

### **Rationale with respect to rotation test**

*In GTR 20 Phase 1, it was concluded that additional discussions were required on some critical issues, where research and testing of methods was still in progress or needed to be verified by Contracting Parties. One of these topics was a potential REESS rotation test.*

*In F(C)MVSS305, there is static rollover test of the vehicle after conducting crash test. When this standard was developed, open-type batteries (e.g. lead-acid batteries) was the most popular type of batteries and electrolyte spillage from such batteries are considered as potential risk for the vehicle occupants and surrounding people being exposed to the spilled electrolyte with strong acidity. This procedure is developed for post-crash vehicle assessment and not applied for component level tests.*

*Chinese national standard GB/T 31467.3-2015 on the safety of lithium-ion battery pack and systems includes a rotation test at a battery pack level. A survey presented by China in the GTR 20 Phase 2 discussions [1] has shown that all investigated batteries comply with the requirements of a test used by Chinese authorities. This can be explained by the fact that the cells of lithium-ion batteries are sealed-type and will not cause any electrolyte leakage unless the cells are seriously damaged. a mandatory REESS rotation test would be a regulatory burden for electric vehicles without bringing any safety benefit for the costumers.*

*[1] <https://wiki.unece.org/download/attachments/51972351/EVS1420-301.pdf?api=v2>*