

# **Progress Report of the VIAQ (Vehicle Interior Air Quality) Informal Working Group**

**25th April 2017**

Chair: Jongsoon Lim, Korea

Co-Chair : Yunshan GE, China

Technical secretary: Andreas Wehrmeier, OICA

## ● VIAQ Background, ToR and Mandate

- **WP.29 Mandate**(ECE/TRANS/WP.29/1112, para 133)
  - AC.3 endorsed the proposed action plan to, in a first stage, collect information, review existing standards and develop recommendations.
  - End of mandate : November 2017
- **GRPE Adoption**(ECE/TRANS/WP.29/GRPE/70)
  - GRPE adopted the proposals for terms of reference to the IWG on VIAQ as reproduced in Annex VI of this report.
- **Review of VIAQ Terms of Reference**
  - The scope of the work is to develop a recommendation (R.E.3, S.R.1, or a new Mutual Resolution) to harmonize test procedures of interior air emissions emitted/generated from interior materials.

- **VIAQ IWG Meetings**

- **7<sup>th</sup> VIAQ IWG Meeting**

- Drafting meeting, 4<sup>th</sup> January 2017 (conference call)
- Geneva, Switzerland, 11<sup>th</sup> January, during 74<sup>th</sup> GRPE session

- **8<sup>th</sup> VIAQ IWG Meeting**

- Moscow, Russia, April 25<sup>th</sup> – 26<sup>th</sup>

## ● The Direction of Work

### ➤ Test Measurement Modes

- Based on collected information and the review of existing standards,
- VIAQ group agreed that the following test mode is the most suitable for the interior air emission generated from interior materials.

Test mode	Descriptions
Ambient mode	simulates cars parked in the garage overnight (ambient temp)
Parking mode	simulates cars parked outside in the sunlight (high temp)
Driving mode	simulates air-conditioning conditions right after parking mode (Idling, A/C)

### ➤ Test Measurement Substances (8 types of VOCs)

- Substances to be measured: Formaldehyde, Acetaldehyde, Benzene, Toluene, Xylene, Ethyl benzene, Styrene, and Acrolein.

## ● Overall Work Status

### ➤ Working items : 28 total working items

- 5<sup>th</sup> VIAQ IWG : Closed working items: 15, open issue working items: 13
- 6<sup>th</sup> VIAQ IWG : Closed working items: 27, open issue working items: 1
- 7<sup>th</sup> VIAQ IWG : All working items closed, New open issues : 4 (VIAQ-07-10)

### ➤ Expected Outcome: A New Mutual Resolution

- Propose for A New Mutual Resolution which is developed to harmonize test procedures of interior air emissions generated from interior materials (VIAQ-07-06, GRPE-74-19)

## ● **Status of Working Items (VIAQ-07-10)**

### ➤ **Remaining open working items**

#### ✓ **HVAC temp setting in driving mode**

- Give a specific set temperature for HVAC setting in driving mode and change from “23-25° C” to “23° C”. The temperature in the driving mode will then be going down from the resulting temperature of the parking mode (approx. 40° C) to the set temperature of 23° C.

#### ✓ **Chamber background concentration**

- The chamber background concentration of measured substances is proposed to be  $<20\mu\text{g}/\text{m}^3$ . With regard to low limit values of the Chinese legislation draft, it is requested to lower the allowed chamber background concentration for each measured substance to  $<5\mu\text{g}/\text{m}^3$ .

## ● **Status of Working Items (VIAQ-07-10)**

### ➤ **Remaining open working items**

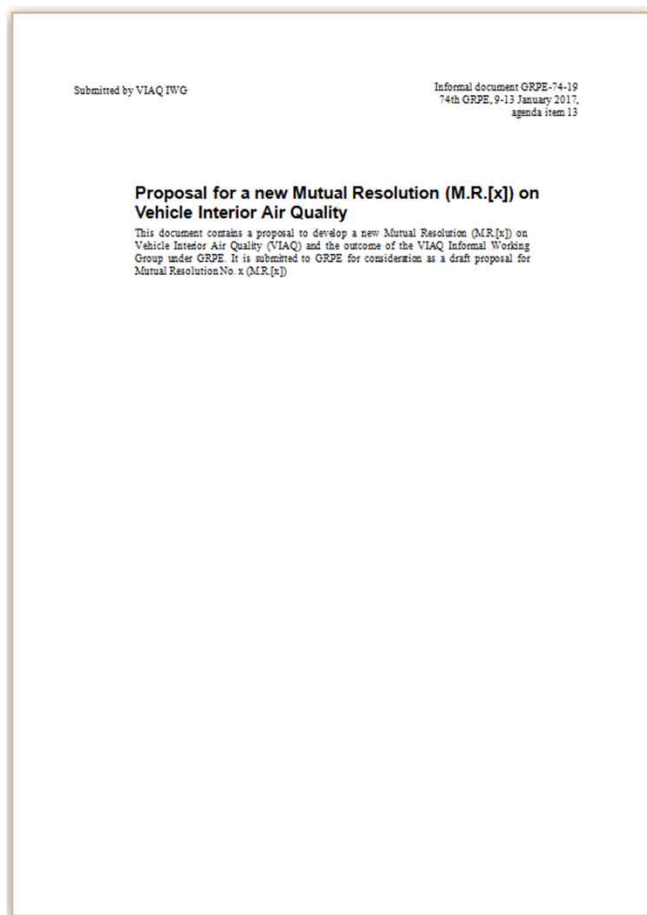
#### ✓ **Door opening time in Ambient mode**

- The door opening time to install the sampling equipment inside the cabin is set to 60min. The assembling procedure maybe be done faster. In order to save time for whole vehicle analysis it should be allowed to start soak time directly after installing the equipment. Therefore it is proposed to change the door opening time to 30-60min.

