

**Report of the 13th Session of the
Electric Vehicles and the Environment Informal Working Group (EVE IWG)**

Location: Geneva, Switzerland
Time / Date: January 12th, 2015
Chair: Mr. Michael Olechiw (USA)
Co-Chairs: Mr. Kazuyuki Narusawa (Japan)
Ms. Chen Chunmei (China, participated by phone)
Secretary: Ms. Erin Marchington (Canada, acting Secretary)

1. Welcome, Introductions, Logistics and Agenda (item 1)

Mr. Michael Olechiw, Chair of the informal working group, welcomed participants to the meeting. The meeting was well attended, with over 40 participants from contracting parties, other WP.29 working groups, and industry organizations. In addition to Mr. Olechiw, Ms. Marchington (acting Secretary), Mr. Narusawa (Co-Chair), and Ms. Chunmei (Co-Chair, participated by phone) were present at the meeting.

Mr. Olechiw outlined the objective for the 13th EVE meeting, which was to continue work on Part A of the new EVE mandate. Building on the concepts for future work on topic areas outlined during the 12th EVE IWG meeting, lead parties/organizations were to present detailed strategies for work in each area (proposal for work, timeline, and a request for participation).

The agenda for the meeting (EVE-13-02e) was reviewed and accepted by all participants.

2. Review EVE IWG #12 Meeting Report, 164th WP.29 meeting decisions and proposals to file the EV Guide (item 2)

Speaking to agenda item 2, Ms. Marchington reviewed two decisions from the 164th WP.29 meeting relevant to the EVE group: 1) the new EVE mandate, ECE/TRANS/WP.29/2014/88 as amended by WP.29-164-15, was approved, and 2) the final version of the EVE reference Guide, ECE/TRANS/WP.29/2014/81, was also approved.

Concerning the Guide, the WP.29 Secretariat requested the EVE group to consider how the Guide should be filed on the UNECE website and presented two proposals: 1) The Guide could receive a new document number and be placed in the folder "Final documents"; or, 2) The Guide could be kept with the current symbol and be placed under "Reference material", as well as on the homepage of WP.29 website. No preference for either proposal was expressed by the EVE group. The EVE leadership expressed a preference for option 2 and committed to following up with the WP.29 Secretariat.

ACTION 1: The EVE Secretary will inform the WP.29 Secretariat that the second proposal for filing the Guide on the UNECE website is preferable.

Ms. Marchington also reviewed the action items from the EVE-12 meeting (EVE-12-13e). Most of the 7 action items were related to the WP.29 approval of the new EVE mandate, so they were completed, or the EVE-13 meeting (see ongoing EVE-12 Action 3 below). Regarding EVE-12

Action 6 (The EVE Secretariat will edit document EVE-11-03e-Rev1 ('path forward' document) to incorporate the changes to the new EVE mandate outlined in EVE-12-12e and add this issue to the next EVE meeting agenda), the EVE group was informed this action item would not be addressed during the EVE-13 meeting. Upon approval of the new EVE mandate by WP.29, there does not seem to be a need for the path forward document any longer; it was useful for discussion of the new mandate, but it is now redundant. Instead, a roadmap for Part A of the new EVE mandate was developed and placed on the EVE-13 agenda for discussion (agenda item 6).

ACTION 2 (EVE-12 Action 3, ongoing): Concerning future work under Topic 2, the EVE group will consider the development of a technical report that could be added into the SR1 and/or RE3 documents and discuss further at the next EVE meeting.

3. Update on other GRPE and WP.29 IWGs (item 3)

Mr. Olechiw led a roundtable discussion of work related to EVs occurring in four other WP.29 and GRPE IWGs: an update was given by Mr. Tetsuya Niikuni on the Worldwide harmonized Light vehicles Test Procedure (WLTP) IWG using document WLTP-09-05e, by Mr. Petter Asman on the Environmental Propulsion and Performance Requirements (EPPR) IWG, by Mr. Kazuyuki Narusawa on the Electric Vehicle Safety (EVS) IWG using document EVS-06-31, by Mr. Hans Holdik on the Vehicle Propulsion System Definitions (VPSD) IWG, and Mr. Olechiw gave a brief update on the status of United States testing related to the work by the Heavy Duty Hybrid (HDH) IWG. Discussion focused on current EV-related issues the groups were facing and whether or not coordination with the EVE IWG was desired or necessary.

