

**Report of the 7th Session of the
Electric Vehicles and the Environment Informal Working Group (EVE IWG)**

Location: Beijing, China
Time / Date: 9:30 – 17:30 / Oct. 17th and 9:00 – 17:30 / Oct. 18th
Co-Chairs: Ms. Chunmei Chen (China) and Mr. Kazuyuki Narusawa (Japan)
Secretary: Stéphane Couroux

1. Welcome, Introductions, Agenda (item 1)

Ms. Chen Chunmei, Co-Chair of the informal working group and host of the 7th EVE meeting, welcomed participants and introduced Mr. Qian Minghua, Director of Automobile Division, Ministry of Industry and Information Technology of the People's Republic of China to provide opening remarks. Mr. Qian Minghua opening remarks, provided in Mandarin and translated in English by Ms. Chen Chunmei, highlighted the increased interest throughout the world for the development of electric vehicles. Mr. Qian Minghua further added that this interest was shared by China, which is in the process of developing and implementing several policies to encourage the deployment of electric vehicles. China believes the system of standards play an important role in the development of industry. China also began to establish conversion mechanisms with other countries and manufacturers, and trust the EVE working group will strengthen communications in the electric vehicle sector. The opening remarks were followed by a round table introduction and logistics for the two day meeting.

There were over 50 participants representing Contracting Parties, vehicle manufacturers and industry organizations from around the world. One industry representative participated to parts of the meeting by conference call.

The Agenda for the meeting (EVE-07-02-Rev.5e) was reviewed. No changes were made.

2. Review of EVE IWG #6 Session Report (item 2)

The Secretary reviewed document EVE-06-10e covering Agenda item 2 with a focus on action items. The Secretary indicated that a number of action items were on-going from EVE-05, including continued invitation to present on standardization (new EVE-07 Action 1), coordination of input to VPSD IWG definition document (new EVE-07 Action 2) and sharing of EV data by Canada (new EVE-07 Action 3). The Secretary also provided an update on action items from EVE-06 as follow:

- EVE-6 Action 1, on-going: The Secretary provided a brief update on the contracting process to secure a consultant for Reference Guide drafting during this agenda item. It is expected that Mr. Michael Olechiw will provide further details during EVE-08 meeting (new EVE-07 Action 4).
- EVE-6 Actions 2 and 3, completed: Ms. Chunmei Chen, in collaboration with the Secretary, shared all necessary information for the successful proceeding of EVE-07 in Beijing, China.

- EVE-6 Action 4, completed: Ms. Chunmei Chen presented an update on EVE IWG activities at the 160th WP.29 session. The Secretary confirmed that the EVE Terms of Reference were approved during the 160th WP.29 session.
- EVE-6 Action 5, on-going: The Secretary requested additional information from Mr. Wiaux concerning cold temperature data for inclusion in Reference Guide analysis, but has yet received any data. The Secretary will follow up with Mr. Wiaux and share information once it is available (New EVE-07 Action 5).
- EVE-6 Action 6, completed: The Secretary specifically sought input from the WLTP IWG to identify which issues will be addressed by the WLTP gtr in phase 2 through circulation for comments of documents EVE-06-04e (EVE IWG Prioritization Discussion Points) EVE-07-03e (EV Reference Guide, Draft 1). There were no input from WLTP IWG, but further discussions are expected during Agenda Items 5, 7, 8 and 9.
- EVE-7 Action 7, completed: No additional EV data and/or literature to support the development of the Reference Guide conclusions and recommendations was submitted. Further discussions are expected during Agenda Items 5, 7, 8 and 9.
- EVE-7 Action 8, completed: The Secretary integrated performance-related charging issues into priority issues 1 and 2 for drafting of the reference guide.
- EVE-7 Action 9, completed: The Secretary revised and posted the revised version of the road map EVE-06-03-Rev1e.
- EVE-7 Action 10, completed: The Secretary revised and posted the revised version of EVE-07 agenda EVE-07-02-Rev.1e

ACTION 1: The Secretary continues to invite participants to present on standardization at the EVE IWG meetings.

