Project Description

2413 A Street, Antioch CA

Chevron U.S.A. Inc. (Chevron) proposes to construct a hydrogen fueling station at the existing Chevron service station at 2413 A Street, Antioch, California (project). The proposed project is modification of the existing subject facility to incorporate Hydrogen (H2) fueling stations. The improvements include a new electrical service, a H2 storage and compression compound, H2 offload panel and two (2) hydrogen dispensers. The H2 compound will be enclosed by a combination of concrete masonry block wall and louvered fencing. The new enclosed areas would cover approximately 1,750 square feet. Chevron intends to install two new H2 dispensers under a new hydrogen fueling canopy.

Site Location

The approximately 0.967 acre project site is located off A Street. The project site is bounded to the north, east, south, and west by Rossi Avenue, Sunset Drive, Bryan Avenue and A Street, respectively. The surrounding area is comprised of residential and commercial buildings.

The project site is currently zoned as Neighborhood/Community Commercial District (C-2) and Single-Family Residential District (6 du/acre) (R-6). The project site is designated as Contra Costa County Assessor's Parcel Number are 068-132-038-8, 068-132-046-1, 068-132-053-7, 068-132-054-5.

Project Construction

Construction activities would begin soon after entitlements are granted and would be completed in approximately 6 to 8 months, pending equipment lead time and utility construction schedule. Construction activities would include installation of the equipment enclosure and excavation as part of installation of fuel pumps and related infrastructure. The maximum excavation depth would be 4.5 feet; however, most of the excavation would be in the 2- foot to 3-foot range. Soil excavated would be stored onsite during construction and used to backfill excavation. However, as hydrogen fueling infrastructure would occupy space in the excavation, not all soil would be reused. Excess soil would be exported from the site if needed.

The project would be constructed within an area that is comprised of existing pavement and landscape area. Stormwater runoff from new and modified impervious areas will be treated to meet and or exceed current requirements. Pavement that is damaged or demolished during construction, such as the required excavation, would be restored.

Project Operation

The proposed hydrogen fueling station would operate during hours consistent with the operational hours of the existing convenience store and gasoline fueling facilities on-site. Cars that operate using hydrogen are known as fuel-cell electric vehicles (FCEV). As FCEVs become more popular and common, the number of daily trips to the hydrogen fueling station could increase.

Hydrogen gas would be delivered to the site, as needed, based on supply and demand. Tractor trailer trucks designed to transport liquid and gaseous substances, commonly known as tanker trucks, would deliver fuel to the site. Initially, delivery would occur approximately once per week. Delivery frequency could increase as FCEVs become more common and the demand for hydrogen fuel increases. Maximum delivery frequency, based on maximum possible demand, would be once per day. The proposed hydrogen fueling facilities would not change current operations of the existing convenience store and gasoline fueling station. The project site will have a total of four (4) standard parking spaces and one

ADA spaces following construction of the project. No additional employees would be added with the addition of hydrogen fueling at the project site.

Below is a more detailed description of the H2 facility and processes.

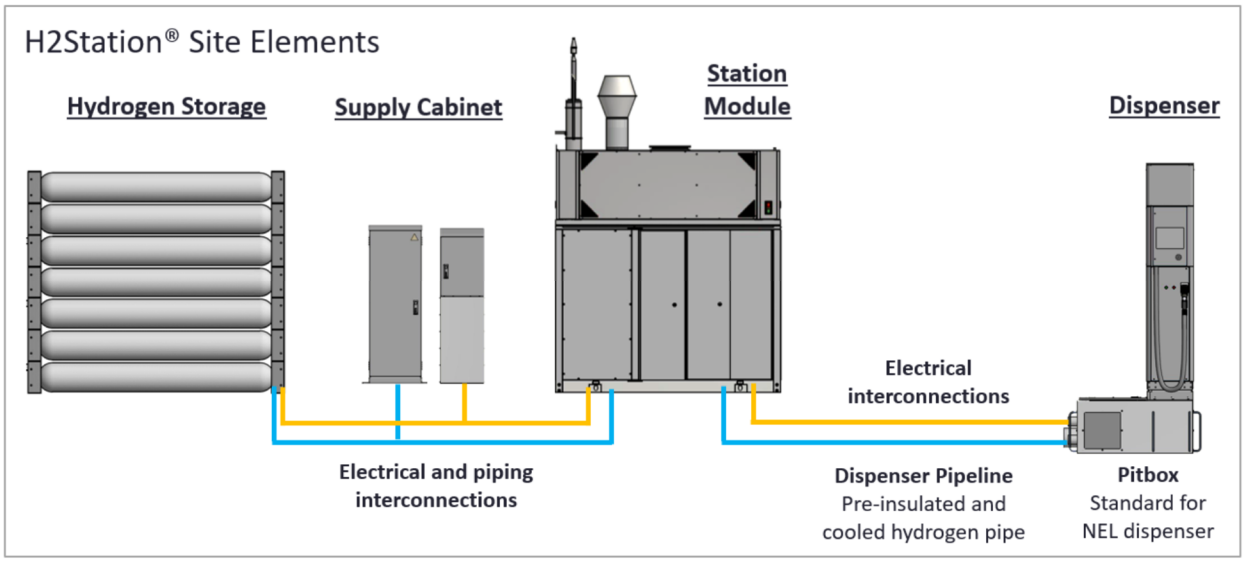
Why is Chevron developing H2 Stations?

