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RE: Hydrogen Deployment Barriers RFI

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The International Code Council (ICC) offers the following comments on the Department of Energy Request for Information pertaining to hydrogen fueling station deployment and regulatory compliance.

The International Code Council (ICC) is a member-focused association dedicated to helping the building community and the construction industry provide safe, resilient, and sustainable construction through the development and use of model codes (I-Codes) and standards used in the design, build, and compliance processes. Most U.S. states and communities, federal agencies, and many global markets choose the I-Codes to set the standards for regulating construction, plumbing and sanitation, fire prevention, and energy conservation in the built environment. The ICC code adoption and modification process is open to all interested parties, including Federal agencies like the Department of Energy. Several Federal representatives are very active in the code development process. States, territories, and local governments adopt I-Codes at their option and may amend and enforce them based on local conditions.

ICC's *International Building Code*, *International Fire Code*, *International Residential Code* and *International Mechanical Code* address hydrogen fueling operations in retail, residential and commercial environments through construction regulations, operational guidance and ventilation standards, respectively. The *International Fire Code* aligns with and adopts by reference National Fire Protection Association 2, *Hydrogen Technologies Code*, 2016 Edition. Specifically:

- The *International Building Code* prescribes the construction requirements for buildings and other structures such as canopies over a fueling area.
- The *International Fire Code* (§ 2309) provides detailed guidance on equipment, dispenser locations, gaseous and liquefied hydrogen storage, ignition controls, emergency controls and repair protocols. We are aware of approximately 10 proposals in the current code development cycle made by Toyota Motor Corporation related to this section, that address issues that could be characterized as “gaps.”
- Chapter 12 of the *International Fire Code* specifically addresses hydrogen fuel cells, and would be an ideal regulatory vehicle to address any gaps identified relating to fuel cell deployment and maintenance. The *International Residential Code* addresses hydrogen

equipment installation and use in one- and two-family and townhouse occupancies, and refers users to the *International Fire Code* for design and operational guidance. The *International Mechanical Code* prescribes ventilation requirements to assure hydrogen concentrations remain less than the lower flammable limits, and gases are dispersed to areas where ignition is unlikely.

One gap that the ICC has identified in hydrogen fueling programs is the awareness and training at the local level for code enforcement officials who must review and approve hydrogen fueling station projects for installation in their jurisdictions. As with any new or emerging technology, user training and education is an important element to establish better understanding and the appropriate application of regulatory codes and standards.

ICC stands ready to assist the Department of Energy in facilitating hydrogen deployment. We also would invite the Department, and any interested stakeholders to utilize the ICC code development process (cdpACCESS), accessible online at <https://www.cdpassess.com/login/> to propose any needed modifications or additions to the I-Codes to facilitate hydrogen-fueling deployment.