4. Review of EVE-12-06e document, 'Work of WLTP on EVs' (item 4)

Mr. Olechiw introduced the topic using document EVE-12-06e and by reminding the group of the EVE-12 Action 2 (The EVE Secretariat will add document EVE-12-06e to the agenda of the next EVE meeting). The European Commission submitted the EVE-12-06e document for discussion during both the EVE-12 meeting and 164th WP.29 session; however, there was not sufficient time and/or representatives to discuss the document thoroughly. The EVE leadership requested the European Commission speak to the document during the EVE-13 meeting so that a better understanding could be obtained of the document and the proposed WLTP and EVE collaboration.

Mr. Klaus Steininger from the Commission spoke to document EVE-12-06e. The first part of the document details what the Commission envisions the WLTP IWG will complete in Phase 1b, 2, and 3 related to EVs. The second part of the document outlines potential areas of work that could be completed by the EVE IWG. However, this work could contribute to the WLTP GTR development; for example, the EVE IWG mandate Part A topics of EV power determination and EV battery durability are areas of work that the EVE IWG is leading, but could be areas of work where the EVE and WLTP IWGs could collaborate. The Commission indicated their position on EV work under the WP.29 forum is that any work that is directly related to the test cycle or complete vehicle should be performed by the WLTP IWG.

Mr. Olechiw led discussion of the document, and clarified that there is ongoing collaboration between the EVE and WLTP IWGs in terms of meeting attendance and informal updates given on each group during meetings. Also, during the EVE-12 meeting, it was decided that the WLTP test cycle should be the basis for any type of vehicle testing completed by the EVE group. Mr. Steininger indicated that for now, no further collaboration is needed, but that especially concerning the EV power determination and EV battery durability topics, discussion with WLTP IWG should continue.

ACTION 3: The EVE group will continue discussion with the WLTP IWG and European Commission about potential areas for collaboration in EV work.

5. Kick-off on new mandate topic areas (item 5)

Method of stating energy consumption (EVE-13-03e)

Mr. Cui Wangjun (China) presented EVE-13-03, which outlines a 3-step workplan and timing for this topic: 1) Literatures review: Study on the EV energy consumption evaluation method executed by main countries; 2) Data collection: Build database and conduct comparative analysis on the energy structure for main countries in the world; 3) Method Development: Discusses the necessity and possibility to standardize the energy consumption method. Discussion focused on aspects of the proposed life cycle assessment and whether or not this would include manufacturing of the vehicle; it was explained that manufacturing would not be included, but fuel would be. China also clarified that CO₂ equivalents (not just CO₂ emissions) would be considered in the analysis. Also, currently China will lead the work, but additional participation of other parties will be encouraged in the future. China requested any interested countries to engage in this work by contributing data to build the database.

ACTION 4: All interested parties are encouraged to contribute data to build the database proposed by China by reaching out directly to Ms. Chen Chunmei (chencm@miit.gov.cn).

Battery performance and Durability (EVE-13-04e)

Mr. Olechiw (USA) presented EVE-13-04e, which outlines the proposed work for this topic: the development of a literature review on EV battery durability. Specifically, the review will focus on the existing definitions of EV battery durability, factors affecting EV battery durability, and existing test programs or methodologies for evaluating EV battery durability. The literature review will be used by the EVE group to inform the decision of Global Technical Regulation (GTR) development in Part B of the EV working group's mandate. All interested parties were invited to participate and/or contribute to the literature review; Mr. Olechiw indicated sources of funding were being investigated by USA and Canada, but that funding would happily be accepted from other sources. Discussion focused on appropriate definitions of battery durability, vehicle-level performance, and GTR development.

ACTION 5: All interested parties wishing to participate and/or contribute to the literature review proposed by USA and Canada by reaching out directly to Mr. Olechiw (olechiw.michael@epa.gov) and Ms. Marchington (Erin.Marchington@ec.gc.ca).

