

Proposal for amendments to UN Regulation No. 110 (CNG/LNG vehicles)

The text reproduced below was prepared by the experts from OICA. It proposes amendments to UN Regulation No. 110 to improve the specifications for inspection of CNG-cylinders / LNG-tanks and their accessories taking into account the work of the Task Force on gas-fuelled vehicle regulations. The modifications to the current text of UN Regulation No. 110 are marked in bold for new characters and strikethrough for deleted characters.

I. Proposal

Paragraph 4.1.4., amend to read:

- "4.1.4. Periodic requalification
Recommendations for periodic requalification by visual inspection or testing during the service life shall be provided by the cylinder manufacturer on the basis of use under service conditions specified herein. Each cylinder shall be visually inspected at least every 48 months after the date of its entry into service on the vehicle (vehicle registration), and at the time of any reinstallation, for external damage and deterioration, ~~including under the support straps~~. The visual inspection shall be performed by a competent agency approved or recognized by the Regulatory Authority, in accordance with the manufacturer's specifications: Cylinders without label containing mandatory information or with labels containing mandatory information that are illegible in any way shall be removed from service. If the cylinder can be positively identified by manufacturer and serial number, a replacement label may be applied, allowing the cylinder to remain in service."

II. Justification

1. With this Informal Document the experts from OICA want to address the necessity to improve the requirements of the Regulation and point out a better description of the visual inspection.
2. In the meeting of the Task Force on gas-fuelled vehicle regulations on the 6th/7th February 2018 in Germany several documents from the 112th session of UNECE GRSG were discussed. In detail:
 - ECE/TRANS/WP.29/GRSG/2017/17 (German proposal protective housing)
 - ECE/TRANS/WP.29/GRSG/2017/29 (Italian proposal ogive protective covers at cylinder end)
 - GRSG-113-03 (NGV Global Information on CNG protective housing)
 - GRSG-113-20 (OICA proposal on periodical requalification)
3. In the report of this meeting, it can be read:

"...Consensus was achieved that a complete inspection of all outer surfaces of the container (or the containers) without exhaustive dismantling is not possible. To increase visibility of the container/s and other components is the best way to improve the decision making opportunities regarding the question if a more throughout inspection is needed.

It was generally agreed that corrosion is not starting in the area of the container covered by support straps...."

Furthermore it was noted:

"...An essential aspect of the proposal (new paragraph 18.1.6.1. below) is the distinction of dismantling tools and devices helping to achieve better visibility of container sections difficult to inspect. It was agreed that only a necessity to use dismantling tools, is not in line with the stipulations of EU Directive 2014/45/EU and Rule No. 2 of the 1997 Agreement..."

4. Based on this report the participants agreed to amend the UN R110 as followed:

“Add new paragraph 18.1.6.1.

“18.1.6.1. Notwithstanding the provisions of paragraph 18.1.6., it shall be possible to make an external inspection (e.g. for Periodic Technical Inspection) of the CNG container or LNG tank and their accessories, when located outside the vehicle, with visual aids, e.g. lamps, mirrors or endoscopes, according to the specifications of the manufacturer, without the use of tools to dismantle.”

5. Unfortunately the proposed wording in paragraph 18.1.6.1 is in contradiction with paragraph 4.1.4 of this regulation. A visual inspection as proposed in paragraph 18.1.6.1 under the support straps is not possible without the complete dismantling of all cylinders including the tubes and valves nearby. It is therefore logical to remove the wording “, *including under the support straps*” from paragraph 4.1.4.
