This paper describes objective technical results and analysis. Any subjective views or opinions that might be expressed in the paper do not necessarily represent the views of the U.S. Department of Energy or the United States Government.

H2FIRST Reference Stations for Urban Sites:

Smaller Stations Allow More Locations

SAND2018-10329C

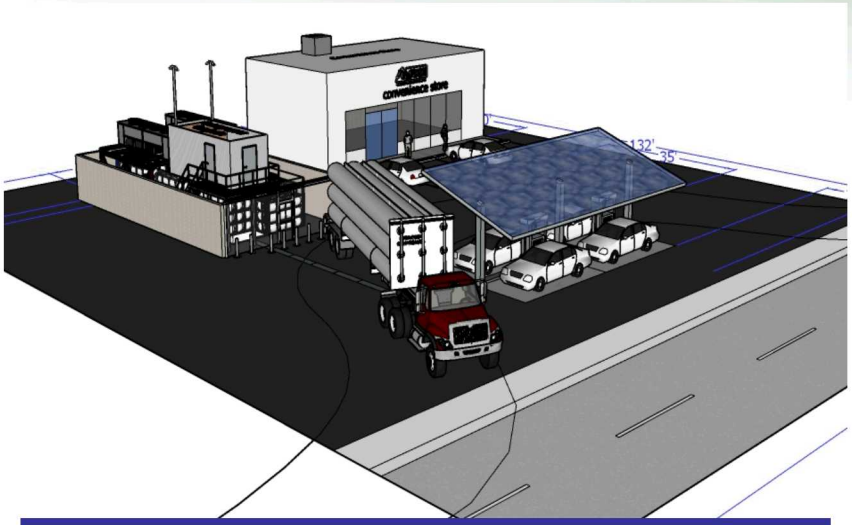
Technical Lead: Brian Ehrhart (bdehrha@sandia.gov)

SAND2018-XXXX

- **Relevance**:
  - Create compact hydrogen reference station designs appropriate for urban locations, enabled by hazard/harm mitigations, near-term technology improvements, and/or risk-informed (performance-based) layout designs
- **Accomplishments and Progress:**
  - Completed base case designs and hazard analysis for multiple designs
  - Identified and submitted code changes, alternate delivery assumptions, gasoline co-location
- **Future Work**:
  - Economic evaluation
  - Siting study for reduced footprint

➢ *Smaller footprints could lead to shorter distance from public to hazards*

➢ *Detection and mitigation can reduce hazards*



Approximate Footprint Reduction from Base Case (Delivered as Compressed Gas)	
New (2020) NFPA Reqs	12.1%
New Delivery Single Truck	10.7%
Underground Direct-Bury	16.7%
Underground Vault	25.8%
Rooftop Storage	13.4 %
Non-Prescriptive Gas	19.1%

Final report coming in early 2019

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