ACTION 2: The Secretary continues to coordinate input to the VPSD document from EVE IWG membership. More specifically, the Secretary will request an update on status of next draft of VPSD and the Chair will share the next version of the EV reference guide to seek further input from VPSD.

ACTION 3: The Secretary informed EVE of upcoming EV2013 meeting in Ottawa and for which data will be made available as soon as possible.

ACTION 4: Mr. Michael Olechiw will provide updates on the contracting process for Reference Guide drafting.

ACTION 5: The Secretary will continue to follow-up with Mr. Wiaux concerning cold temperature data and will report back to EVE membership once it is available.

The Secretary provided an update on the approval of the terms of reference by AC.3. The Secretary reminded participants that at the 158th session of the WP.29, held in November 2012, the AC.3/WP.29 requested that the Terms of Reference and a Progress Report for the EVE be presented at the 159th session, to be held in March 2013. The EVE Secretariat has submitted and obtained approval of documents GRPE-65-03 and GRPE-65-04 by GRPE in January 2013. The Terms of Reference were subsequently added to the GRPE 65th session report for presentation at AC.3 (ECE/TRANS/WP.29/GRPE/65). The GRPE report was, however, not submitted in time for presentation to AC.3 at the 159th session in March and was instead submitted for adoption at the 160th session in June 2013. The Secretary confirmed the 65th GRPE report was approved by WP.29 in June 2013, and as a result the terms of reference were also approved (ECE/TRANS/WP.29/1104).

3. Update on other GRPE IWGs (item 3)

Mr. Kazuyuki Narusawa, presented document EVE-07-16e summarizing past and future planned activities of the WLTP. Mr. Kazuyuki Narusawa further explained two remaining points for discussion regarding electric vehicles in phase 1b of the WLTP; namely utility factors and phase dependence. The presentation was followed by substantial discussions on the effect or considerations for a number of attributes that may affect EVs performance differently than ICEs. Mr. Kazuyuki Narusawa confirmed phase 1 of GTR was on track for consideration at special GRPE in November 2013, and subsequent vote for approval at WP.29 in March 2014. Mr. William Coleman echoed the comments and further added that the electric vehicle portion needed more work in phase 1b or 2.

The Co-Chair of the EVS IWG, Ms. Chunmei Chen, summarized the activities and next steps of the working group, focusing on the successes of the recent meeting on October 15 and 16, 2013 in Beijing. The group is continuing to work towards the development of a gtr that would ensure the same safety to EVs and ICEs. Drafting of the GTR is almost complete and the group expect to resolve a list of 22 action items to complete GTR by the next meeting. The next and 5th meeting is planned for Washington before March 2014. The 6th meeting would be in either Korea or Japan. It is expected that the GTR will be developed in a 2-phase approach using only available information to meet current timelines and 2) develop a complete gtr with a longer timeline. Mr. Johan Renders confirmed intent to complete gtr by end of 2014 and congratulated Ms. Chunmei Chen for progress made during meeting.

Mr. William Coleman, on behalf of the Chair of the VPSD, presented an update on the activities of the group. Mr. William Coleman reported that the group had a meeting in February 2013 and conference call in April 2013, but no other formal activity since that time. Mr. Coleman further added that Mr. Christoph Albus was reviewing the terminology in the EVE reference guide for consistency with VPSD and that definitions discussed by VPSD were also considered in drafting of the WLTP gtr. Mr. William Coleman did not know when a new draft document would be circulated, but encouraged EVE leadership to reach out directly to VPSD to continue collaboration as confirmed by Secretary in **Action 2** above.

Mr. Stéphane Couroux, on behalf of the HDH IWG Chair, presented document EVE-07-12e summarizing the activities of the group. Mr. Couroux reported that the HDH continues to work on a draft procedure with the objective of presenting proposal as a new annex to GTR no 4 for the next GRPE meeting in January 2014, with the aim of eventual adoption at WP.29 in November 2014. The participants were also informed of the outcome of the last meeting in Geneva on June 4, 2013. The next meetings of HDH IWG are planned for October 24-25, 2013 in San Francisco (15th meeting) and January 2014 in Geneva (16th meeting). Mr. Couroux confirmed there was no immediate need for support from EVE IWG, but that two groups would continue to closely collaborate.

