

Zero-Emission Bus Facilities



Zero-Emission Bus maintenance facility

Background

The Santa Clara Valley Transportation Authority (VTA) and San Mateo County Transit District (SamTrans) operate three hydrogen fuel-cell buses as part of the California Air Resources Board (CARB) required Zero-Emission Bus (ZEB) Demonstration Program. VTA is the lead agency in the operation of these buses and SamTrans shares in the capital and operating costs.

The Cerone Operations Division is equipped with two maintenance bays and a hydrogen fueling station to service the ZEBs.

Maintenance Facility

The Zero-Emission Bus maintenance facility is a standard bus repair workshop that has been designed to properly maintain the hydrogen fuel-cell buses. In addition to the standard equipment of a diesel bus maintenance shop, the following features were designed into the facility:

Maintenance Facility Specifications (H2 Rated)

- Two maintenance bays
- Roof design allows hydrogen to dissipate safely
- Continuous ventilation
- Flame detectors and sprinklers
- Hydrogen safety system:
 - 15% LEL Hydrogen detection alarm
 - Internal notification
 - Automatically opens both antistatic explosion release doors
 - Turns-on state of the art design roofing ventilation system
 - 50% LEL Hydrogen detection alarm
 - First responders notification
 - Automatically cuts the electrical power to non-essential equipment
- Class I, Division II explosion proof lighting and electrical systems
- Support areas for the fuel-cell systems repair

(continued)

Hydrogen Fueling Facility

The VTA Cerone Operations Division is equipped with a hydrogen fueling facility supplied by Air Products and Chemicals, Inc. Hydrogen is delivered and stored in liquid form. The facility pressurizes the hydrogen to 6000 psi and vaporizers turn the liquid into compressed hydrogen gas. The facility became operable in October 2004.



Zero-emission bus at hydrogen fueling facility

Other Facilities:

A standard bus wash facility to accommodate the ZEBs will be in operation in November 2005.

Funding Partners

The key funding partners in the Zero-Emission Bus Demonstration Program are the Federal Transit Administration (FTA), the Bay Area Air Quality Management District (BAAQMD), Department of Energy (DOE), SamTrans, and VTA. With this investment, the funding partners' aim is to explore the feasibility of using zero-emission fuel-cell technology buses in everyday mass transit service with the overall goals of reducing our dependence on fossil fuels, reducing greenhouse gases, improving air quality, and lastly improving the health and quality of life in our communities.

How to Reach Us

For more information on the Zero-Emission Bus Facilities, or other VTA projects, call VTA Community Outreach at (408) 321-7575, TDD for the hearing impaired (408) 321-2330, or visit us on the web at www.vta.org.

