

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

30th – 31st March 2016

Report to the 72nd GRPE session

● VIAQ Background, ToR and Mandate

- **WP.29 Mandate**(ECE/TRANS/WP.29/1112)
 - 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 to harmonize test procedures of interior air emissions emitted/generated from interior materials

- **VIAQ IWG Meetings since last GRPE**

- **2nd VIAQ IWG Meeting**

- Paris, France, 03-04 November 2015

- **3rd VIAQ IWG Meeting**

- Geneva, Switzerland, 13th January 2016

● **Topics/Issues**

➤ **VIAQ Organization**

- Chair: Jongsoon Lim, Korea
- **Co-Chair : Yunshan GE, China**

(Elected by the group at the 2nd meeting)

- Secretary: Andreas Wehrmeier, OICA

● Work Items – closed issues

➤ Test Measurement Modes

✓ Background

Which test mode is the most suitable for the interior air emission.

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(Idle)

✓ Discussion

- Korea prefers only using Ambient mode.
- EC, China and OICA prefer using the three modes (Ambient, Parking, Driving) test procedure based on ISO 12219-1.

✓ Group's Conclusion

- Adopting the Ambient, Parking and Driving mode based on the ISO-standards with discussions continuing on the detailed parameters. Each contracting party will have a choice of which test mode(s) to adopt depending on their situation.

● Work Items – closed issues

➤ Substances to be measured

✓ Background

Many relevant substances(e.g. VOCs) with regard to Interior air quality

Target measurement substances are required before setting the test parameters.

✓ Group's Conclusion

According to the existing standards, - Substances to be measured:

Formaldehyde, Acetaldehyde, Benzene, Toluene, Xylene, Ethylbenzene, Styrene, and Acrolein. These are the most relevant substances. An odor test will not be a part of the method.

● Work Items – open issues

➤ Test Procedure Parameters

- **Vehicle categories:**

Passenger car, Category M1 or “Category 1-1 vehicle”, Category N1.

- **Definition of new vehicle** : less than 50 km, 70 km, 80km

- **Age of vehicle at measurement:**

28d \pm 5 days after production date, Definition of production date

- **Sampling conditions:** protection covers should stay in the vehicle and be taken off one day before the measurement.

- **Vehicle transportation conditions** : to be determined

- **Vehicle storage conditions** : to be determined

● Work Items – open issues

➤ Test Procedure Parameters

- **Preconditioning time** (doors open): 30 min
- **Soak time:** Stabilization is reached after approx 10 h. To facilitate the test procedure, it is recommended to have a $14\text{h} \pm 2\text{h}$ soak time or 16 h.
- **Temperature for ambient mode:** 25°C or 23°C .
- **Humidity for ambient mode:** $50\% \pm 10\%$ (relative humidity)
- **Measurement point for temperature and humidity:** one at driver seat (nose position) and one outside vehicle (1m from vehicle)
- **Sampling point:** Driver seat (nose position)
- **Analytics:** Aldehydes according to ISO 16000-3 and VOCs according to ISO 16000-6

- **Work Items – Need to check for work scope**

- **Vehicle family concept(worst case within the model family)**
- **Conformity of Production**

Terms of Reference on VIAQ

ECE-TRANS-WP29-GRPE-70e Annex VI

- 5. Scope and work items
 - 5.1 Information collection
 - (a) Collect current research on vehicle interior air quality
 - (b) Review and assess existing test procedures of each regulation
 - (c) Define the category of vehicles to which vehicle interior air quality recommendations will apply
 - 5.2 Development of relevant provisions and harmonized test procedure for VIAQ
 - (a) Determine the test conditions, test apparatus and materials, whole vehicle test chamber, test vehicle conditions, measurement procedures, etc.
 - (b) Set the sampling point, sampling devices, sampling procedures, analysis of samples, data processing, etc.
 - (c) Develop a draft recommendation for a test procedure, for inclusion in RE3 and/or SR1 or a new Mutual Resolution

● 72nd GRPE Session Report (ECE/TRANS/WP.29/GRPE/72)