To meet the California Air Resource Board Low Carbon Fuel Standards and to support Advanced Clean Fleets. Through its AB 8 program, the State of California co-funds the deployment of at least 100 hydrogen fueling stations to enable the launch of a consumer FCEV market. CARB provides annual evaluations of the status of deployment of fueling stations and FCEVs and analysis of needs for further development. CARB also coordinates with the California Energy Commission to annually report on the progress metrics of the Commission-led station funding program. In order to develop its recommendations for areas that require further hydrogen station development, CARB developed the California Hydrogen Infrastructure Tool (CHIT), a geospatial analysis tool built on publicly vetted data and methodologies.

"California is leading the nation in building hydrogen fueling stations for FCEVs. As of mid-2021, 47 retail hydrogen stations were open to the public in California, as well as one in Hawaii, and 55 more were in various stages of construction or planning in California. These stations are serving over 8,000 FCEVs. California continues to provide funding toward building hydrogen infrastructure through its Clean Transportation Program. The California Energy Commission is authorized to allocate up to $20 million per year through 2023 and is investing in an initial 100 public stations to support and encourage these zero-emission vehicles. In addition, 14 retail stations are planned for the northeastern states, with some of those already serving fleet customers." ...*U.S. Department of Energy*

System overview

Fuel is delivered in Gaseous form by truck through a connection to the Supply cabinet. The system then safely transfers the gas to the Storage tubes until it reaches capacity. The station module will then transfer the H2 from the storage tubes to the dispensing unit when a vehicle is ready to fill up.



Storage

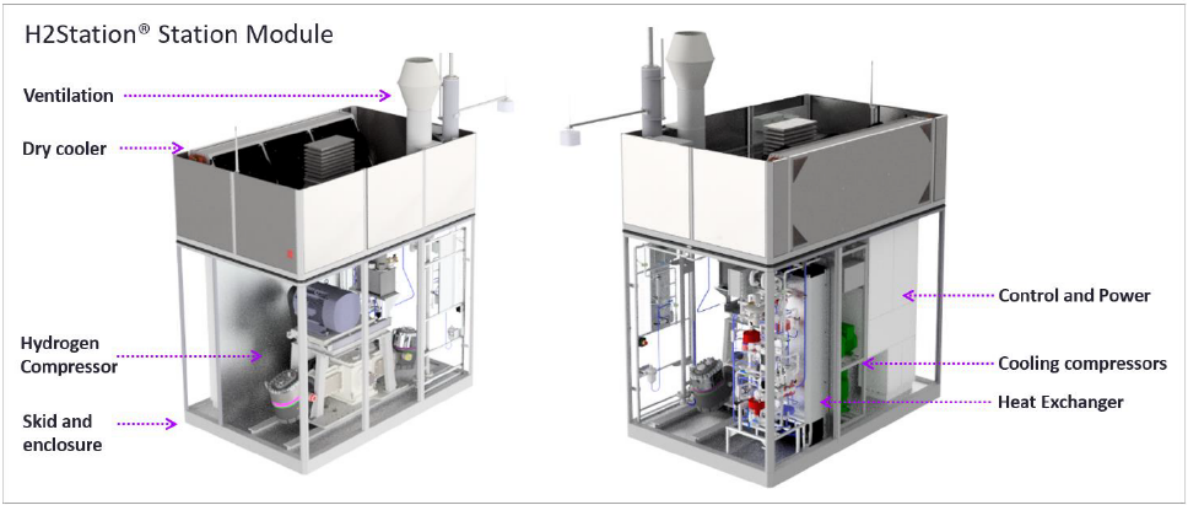
The Storage is a compact module with valve panel that connects with and is controlled by the Station Module. The Storage has an operating pressure of 45 MPa with flexible dimensioning of capacity and vessels to allow optimal integration on available space at sites.

The storage modules are connected to the Station Module which controls the storage via valve panels. The valve panel has built in jet fire protection panel, double block and bleed valves on each bank and other safety features.

