FACT SHEET

AFV Maintenance and Repair Facility Design

As of 2015, there were nearly 23 million cars and light-duty trucks powered by propane, natural gas, biodiesel, ethanol, hydrogen, and electric on U.S. roads. With the growing popularity of these alternative fuel vehicles (AFVs) comes a related need for infrastructure, including maintenance facilities. If you operate an automotive repair facility, perhaps you've considered including AFVs in the vehicles you service.

Identification

Before towing or accepting a vehicle, determine if it is an AFV by:

- Noting vehicle badging and nonstandard dash indicators;
- Checking inside fuel doors for nonstandard fuel ports;
- Looking for specialized components such as orange cables under the hood or pressurized fuel tanks that can in different locations.

The Maintenance Shop

If the facility meets standard gasoline or diesel requirements, most likely it meets standards for most AFVs. When considering working with AFVs it is important to keep in mind the type of work you will be doing and the facility you use.

- If you are working with an existing repair facility, check that it meets current vehicle code requirements. Because the existing facility may have been built under older editions of the codes, any new AFV-related modifications may require bringing the facility up to current code.
- When considering adapting an existing facility or building a new repair facility to work with AFVs, make sure roofs and building spaces are equipped with proper ventilation and leak detection systems.
- Safety is a major concern when designing a repair garage to work with AFVs and alternative fuels have key differences. For example, some of these fuels are heavier than air and can spread along the ground and collect in low areas like maintenance pits.
- Facilities that are already designed to handle both minor and major repair work can easily adapt their garage to work on AFVs.

Adding a Fueling Station

When deciding to include a fueling station with your facility, consider the location and types of fuels you will be using. Keep in mind:

- Above ground storage tanks have to be separated by at least 15 feet from the fueling stations or any device that dispenses liquid or gaseous motor fuels.
- If the facility has above ground compressed natural gas or liquid gas tanks, they must be separated by at least 20 feet.

- It is also important to make sure that all sources of ignition are eliminated within 25 feet of refueling sites.

Storing the Vehicles

Proper vehicle storage is important:

- Severely damaged vehicles should not be stored inside or within 50 feet of any structure.
- Before placing the vehicle in the lot, inspect it for leaking fluids, sparks, smoke, and gurgling or bubbling sounds. If any of these are detected evacuate the area and contact emergency personnel.
- When storing AFVs is it important to maintain clear access to the vehicles for monitoring and emergency response if needed.

Safety

As with conventional fuels, when working with AFVs there are important safety considerations. Fuels used in AFVs have properties different from gasoline and diesel:

- Some alternative fuels react adversely to water;
- Fuels such as hydrogen and natural gas are asphyxiates. Make sure the work area is well ventilated;
- Propane is heavier than air, and a leak can cause propane to pool in low lying areas;
- Fuels such as propane, liquefied natural gas, and hydrogen can cause instant frostbite;
- Breathing battery electrolyte vapors can cause severe respiratory problems;
- ALWAYS assume an electric drive vehicle has power and that high-voltage exists.

Use proper personal protective clothing and equipment when working with AFVs:

- High-voltage gloves for electric vehicles, standard work gloves for other AFVs;
- Eye protection;
- Boots;
- Flame detector for odorless, colorless, and/or tasteless alternative fuels.

For More Information:

[Coalition training info here]

REGARDLESS OF YOUR ROLE IN AFV FACILITIES, SAFETY IS EVERYONE'S JOB!

National Alternative Fuels Training Consortium
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http://www.naftc.wvu.edu/cleancitiesprojects
https://cleancities.energy.gov
National Alternative Fuels Training Consortium
Ridgeview Business Park, 1100 Frederick Lane, Morgantown, WV 26508
304-293-7882
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