

Regulators' Guides for Permitting Hydrogen Projects

New Regulators Guides

- The U.S. DOE, in conjunction with the National Labs and National Code bodies, has developed the first modules in a family of documents to aid in the permitting of hydrogen energy systems.
- The Guides were developed through a collaborative effort involving the National Fire Protection Association (NFPA), the International Code Council (ICC), Pacific Northwest National Laboratory (PNNL) and the National Renewable Energy Laboratory (NREL).

Guidebooks Overview

- The Overview provides an introduction to hydrogen and hydrogen safety including hydrogen properties, leak containment and a glossary of hydrogen terms. The two available modules are the first two of a series of Guides designed to help code officials and enforcers to become more knowledgeable about the tools available for permitting hydrogen projects and systems.

Module 1: Permitting Stationary Fuel Cell Installations

- The purpose of Module 1: Permitting Stationary Fuel Cell Installations is to facilitate the acceptance of stationary fuel cell technologies for buildings.
 - Provides information on the building regulatory processes and provisions of relevant codes and standards that will have an impact on the design, deployment, approval, installation, operation, and maintenance of fuel cell technologies.
 - Covers fuel cell installations on buildings other than one- and two-family dwellings and for energy functions other than industrial processes.
 - Intended as a tool for determining the codes and standards applicable to stationary fuel cell installations that may provide electricity as well as heat to the structure.

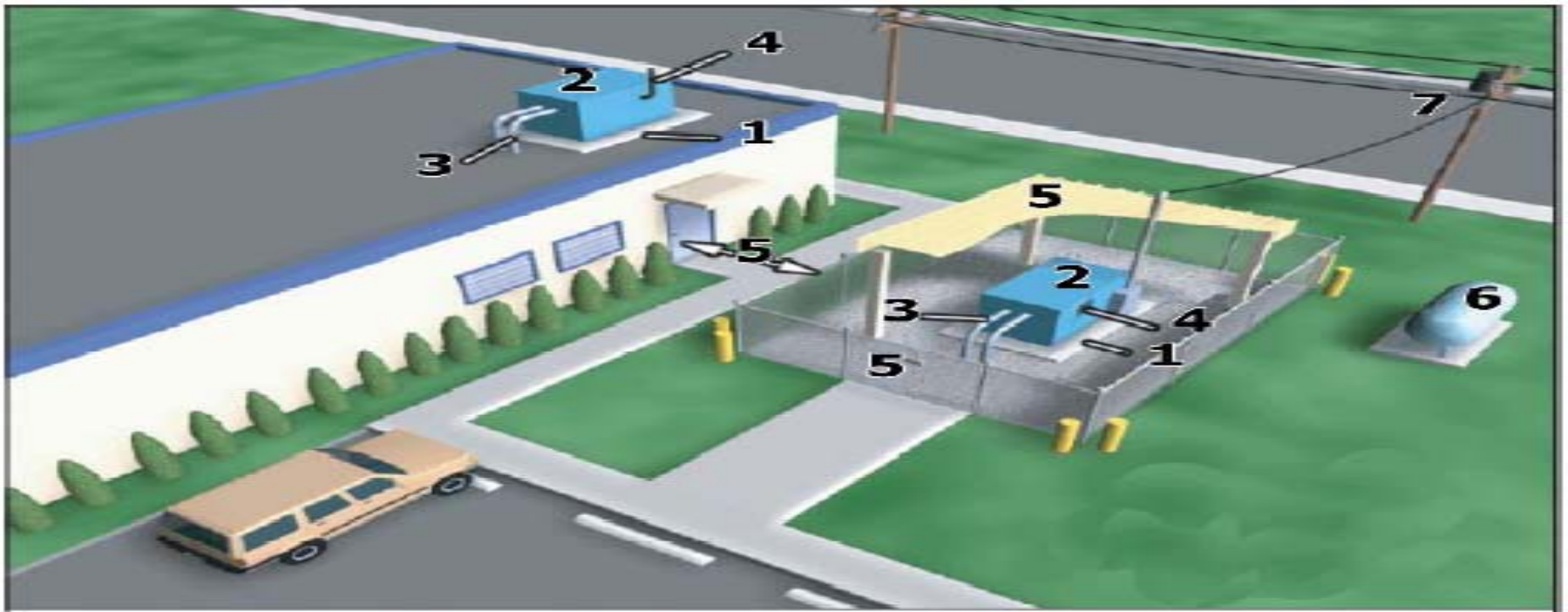


Figure 3.1. Typical Installation Requirements for a Fuel Cell in a Commercial Building

- 1 Foundation and Protection** (see Table 4.2, Section 2.0)
- 2 Fire Protection Systems** (see Table 4.2, Section 4.0)
- 3 Piping Components and Connections** (see Table 4.2, Section 3.0)
- 4 Ventilation, Exhaust, and Makeup Air** (see Table 4.2, Section 2.2)
- 5 Siting, Installation, and Protection** (see Table 4.2, Section 2.0)
- 6 Fuel Supply and Storage** (see Table 4.2, Section 1.0)
- 7 Interconnections** (see Table 4.2, Section 5.0)

Several issues related to fuel cells may attract the attention of code officials, including fuel supply and storage, electrical interconnection to the power grid, ventilation, fire protection, and intervention. Figure 3.1 shows the most common installation requirements for a fuel cell in a commercial building.

Module 2: Permitting Hydrogen Motor Fuel Dispensing Facilities

- Designed to guide permitting officials, code enforcement officials and other parties involved in approving the implementation of hydrogen motor fuel dispensing facilities. Specifically, the module identifies:
 - issues in permitting a fuel dispensing facility as it progresses through the approval process;
 - specific requirements; and
 - applicable codes and standards to determine if the specific requirements have been met.
- Module 2 identifies a fuel dispensing facility as one that receives hydrogen from offsite, stores it on-site, and dispenses it to vehicles. In general, the facility is analogous to a gasoline service station, but with hydrogen instead of gasoline or diesel fuel.

Regulators' Guide to Permitting Hydrogen Technologies

- They are currently available at:
http://www.pnl.gov/fuelcells/permit_guide.stm
- **Regulators' Guide to Permitting Hydrogen Technologies – Overview**
http://www.pnl.gov/fuelcells/docs/permit-guides/overview_final.pdf
- **Module 1 - Permitting Stationary Fuel Cell Installations**
http://www.pnl.gov/fuelcells/docs/permit-guides/module1_final.pdf
- **Module 2 - Permitting Hydrogen Motor Fuel Dispensing Facilities**
http://www.pnl.gov/fuelcells/docs/permit-guides/module2_final.pd