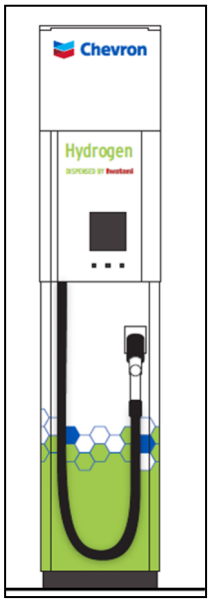
Station Module

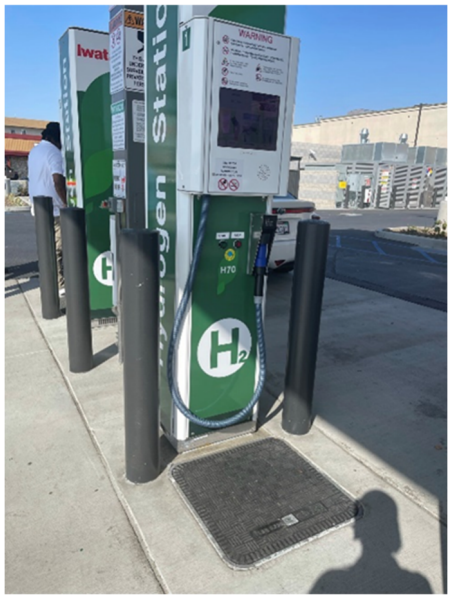
All equipment required for fueling is integrated into the Station Module, which is connected to and controls the Storage and Dispenser modules.

The noise level of the Station Module is very low and the primary noise sources from the operation are hydrogen compressor and dry cooler condensation for the cooling system. The enclosure reduces the noise from the compressor.



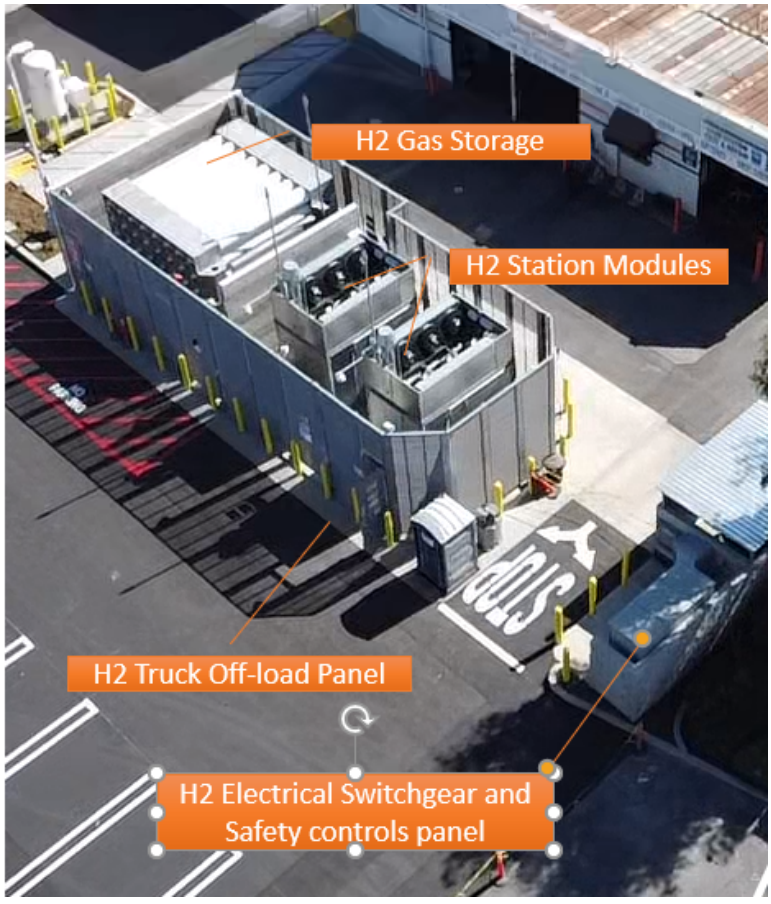
Dispenser





The Dispenser is designed solely for hydrogen allowing for a size that is only one third of a conventional gasoline Dispenser. This provides a very compact footprint, fast installation at site and a flexible placement. The Dispenser contains multiple safety features that detect physical problems and prevent its operation

H2 Compound site reference


H2 Gas Storage
H2 Station Modules
H2 Truck Off-load Panel
H2 Electrical Switchgear and Safety controls panel
STOP

Codes and standards:

The work shall conform to all relevant and most recent editions of the appropriate codes and standards as supplemented, amended or otherwise modified by local requirements

- California Codes
    - California Fire Code (International Fire Code and Uniform Fire Code)
    - California Electric Code
    - California Building Code (International Building Code)
    - California Mechanical Code (International Mechanical Code)
    - California Unified Program Agency (Cal/EPA certified CUPA)
    - International Fuel Gas Code
- National Hydrogen Specific Codes
    - NFPA1 Fire Code
    - NFPA 2 Hydrogen Technologies Code
    - NFPA 30A Motor Fuel-Dispensing Facilities and Repair Garages

    - NFPA 55 Compressed Gases and Cryogenic Fluids Code
- **<u>Federal Regulations</u>**
    - OSHA Regulations 29 CFR 1920 Subpart H
    - DOT Regulations including 40 CFR Part 68 Risk Management Plan (as applicable)

Set-back distances

In some cases, a CMU wall will be used to reduce exposure limits and Hazardous areas. Site plan indicates exposure limits and setback distances. Hydrogen station designs need to comply with the California Building Code (Part 2) and the California Fire Code (Part 9) of the California Building Standards Code (Title 24), the California Code of Regulations and/or the local amendment of the California Building and Fire Code. The code ensures proper setback distances, equipment, and mitigation measures for fueling, infrastructure and storage.