

Applying Codes and Standards Systematically

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Where We Stand Today

- We now have a path through the I-Codes.
 - Available to all.
 - Endorsed by HELP and SBCC.
 - Linked on Plug Power, HELP and SBCC websites.
 - <http://www.nasfmhydrogen.com/documents/I-CodePathFuelCell.pdf>
 - <http://www.saferbuildings.org/docs/training/I-CodePathFuelCell.pdf>

Progress with AHJs

- Clear and concise rules have allowed for painless permitting since June 2007.
 - Massachusetts
 - New York
 - California
 - Rhode Island
 - New Hampshire
 - New Mexico
 - North Carolina
 - Houston, Texas

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Referenced Standards?

- NFPA 853 Standard for the Installation of Stationary Fuel Cell Power Systems
- NFPA 55 Standard for the Storage, Use, and Handling of Compressed Gases and Cryogenic Fluids in Portable and Stationary Containers, Cylinders, and Tanks
- ANSI/CSA America FC 1

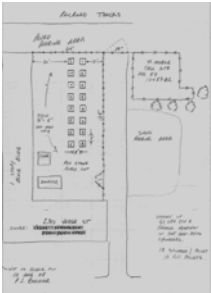

Others

- NFPA 70 NEC
- NFPA 54 ANSI Z223.1–2006 National Fuel Gas Code

How It's Done

- Engineer follows published codes in the design process.
 - Then applies referenced standards.
- Engineer submits plans which meet the setback distances relevant to that jurisdiction.
- AHJ has an easier time reviewing the permit.
 - Has path through the codes showing relevant distances.
 - Can easily match design with codes.
- Permit is issued quickly or on the spot!

Designs Which Were Approved Quickly



No permit required. Electrical inspection at completion of work for power and grounding.

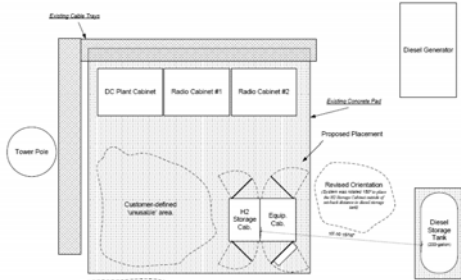
Permit issued "on-the-spot".

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How It's Done (the hard way)

- Original site plan oriented the fuel cell cabinet and fuel storage cabinet to so the fuel cell front panels faced the outside of the pad
- This plan was rejected by the AHJ because the fuel storage cabinet violated the setback distance to an existing diesel storage tank
- The plan was modified by simply re-orienting the cabinets by 180°, placing the fuel storage cabinet outside of the required setback
- The plan was approved.
- Knowledge of setbacks would have saved 1 week off the siting schedule with a trivial re-orientation

Minor change in orientation solves siting restriction



Don't Even Think About it Here! (Yes, this is a real proposed location)

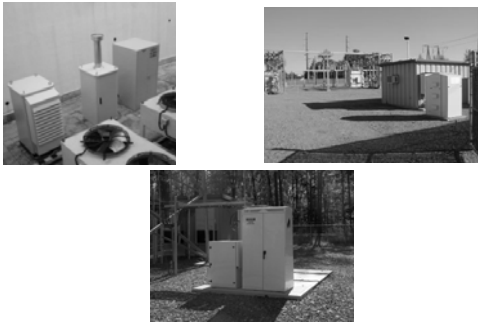


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Listed and approved fuel consuming appliances



A stationary hydrogen fuel cell is a listed and approved fuel consuming appliance



Questions?
