, including fluid system and electrical interfaces, shall comply with all requirements of the NYC Building Code, and all other agencies having jurisdiction.
4. Under no circumstances shall the unit be allowed as the sole source of power to a building, based, in part, upon documented operating histories submitted in support of this MEA application.
5. In accordance with Department of Buildings PPN #1/96, the unit shall not be used to supply emergency power to fire safety devices.
6. The conventional building electric supply shall be designed in such a manner as to be sufficient to handle all building electric loads without the PC25C.
7. The unit shall be installed in such a manner that in the event of PC25C shutdown, conventional utility power shall instantaneously and automatically pick up all building electric loads.
8. Under no circumstances shall the unit be installed to supplement an existing conventional electric service that has, over the course of time, become insufficient to meet the building's normal (non-emergency) power requirements.
9. In the event of a fire emergency in the building, it may become necessary to shut down electric power to the building via the building main utility disconnect. A disconnect for the PC25C shall be provided in a manner and location acceptable to the Department of Buildings and the Fire Department.

10. In the event of a fire emergency in the building, it may be necessary to shut down the natural gas supply to the building. Means shall be provided to shut down the natural gas supply to the PC25C, in a manner and location acceptable to the Department of Buildings and the Fire Department.
11. All manufacturer's recommendations regarding site preparation, installation, plumbing requirements and interface connections, electrical requirements and interface connections, as described in the Installation Manual, shall be strictly adhered to.
12. Manufacturer's routine scheduled maintenance requirements shall be strictly adhered to.
13. Protection functions, as described in PC25C Installation Manual, Section B.2.7., shall be tested during the routine scheduled maintenance annual two-day shutdown.
14. The following Electrical/Motor Compartment safety features shall be checked during the routine scheduled maintenance annual two-day shutdown : ventilation air fan (FAN-150), flow verification (FS-150) and alarm, smoke detector, thermal fuses utilized for fire detection.
15. The following Fuel Compartment safety features shall be checked during the routine scheduled maintenance annual two-day shutdown : ventilation fan (FAN-165), thermal fuses utilized for fire detection.
16. Safety valves installed in the following systems shall be checked during the routine scheduled maintenance annual two-day shutdown : cell stack cooling water loop, ancillary (glycol/water) loop, nitrogen system.

All shipments and deliveries of such equipment shall be provided with a metal tag, suitably placed, certifying that the equipment shipped or delivered is equivalent to those tested and accepted for use, as provided for in Section 27-131 of the Building Code.

Final Acceptance April 16, 1998

Examined By Mark Jacoby