Mr. Stéphane Couroux, on behalf of the Chair EPPR IWG, presented document EVE-07-13e summarizing the activities of the group. Mr. Couroux reminded participants that the group has a mandate to work both under the 98th agreement and under the 58th agreement, and provided highlights of the 3rd EPPR meeting in Geneva on June 2013 as well as the 4th meeting recently held in Pune, India on October 8-9, 2013. The next meetings of the EPPR group will be held on January 8, 2014 in conjunction with GRPE and the 9th meeting is planned to be held in Tokyo, Japan in February/March (TBD). Mr. Couroux confirmed that exchange of views with the EVE

group would be important as hybrid and Electric vehicles are within the scope of the EPPR group (i.e. a test procedure for CO₂-emissions and energy consumption is foreseen).

4. Information Sharing Presentations (item 4 and 7)

The 7th EVE IWG meeting once more provided an excellent opportunity for participants to share information on electric vehicles. The information sharing sessions were divided in two blocks, the first session was from 11:00-12:00 on October 17, 2013 and the second session was from 9:00-9:30 on October 18, 2013. The sessions included presentations from China and Korea on the following topics:

- Research of Battery Durability Performance (EVE-07-08e)
- New EV policies in China and EV testing results (EVE-07-11e)
- EV Infrastructure and Standardization in China (EVE-07-14e)
- Introduction to System Power Concept and its Application (EVE-07-06e)
- Korea Green Car Fuel Economy Schemes: Status and Prospect (EVE-07-07e)
- Wireless Power Charging is Ready for Cars Now (EVE-07-09e)

All presentations were very well received and generated much discussion among participants. The Secretary thanked presenters and encourage all participants to continue sharing available information to inform the development of the reference guide and potential future activities of the EVE IWG.

5. Reference Guide Development (item 5, 8, and 9)

a. Review first draft of reference guide

The Secretary presented document EVE-07-04e summarizing the objectives of the EV Reference Guide and major milestones or decision points. The presentation was followed by a line-by-line review of the first draft of the EV Reference Guide (EVE-07-03e), at which time the Secretary also informed participants of comments that were submitted in advanced of the meeting. The presentation and line-by-line review generated substantial discussions for the development of a subsequent version of the guide. The following summarizes the major comments or changes for each section.

Section 1 – Introduction:

Many indicated that Section 1 did not accurately reflect the objectives of the terms of reference and also requested to specify the targeted audience in the document. Clarification of the mandate of the EVS (electric vehicle safety) and EVE working groups was also requested to be added into the document. Mr. Johan Renders of the European Commission also requested to further clarify that the Reference Guide would be a static reference, and specifically asked to replace “as it is today” in Section 1.2.1.

Section 2 - Reference Guide Design & Methodology:

There were no substantial comments on Section 2. Several participants (Korea, Canada) will send updated logos for inclusion in Figure 4.

Section 3 – Summary of Findings:

A number of Contracting Parties including the European Commission, China and Korea and Canada informed the Secretary of information that would be made available or that was omitted in Section 3 of the reference guide. The GRPE Chair requested that the maps in section 3 show the complete world map. Many also pointed to issues using the terminology of vehicle efficiency and suggested it is replaced by energy consumption. The European Commission representative also suggested to remove all references to WLTP as the mandate as yet been established for subsequent phases of the IWG. Some industry representative also offered to provide clarifications regarding industry and international standards. There was some discussion on the use of the term “RESS (Rechargeable Energy Storage System) versus battery system; it was decided that battery system would be the standard term used in the document. Similarly, there was discussion on how the terms “electric” versus “electrified” vehicle should be carefully used. Finally, the Secretary informed participants of a comment of general nature from the GRPE Chair to ensure items outside scope of WP.29 are properly identified throughout the document. The comment confirmed it was not an easy task and stressed the importance of close collaboration between EVE and other GRPE IWGs. The Chair of GRPE further highlighted the importance of EVE to the VPSD work as well.

