



# Economic and Social Council

Distr.: General  
18 December 2019

Original: English

---

## Economic Commission for Europe

### Inland Transport Committee

### World Forum for Harmonization of Vehicle Regulations

#### 180th session

Geneva, 10–12 March 2020

Item 4.8.10 of the provisional agenda

#### 1958 Agreement:

Consideration of draft amendments to existing

UN Regulations submitted by GRSG

## **Proposal for Supplement 2 of 04 series of amendments to UN Regulation No. 110 (CNG and LNG vehicles)**

### **Submitted by the experts from the Working Party on General Safety\***

The text reproduced below was adopted by the Working Party on General Safety (GRSG) at its 117th session (ECE/TRANS/WP.29/GRSG/96, para. 49). It is based on ECE/TRANS/WP.29/GRSG/2019/28 as amended by GRSG-117-28. It is submitted to the World Forum for Harmonization of Vehicle Regulations (WP.29) and to the Administrative Committee (AC.1) for consideration at their March 2020 sessions.

---

\* In accordance with the programme of work of the Inland Transport Committee for 2020 as outlined in proposed programme budget for 2020 (A/74/6 (part V sect. 20) para 20.37), the World Forum will develop, harmonize and update UN Regulations in order to enhance the performance of vehicles. The present document is submitted in conformity with that mandate..

**Supplement 2 of 04 series of amendments to UN Regulation  
No. 110 (CNG and LNG vehicles)**

*Annex 3A, Table 6.7., amend to read:*

**"Annex 3A**

(see next page)

Table 6.7  
Change of Design

Design change	Type of test												
	Burst hydrostatic A.12	Cycling Ambient temp A.13	Acid environment A.14	Bonfire A.13	Penetration A.16	Flow Tolerance A.17	High temp creep A.18	Stress rupture A.19	Drop test A.20	Permeation A.21	Boss Torque A.25	Cycling A.27	PRD Performance A.24
Fibre manufacturer**	X	X						X*	X*				
Metallic cylinder or metal liner material	X	X	X*	X	X*	X	X*	X*	X*				
Plastic liner material		X	X				X			X†	X†	X†	
Fibre material***	X	X	X	X	X	X	X	X	X				
Resin material			X		X	X	X		X				
Diameter change ≤ 20 per cent	X	X											
Diameter change > 20 per cent	X	X		X	X*	X			X				
Length change ≤ 50 per cent	X			X‡									
Length change > 50 per cent	X	X		X‡					X				
Working pressure change ≤ 20 per cent @	X	X											
Dome shape	X	X											
Opening size	X	X											
Coating change			X										
End boss design (Change in liner interface, composite interface or layer design)										X†	X†	X†	
Change in manufacturing Process	X	X											
Pressure relief device				X									X

Legend:

X=required

\* test not required on metal (CNG-1) designs

† Test only required on all composite (CNG-4) designs

‡ Test only required when length increases

@ Only when thickness changes proportional to diameter and/or pressure change

\*\* according to definition "equivalent fibre" in ISO 11119-3:2013

\*\*\* as long as change is no "new fibre type" as defined in ISO 11119-3:2013"