Determining power of EVs (EVE-13-05e)

Mr. Hans Holdik (Germany) presented EVE-13-05e, which outlines the proposed work for this topic: the development of a new regulation or recommendation on determination of powertrain performance of hybrid EVs. Mr. Holdik informed the EVE group that there was a clear demand from the WLTP IWG for this work and that the initial focus would be on light duty vehicles (M1, N1). The presentation detailed a number of open questions that would be discussed and clarified in Part A and presented a draft roadmap for the work. Discussion focused on previous work of the HDH IWG, whether or not fuel cell vehicles were being considered (no), and whether or not the work would consider EVs as well as conventional vehicles (unclear). The EVE Secretary noted to the group that the timeline on Slide 6 would need to be adjusted to reflect the timeline presented in the Roadmap for Part A (EVE-13-06e).

ACTION 6: All interested parties wishing to participate in this work by Germany and Korea should reach out directly to Mr. Holdik (Hans.Holdik@bmvi.bund.de) and Mr. Dongseok Choi (dsechoi@naver.com).

ACTION 7: Germany and Korea will adjust the timeline on Slide 6 to reflect the timeline presented in the Roadmap for Part A (EVE-13-06e).

Battery recyclability

Mr. Olechiw reviewed the discussion of EV battery recycling and recyclability from the EVE-12 meeting, during which Mr. Klaus Putzhammer presented on “Regulation on Recycling and Recyclability”, with a focus on European legislation (EVE-12-09e). During this discussion there was an emphasis on the capability of current battery recycling practices, which some in the group believed meant that investigating battery recyclability was not required. Mr. Olechiw suggested that there could be some benefit from sharing the European Commission’s successful legislative battery recyclability practices with those worldwide. Although there is currently no lead for this topic, Mr. Olechiw recommended it stay on the agenda in case contracting parties and/or stakeholders wished to present information in the future.

ACTION 8: Any interested parties and/or stakeholders wishing to speak to the issue of battery recyclability at future EVE meetings should inform the EVE Secretary ahead of the meeting so they can be added to the agenda.

6. Discuss next EVE meeting and schedule of meetings for the year (item 6)

Mr. Olechiw introduced document EVE-13-06e, which details a roadmap for Part A of the new EVE mandate. He explained to the group that the roadmap was drafted using information from the new EVE mandate document (ECE/TRANS/WP.29/2014/88 as amended by WP.29-164-15) and that it will be adjusted to include the workplans presented during agenda item 5. The future EVE meetings planned for Part A of the roadmap were also discussed. The EVE-14 meeting was proposed to be either a face-to-face meeting in Ottawa or a video-conference meeting; there was no preference expressed by the group, so the EVE leadership will continue to discuss these options. The EVE group was requested to avoid the first two weeks of April for the EVE-14 meeting, due to the Easter holiday and a WLTP IWG meeting. Also, the fall EVE-16 meeting could also be a face-to-face meeting and is tentatively scheduled to be hosted by China; confirmation of this meeting location and date will be completed at the next EVE meeting. Concerning the informal GRPE discussion on the workplan and requests for GTR development, the GRPE Secretariat confirmed that informal approval by GRPE (scheduled for June 2016) was sufficient.

ACTION 9: The EVE leadership will determine the location (Ottawa or video-conference) and date of the EVE-14 meeting and communicate this to the EVE group by early February 2015.

ACTION 9: The EVE group will continue to discuss the location and timing of the EVE-16 meeting and confirm the details during the EVE-14 meeting.

ACTION 10: The EVE Secretary will adjust the roadmap (EVE-13-06e) to include the workplans presented during agenda item 5.

ACTION 11: The EVE Secretary will revise and post the draft agenda and related documents for the EVE-14 meeting on the UNECE EVE website.

7. Discuss report to GRPE (item 7)

Mr. Olechiw briefly discussed the proposed contents for the EVE report to the GRPE forum later in the week (GRPE-70-23e), with general agreement from the EVE group.

8. Concluding remarks, Closing (item 8)

Mr. Olechiw closed the meeting by thanking participants for attending.