

Report to the WP.29 on the work of the Informal Group on Electrical Vehicle Safety in the context of the 1998 Agreement

This report provides an update on the progress of the informal group on Electrical Vehicles Safety (EVS) and requests the extension of the mandate. Most recent developments pertain to the conclusions of the 9th informal working group meeting that took place in Changchun of China in September 2015.

CURRENT STATUS

- Work of the EVS group is progressing according to the mandate adopted in the 156th WP29 session (ECE/TRANS/WP.29/2012/36 and its Corr1).
- The GTR is expected to address unique safety risks posed by electrical vehicles and their components. Informal group may also consider other topics, insofar as these topics prove to be relevant for the technical requirements to be developed.
- The GTR will be performance-based to the extent possible so as not to restrict future technology development. It will provide the rationale for regulation and set provisions and test protocols to ensure the vehicle system and/or electrical components perform safely and that the vehicle occupants are appropriately protected. The provisions will address the safety of electric vehicles, both in-use and post-crash.
- To resolve particular technical issues in an efficient manner, nine Task force groups have been set up. On the whole they demonstrated the progress necessary to establish the GTR within the given mandate.
- For example, the leakage requirements discussion on aqueous electrolyte battery has been finalized and electrical safety requirements for the 48V system were proposed and the regulatory text incorporated in the draft GTR.
- The discussion on the state of charge of battery is nearing completion and the GTR draft text was already submitted to the informal group. The text regarding water resistance requirements was equally submitted to the informal group, with a couple of square bracket items yet to be resolved.
- While the IWG has been making good progress, more discussion is required on some critical issues, including those that have been more recently proposed, or where the research is still ongoing. These include the Battery Management System functionality, the water immersion test, the long-term fire resistance test, drop and rotation tests, the toxicity and corrosiveness of vented gas, thermal propagation in battery system, vehicle safety

requirement during charging and scope expansion to the heavy duty vehicles.

- Under such circumstances, the informal group discussed the most appropriate way to establish the GTR within the given mandate and agreed that the only feasible scenario is a two-step approach. This implies that the GTR will try to cover, in Phase 1, near-term critical safety requirements, where the contracting parties are expected to reach an agreement within the given mandate. The remaining safety requirements that require long-term research as well as further improvement of the GTR will be covered in Phase 2. A comprehensive outline table has been developed by the IWG to help identifying items to be addressed under these 2 phases.
- Despite the overall progress and a two-step approach, the informal group would like to request the AC.3's consent for the extension of the mandate covering the first phase of the GTR. The informal group intends to submit the draft GTR text as an informal document for phase 1 to the 60th GRSP session in December 2016 and the vote to establish the GTR is expected in November 2017, during the 173th session of WP.29 at the earliest.
- The exact scope and the timeline for Phase 2 of the GTR are expected to be clarified soon after the finalization of the Phase 1 of the GTR.
- To keep with the proposed timeline, the co-sponsors and task force leaders undertake to engage proactively in the informal group discussion, including the drafting of the draft GTR text.
- In case of the extension of the current mandate, the 10th EVS group meeting will be held from 29th February to 4th March in Japan, the 11th EVS meeting is planned to be held in June 2016 in North America and the 12th EVS meeting is scheduled for October 2016, in Europe.
- All the related documents are available on the EVS IWG website.