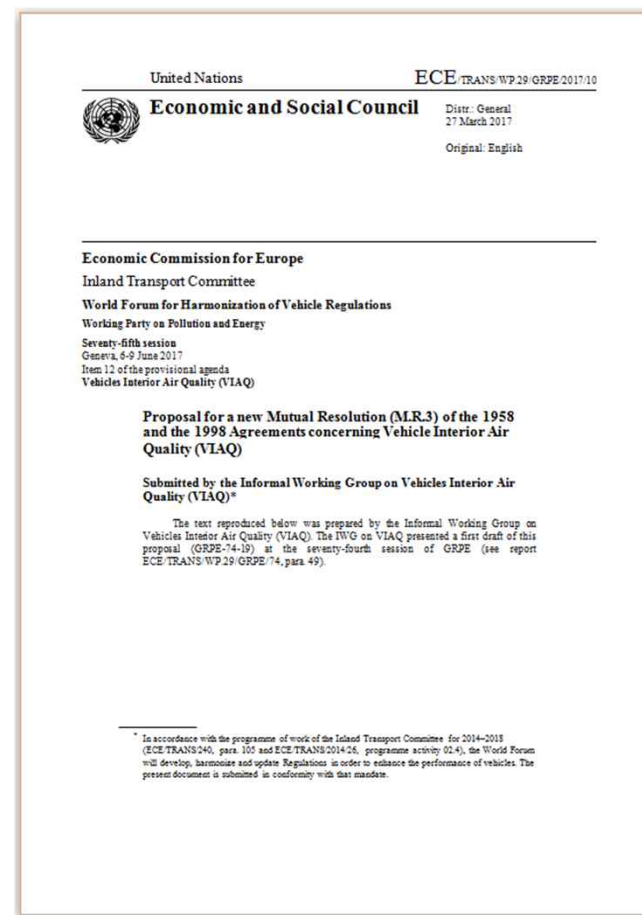
#### ✓ **Data reporting format**

- OICA proposed a data reporting format (Annex 4 of draft document). The format should be checked on amended, if necessary, by all parties.

## ● A first draft of a new Mutual Resolution at the 74<sup>th</sup> GRPE



< Informal Document GRPE-74-19 >



< Working Document  
ECE/TRANS/WP.29/GRPE/10 >



- **Second stage of VIAQ IWG Mandate**

- **71st GRPE Session Report (ECE/TRANS/WP.29/GRPE/71)**

## **XV. Vehicles Interior Air Quality (VIAQ) (agenda item 14)**

*Documentation:* Informal document GRPE-71-30

64. The Chair of the IWG on VIAQ reported on the first meeting of the group held prior to GRPE (GRPE-71-30). He provided some information on the organization and road map of the group as well as on the work to be done.

65. The expert from the Russian Federation stated that the work should not only focus on the interior air emissions generated from interior materials but also on the air pollutants entering the vehicle together with the intake air from outside.

66. GRPE considered the inclusion in the scope of interior air pollutants from the outside air as a possible extension of the mandate at a later stage. GRPE acknowledged the progress made by the IWG on VIAQ and noted the request for a meeting room for half a day during the GRPE week in January 2016.

## ● **Second stage of VIAQ IWG Mandate**

### ➤ **Discussion on the second stage**

- ✓ The experts of the Russian Federation mentioned the importance of the outside air pollutants, and proposed addressing the effect of exhaust gases from the vehicle, as well as interior materials.
- ✓ The expert of OICA showed interest in interior air quality due to outside air pollution. However, manufacturers does not take responsible for interior air pollutants from the outside air.
- ✓ The Russian Federation will prepare the terms of reference document at the next meeting, and then, the group will discuss on the inclusion in the scope of interior air pollutants from the outside air.
- ✓ Terms of Reference document (VIAQ-08-06)

## ● Exchange Information

- **Current Status of China VIAQ Regulations (China VIAQ-07-09)**
  - ✓ The experts of the China introduced the current status of China VIAQ regulation which will be changed from voluntary standards to mandatory standards
  - ✓ This Standard specifies the emission limits of eight kinds of volatile substances in vehicles of Category M1, as well as classification methods for emission concentrations of volatile organic compounds in vehicles.
- **Introduction of the research concerning exhaust gas from the vehicle entering cabin (Korea, VIAQ-07-08)**
  - ✓ The expert of Korea introduced the issue “Exhaust gas entering into vehicle cabin”. When cars pick up speed with the air conditioning system on internal circulation mode, exhaust gases could enter the passenger compartment due to pressure difference in cabin and vortex flow in back part of the car.

