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Regulation No. 110 (CNG and LNG vehicles)

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

Submitted by the expert from the Netherlands*

The text reproduced below was prepared by the expert from the Netherlands. It proposes an amendment to UN Regulation No. 110 to allow Class 0 hoses with couplings using sealing technologies other than those with a 45° cone and, thus, to avoid design restrictive requirements. The modifications to the current text of UN Regulation No. 110 are marked in bold for new characters and strikethrough for deleted characters.

* In accordance with the programme of work of the Inland Transport Committee for 2014–2018 (ECE/TRANS/240, para. 105 and ECE/TRANS/2014/26, programme activity 02.4), the World Forum will develop, harmonize and update Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate.

I. Proposal

Annex 4B, paragraph 1.6.2.2., amend to read:

"1.6.2.2. ~~The sealing cone of swivel nut type shall be of the type with a half vertical angle of 45°.~~**The interface type for the hose coupling shall be chosen as to comply with the tests described in paragraph 1.7., as well as the tests mentioned in Annexes 5A and 5B.**

In case of an interface type using a soft seal body (e.g. O-ring), the type of material chosen shall be tested in accordance with Annexes 5D, 5F and 5G."

II. Justification

1. The proposal aims at avoiding design restrictive requirements and at inserting performance oriented requirements.
 2. It also adapts the provisions to the technical progress allowing other technologies than metal/metal with a 45° cone which can provide an adequate level of safety and durability. UN Regulation No. 110 should allow these technologies, as long as the hose assembly can withstand the impulse test of paragraph 1.7. and the tests of Annexes 5A (overpressure test) and 5B (external leakage test).
 3. When using soft seal body (e.g. O-ring), the compatibility of the material with use conditions has to be demonstrated. This is done by testing according to Annexes 5D (CNG/LNG compatibility test), Annex 5F (resistance to dry heat) and Annex 5G (ozone ageing).
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