

# Proposed Outline for Canadian New Work Item Proposal for “Gaseous hydrogen - Fuel system components for hydrogen fueled vehicles” standard

## 1 Scope

Similar to HGV 3.1, the scope will include requirements for newly produced gaseous hydrogen fuel system components, intended for use on hydrogen fueled vehicles as listed below:

- check valves;
- manual valves;
- manual container valves;
- automatic valves;
- gas injectors;
- pressure indicators;
- pressure regulator;
- pressure relief valves;
- excess flow valves;
- gas-tight housing and leakage capture lines and passages;
- rigid fuel lines;
- flexible fuel lines;
- filter housing;
- fittings; and
- discharge line closures.

The Scope does not cover components for which ISO standards already exist such as storage container (ISO 19881), TPRD (ISO 19882) and fuel connectors (ISO 17268).

This Standard does not apply to hydrogen gas fuel system components incorporated during the manufacture of motor vehicles originally manufactured in compliance with the international regulations such as UN GTR No. 13 (Global technical regulation on hydrogen and fuel cell vehicles) or UN ECE R134.

## 2 Normative references

Review HGV 3.1, ISO 15500, ISO 12619, and UN GTR No. 13 for appropriate references

## 3 Terms and definitions

Review HGV 3.1, ISO 15500, ISO 12619, and UN GTR No. 13 for appropriate definitions

## 4 General

General requirements similar to HGV 3.1 such as:

- Construction/assembly (intended use, material requirements, threaded openings, temperature, pressure)
- Electrical and equipment wiring
- Component literature
- Marking

## 5 Performance and general test methods

Review HGV 3.1, ISO 15500, ISO 12619, and UN GTR No. 13 for appropriate test methods such as:

- General test requirements
- Hydrostatic strength
- Leakage
- Excess torque resistance
- Bending moment

- Continuous operation
- Corrosion resistance
- Ultraviolet resistance of external surfaces
- Automotive fluid exposure
- Atmospheric exposure
- Abnormal electrical voltages
- Vibration resistance
- Stress corrosion cracking resistance
- Insulation resistance
- Pre-cooled hydrogen exposure

## **6 Quality assurance**

Review HGV 3.1, ISO 15500, ISO 12619, and UN GTR No. 13 for details regarding quality system, inspection, sub-assembly suppliers and FMEA

## **7 Inspection and acceptance testing**

Review HGV 3.1, ISO 15500, ISO 12619, and UN GTR No. 13 for inspection and acceptance testing requirements.

## **8 (8 and beyond) Component specific clauses**

These clauses will be specific to all of the components defined in the Scope (Clause 1). Review the following for harmonization:

- HGV 3.1, Clause 8-24,
- ISO 15000, Parts 3-20
- ISO 12619, Parts 3-16
- UN GTR No.13