## ● 74th GRPE Session Report

### ➤ ECE/TRANS/WP.29/GRPE/74, para 49

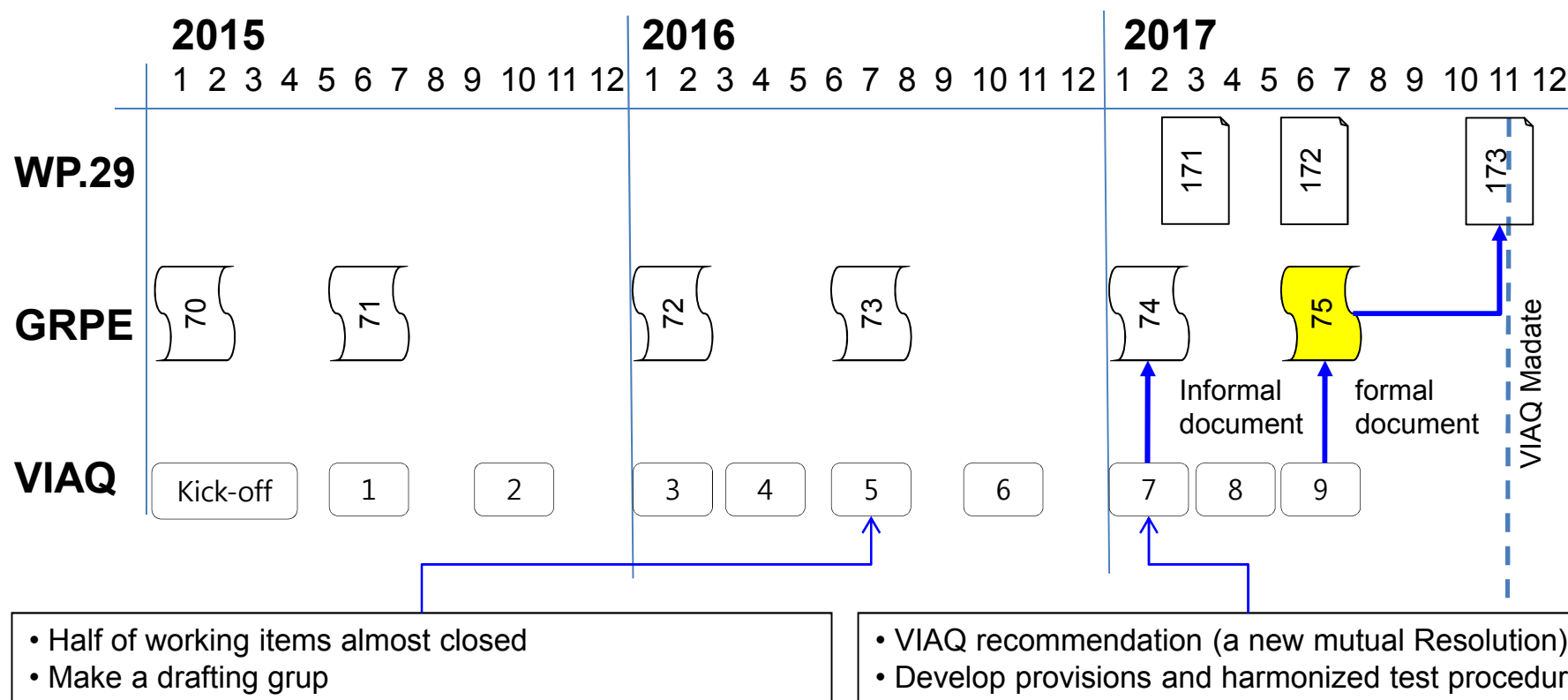
#### **XIV. Vehicles Interior Air Quality (VIAQ) (agenda item 13)**

*Documentation:* Informal documents GRPE-74-18 and GRPE-74-19

49. The Chair of the IWG on Vehicles Interior Air Quality (VIAQ) presented a status report on the ongoing activities of the group (GRPE-74-18). He introduced a first draft of a new Mutual Resolution on recommendations to harmonize test procedures of interior air emissions generated from interior materials (GRPE-74-19). He expressed the intention to submit the proposal as an official document for consideration at the next GRPE session in June 2017. He explained the ongoing discussions on the possibility to request a second mandate to include the outside air pollutants as a source of emissions to the interior of vehicles in the scope of the work of the IWG on VIAQ.

50. GRPE acknowledged the progress made by the IWG on VIAQ.

## ● Roadmap



- **January 2017** : Submit the VIAQ document as an informal document
- **June 2017** : Submit the amendment of VIAQ document, if necessary

- **Next VIAQ IWG Meeting**

- **9<sup>th</sup> VIAQ IWG Meeting**

- Geneva, Switzerland, June, during 75<sup>th</sup> GRPE session (TBD)

- **10<sup>th</sup> VIAQ IWG Meeting**

- October or November 2017 (TBD)