



**TO:** Owners and Operators of Vehicles and Equipment Powered by CNG

**FROM:** The Incident Investigation and Root Cause Analysis Working Group of NGV America's Technology & Development Committee

**DATE:** December 20, 2023

**SUBJECT:** Hydrogen dispenser safety bulletin

As the national trade association dedicated to the growth and development of a safe and sustainable market for vehicles powered by natural gas or biomethane, this notice serves to inform owners and operators of vehicles and equipment powered by compressed natural gas (CNG) of a serious refueling error that occurred outside the U.S. earlier this year. This near-miss incident occurred when a heavy-duty natural gas vehicle (NGV) operator mistakenly connected a 10,000 PSI (700 bar) hydrogen refueling nozzle to the vehicle's 3,600 PSI (250 bar) CNG refueling receptacle. Fortunately for everyone involved, the series of events in this case did not lead to harm to persons or property. It should also be noted that a similar incident involving a light-duty NGV occurred earlier this year in the U.S., which means all owners and operators of NGVs need to be aware of the potential for similar refueling errors regardless of their location, vehicle type, or vehicle class.

While design and manufacturing standards for hydrogen CNG refueling connection devices have been developed to address the potential for cross connection, this accidental connection occurrence demonstrates the need for modifications and updates to the specifications contained within the standards. Until industry standards are updated with more stringent design and manufacturing specifications, it is important for NGV owners and operators to be aware of this potential—albeit extremely unlikely—nozzle/receptacle connection compatibility to occur.

This near-miss incident also serves as a warning for NGV fuel system providers and component manufacturers to remain in compliance with industry standards which have been developed with the utmost regard to vehicle and refueling equipment safety. Strict specifications for component design and manufacturing are identified in standards such as **CSA/ANSI NGV 1** for NGV fueling connection devices and **CSA/ANSI NGV 3.1** for CNG fuel system components. Manufacturers and providers of NGV fuel systems, refueling equipment, and the associated components should always refer to the latest applicable industry standards for the proper guidance on product safety, compliance, and certification procedures.

This particular incident did not result in any catastrophic consequences because the driver of the vehicle operating the refueling dispenser was able to recognize in-cylinder pressure on the vehicle exceeding the allowable limit and reacted quickly to terminate the refueling operation. This incident serves as an important reminder for drivers to be properly trained on refueling

protocols and procedures and identifying the correct dispenser to use at multi-fuel refueling stations. Such training and education are critical to maintain the safe and reliable operation of NGVs and the refueling stations that support them.

For more information on NGV refueling, refer to posted placards at all refueling stations and dispensers, guidelines provided by vehicle OEMs and fuel dispenser providers, and the links provided below.

[Alternative Fuels Data Center CNG Station Information](#)

[American Natural Gas CNG Refueling Instructional Video](#)

[Hexagon Agility CNG Refueling Instructional Video](#)

[NGVAmerica Website](#)

To learn more about incident investigations, the Technology & Development Committee, or other industry activities focused on NGV safety, contact NGVAmerica's Director of Technology and Sustainability, Paul Sandsted, at [psandsted@ngvamerica.org](mailto:psandsted@ngvamerica.org).

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