Section 4 – Conclusions:

Many recommended to reconsider the scoring approach for the figures. Most felt it was not appropriate to score regulations differently from voluntary agreements or others. The previous comments regarding deleting WLTP references were also made for this section. The representative from the European Commission also offered to provide alternate wording.

Section 5 – Next Steps:

There were substantial discussions on this section. A number of industry representatives requested to delete figure 32 and accompanying text. It was also agreed to combine heating and cooling elements of electric vehicles in one recommendation. It was also agreed to move vehicle labelling to the appendix and to replace by a new item for energy conversion formula. There were also a number of changes requested for the recommendations on battery, including removing considerations for battery reuse and limiting scope of recycling to recyclability.

Section 6 – Annex:

There were no substantial comments or changes to this section.

b. Discuss the next steps in the roadmap: Draft revision and Submission to GRPE

The Secretary presented roadmap document EVE-06-03-Rev1e, reminding participants of the timelines for completion of the Reference Guide. As a result of the above discussions, and considering the comments submitted by the GRPE Chair, it was agreed to develop a timeline of next steps to ensure the successful delivery of an informal document for discussion at the GRPE session in January 2014 as per the roadmap. These timelines are

presented in document EVE-07-15e and summarized in the below action items. In addition, it was also agreed to contact the GRPE Chair directly to seek guidance on obtaining final input from WLTP IWG on EV Reference Guide.

ACTION 6: Secretariat will update Section 5 to reflect comments and circulate to EVE membership for review by October 31st

ACTION 7: In parallel TO Action 6, contracting parties will provide further input to Section 3 to Secretariat by October 31st

ACTION 8: Contracting parties will review and submit comments to Section 5 to Secretariat one week after it is distributed as per item 1) above (~November 7)

ACTION 9: Secretariat will develop new draft of report and circulate to EVE membership one week after receiving comments on section 5 (~November 14).

ACTION 10: The eve Chair will seek guidance from GRPE Chair on obtaining input from WLTP IWG on EV Reference Guide and particularly on recommendation included in Section

c. Discuss Potential Extension of EVE Mandate

The Secretary presented slide 32 in document EVE-07-04e, which proposed a process for discussion the future mandate of the EVE group: 1) Informally discuss option to extend mandate at GRPE in January 2014, 2) If agreed by EVE at GRPE, EVE mandate extension proposal could be submitted concurrent with reference guide at GRPE session of June 2014, and 3) The GRPE Chair would then report to WP.29 about the GRPE agreement to extend the mandate concurrent with submission of report in November 2014.

6. Discuss draft EVE-08 meeting agenda (item 10)

The Secretary presented the draft EVE-08 meeting agenda (EVE-07-05e). As the meeting will be held ahead of the GRPE session on the afternoon of January 7th, 2014 and time is limited, it was decided that the roundtable on progress from other GRPE working groups would be limited to those directly related to the EVE IWG (WLTP, HDH and VPSD). Also, information sharing presentation would not be given during this meeting to allow for more discussion on the EV Reference Guide. The revised EVE-08 meeting agenda is document EVE-07-05-Rev1e.

ACTION 11: The Secretary will distribute an invitation and the revised agenda ahead of the EVE-08 meeting.

7. Discuss location and timing of EVE-09 meeting (item 11)

A meeting in February 2014 is proposed to review a final draft of the EVE Guide before submission as a formal document to GRPE. The US EPA proposed that the meeting be held in Ann Arbor, Michigan, USA; however, China expressed some concern over the feasibility of the location due to the close proximity in timing with the EVE-08 meeting in Geneva in January 2014. The final date and location of the EVE-09 meeting will be finalized as soon as possible by the EVE leadership committee and communicated to the EVE group.

ACTION 12: Once finalized, the Secretary will distribute an invitation noting the location and timing of the EVE-09 meeting to the EVE group. The agenda for the meeting will be circulated by the Secretary after being finalized at the EVE-08 meeting.

8. Conclusion remarks, Closing (item 12)

The co-Chairs, Ms. Chunmei Chen and Mr. Kazuyuki Narusawa, thanked EVE members for their participation. The Secretary, Mr. Stéphane Couroux, gave the closing remarks.