

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

The text reproduced below has been prepared by the expert from France to introduce the use of natural gas refrigeration systems to vehicles propelled by natural gas (CNG or LNG). The modifications to the current text of the Regulation are marked in bold for new or strikethrough for deleted characters.

I. Proposal

PART II —Approval of vehicles with regard to the installation of specific components of an approved type for the use of compressed natural gas (CNG) and/or liquefied natural gas (LNG) in their propulsion system

18. Requirements for the installation of specific components for the use of compressed natural gas and/or liquefied natural gas in the propulsion system of a vehicle

18.1.7. No appliances shall be connected to the CNG and/or LNG system other than those strictly required for the proper operation of the engine of the motor vehicle.

18.1.7.1. Notwithstanding the provisions of paragraph 18.1.7., vehicles may be fitted with a heating system to heat the passenger compartment and/or the load area **or a refrigeration system to cool the load area**, which is connected to the CNG and/or LNG system.

18.1.7.2. The heating **or refrigeration** system referred to in paragraph 18.1.7.1. shall be permitted if, in the view of the Technical Services responsible for conducting type approval, the heating system is adequately protected and the required operation of the normal CNG and/or LNG system is not affected.

Annex 1A

Essential characteristics of the CNG/LNG components

1.2.4.5.15. Connection to CNG/LNG system for heating system **or refrigeration system**: yes/no (1)

1.2.4.5.15.1. Make(s):.....

1.2.4.5.15.2. Type(s):.....

1.2.4.5.15.3. Description and drawings of installation:

II. Justification

This proposal addresses a new, environmentally friendly natural gas fuelled refrigeration system for trucks with refrigerated loads that already are propelled by natural gas (CNG or LNG). Currently paragraph 18.1.7.1 allows heating systems to be fitted on vehicles to heat the passenger compartment and/or the load area of a vehicle, however, the same provision omits cooling systems that are used on trucks for the carriage of loads requiring refrigeration. Perishable products deliveries in urban areas, in particular, also are required to provide low particle emissions and low noise technologies .

The addition of ‘refrigeration systems’ in this paragraph helps expand the potential applications of natural gas vehicles and allows manufacturers of cooling and refrigeration systems to target new markets for their products.

The addition of ‘refrigeration systems’ to Annex 1A, paragraph 1.2.4.5.15 also requires that these systems, like heating systems and other components installers to identify the make, type and description of the cooling system.

Note: If it is required to call-out separately a refrigeration system as a ‘new’ 1.2.4.5.16 then all subsequent numbered items through 1.2.4.5.29 would have to be changed. Alternatively, if a separate call-out for refrigeration systems is required then it could also be added at the end of this section as 1.2.4.5.30 (and including 1.2.4.5.30.1 and 1.2.4.5.30.2. and 1.2.4.30.3.