

## LNG – Task Force

Report of activities to the GRSG 102<sup>nd</sup> Session  
16th-20th April 2012, Geneva

....As reported to the Informal Group Gaseous Fuel Vehicles  
15 May 2012  
(GFV-20-06)

## OVERVIEW

The LNG Task Force was created to develop technical specifications for LNG (Liquefied Natural Gas) cryogenic components to be installed on-board road vehicles.

- The LNG Task Force results from the work of the Heavy Duty Dual-Fuel Task Force (operating within the Informal Group on Gaseous Fuelled Vehicles of the GRPE) developing technical specifications to enable certification of D-F engines.
- Timely development of compatible LNG component regulations will allow for EU Type Approval of vehicles with D-F engines.
- Four meetings of the LNG-TF have been held (September & November 2011 and February & March 2012):
  - Chairman: Mr. Paul Dijkhof – KIWA (NL)
  - Co-secretariat: Dr. Seisler (NGV Global)/Mr. del Álamo (NGVA Europe)

## APPROACH TO THE NEW REGULATIONS

- **Principle point decided: To amend the existing R.110 rather than create an entirely new technical regulation for LNG (which would require duplication of much of R.110 due to overlap and create difficulties for future harmonization as R.110 is amended over time)**
  - **Some components of LNG systems are the same as CNG systems so the existing R.110 language has been adapted or additions have been made to also cover LNG (mostly editorial in nature).**
  - **Specifications for dedicated LNG components are being placed in a separate annex to R.110**

## **SPECIFIC CHANGES RELATED TO LNG**

- **Multifunctional components will be covered: i.e.**
  - **LNG tanks with internal cryogenic pumps.**
  - **LNG rigid and flexible fuel lines can be made only of stainless steel, to prevent from embrittlement.**
- **Management of methane into the atmosphere**
  - **Boil-off, boil-off management systems and venting system definitions and prescriptions are inserted.**
  - **5 day minimum LNG ‘holding time’ aligned with US regulations (SAE J 2343 and CARB)**

## **SPECIFIC CHANGES RELATED TO LNG (continued)**

- **Identification mark for vehicles and components:**
  - **Vehicles: same approach as for CNG. Only mandatory for public service vehicles**
  - **Components: they will be marked accordingly, to reflect information like: manufacturer, serial number, type of fuel, capacity, pressures, etc**
- **A new Class 5 component was introduced: Parts in contact with LNG, or at temperature below  $-40^{\circ}\text{C}$  and a storage pressure less than 26 Mpa prevent certain manufacturers from certifying CNG components with higher pressure than 26MPa under this new Class**

## **SPECIFIC CHANGES RELATED TO LNG (continued)**

- **Periodic inspection requirements: same as specified in TPED:  
visual inspection at least once every 10 years**
- **Acceleration requirements: same as for CNG components**

## STEPS FOR COMPLETION

- Informal document presented at 102<sup>nd</sup> GRSG
- Next Meeting: 6<sup>th</sup> June in Geneva during week of GRPE meetings
- Editorial changes to complete document
- Completion of annex for LNG-specific components
- Presentation of Formal Document for consideration by 103<sup>rd</sup> GRSG