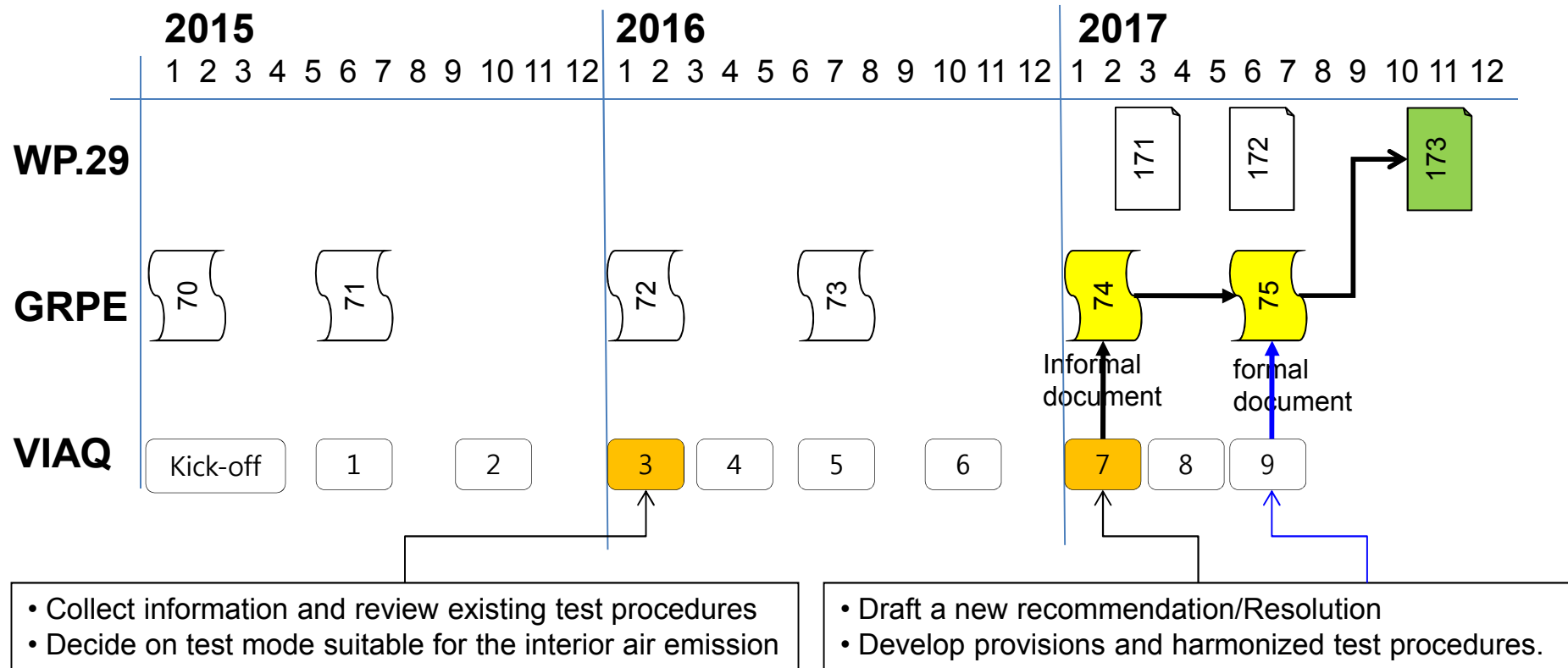
XIV. Vehicles Interior Air Quality (VIAQ) (agenda item 13)

Documentation: Informal document GRPE-72-21

69. The Chair of the IWG on VIAQ reported on the ongoing activities on collection of information and review of existing standards to develop recommendations to harmonize test procedures of interior air emissions generated from interior materials (GRPE-72-21). He explained some issues on which the group could reach an agreement such as test measurement modes to be considered (ambient, parking and driving modes) and substances to be measured (e.g. specific Volatile Organic Compounds). He listed some open issues on test procedure parameters which were still under discussion.

70. 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 June 2016.

● Roadmap



- **January 2017** : Present a final draft report as an informal document to GRPE
- **November 2017** : Possible adoption of Recommendation(R.E.3, SR1 or mutual resolution)

● **Next VIAQ IWG Meeting**

➤ **5th VIAQ IWG Meeting**

- Geneva, Switzerland, 8th June(Wednesday), during 73rd GRPE
- Half a day requested

➤ **6th VIAQ IWG Meeting**

- October 2016(TBD)

● Next VIAQ meeting 73rd GRPE Session

C. Informal meetings scheduled to be held in conjunction with the next GRPE session

77. The informal meetings were scheduled to be held as follows, subject to confirmation:

<i>Date</i>	<i>Group</i>	<i>Acronym</i>	<i>Time</i>
Monday, 6 June 2016	Environmental and Propulsion Performance	EPPR	9.30 a.m. – 12.30 p.m.
	Requirements of L-category vehicles		2.30 p.m. – 5.30 p.m.
Tuesday, 7 June 2016	Worldwide harmonized Light vehicles Test	WLTP	9.30 a.m. – 12.30 p.m.
	Procedure		2.30 p.m. – 5.30 p.m.
Wednesday, 8 June 2016	Vehicle Interior Air Quality	VIAQ	9.30 a.m. – 12.30 p.m.
	Particulate Measurement Programme	PMP	9.30 a.m. – 12.30 p.m.
	Gaseous Fuelled Vehicles	GFV	2.30 p.m. – 5.30 p.m.
	Electric Vehicles and the Environment	EVE	2.30 p.m. – 5.30 p.m.

78. The agendas of these meetings will be prepared by the respective secretaries and distributed to the members of each group prior to each meeting.