VOLKSWAGEN

GROUP OF AMERICA

Ms. Sophie Shulman
Deputy Administrator
National Highway Traffic Safety Administration
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13 June 2024 Date

Subject: FMVSS No. 305a Electric-Powered Vehicles: Electric Powertrain Integrity Global Technical Regulation No. 20, Incorporation by Reference
Ref.: Docket NHTSA-2024-0012

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Dear Deputy Administrator Shulman,

As a member of the Alliance for Automotive Innovation (AFAI), we continue to be in alignment with the guidance and recommendations the AFAI has provided to the FMVSS 305a Notice of Proposed Rulemaking (NPRM). Volkswagen Group fully supports the efforts NHTSA has proposed in the NPRM to ensure existing and future electric vehicles prioritize safety for vehicle occupants and first and second responders. We agree that further harmonizing Federal Motor Vehicle Safety Standards with Global Technical Regulation (GTR) No. 20, "Electric Vehicle Safety" will mitigate safety risks associated with high voltage vehicles and equipment. We mainly support NHTSA efforts to align with global standards to supplement physical testing with technical documentation requirements in the proposed rule. The documentation requirement will save time and costs; plus, it will increase safety when physical testing may not be practical or possible.

However, there are opportunities in the NPRM where the documentation approach would be more suitable. For instance, in section 13.3, NHTSA states that a warning is required within 3 minutes after the heater is activated during a physical test. It should be noted that any modification of a battery system to implement a trigger system without support of the OEM comes with unnecessary risks and hazard due to the potential damage to the manufacturer's specific safety design which would depart from the intended safety features of the battery pack.

In addition, the manufacturer should describe the defined temperature for trigger initiation which is based on the technical design and operational temperature slots. The proposed 600°C peak temperature is excessively high and does not accurately represent the condition of an internal short circuit. Applying the heater to the outside of the cell would require cut-outs in the cooling plate or HV-area/side plates. This method would severely compromise the integrity of the entire pack and such manipulations could, in general, only be carried out with great risk to the personnel involved.

Alternative trigger methods should be considered, including the nail penetration method. Harmonizing with UN ECE R100 S5 would introduce multiple initiation methods as well as an observation period while measuring the temperature to observe a possible thermal runaway. Therefore, for these reasons, we believe that utilizing the documentation method in section 13.3 would minimize the risks that can arise when the high voltage battery pack is opened, and the method would not diminish the ability to provide optimal results. Additionally, there would be benefits to minimizing waste and toxic gas emissions caused by lithium-ion battery fires from physical testing.

The safety of first responders continue to remain a priority for Volkswagen Group. When responding to an accident, it is imperative to provide responders with quick and straightforward information for high voltage vehicles to avoid the risk of bodily harm. We have worked in cooperation with the National Transportation Safety Board (NTSB) since 2021 to ensure current and future emergency response guides (ERGs) are modeled to the ISO 17840 standard for all our lithium-ion hybrid and electric vehicles. In addition, we strive to make the ERGs easily accessible.

Responders can either obtain the guides directly from the National Fire Protection Association (NFPA) website or alternatively can go directly to the respective brand's homepage to obtain the rescue information for a specific vehicle. Because time saved by first responders is critical, we believe that providing an additional option to retrieve rescue information would reduce the time for first responders to search for the exact location of the ERG's storage location, which are currently organized-by specific OEM, on NFPA's website. Furthermore, in response to NHTSA's proposal to submit the guides prior to vehicle certification, we would like to recommend submitting the information to NHTSA just prior to market introduction, which would allow the OEM to reserve their final release design pictures or plans for any press and social media release. There would be no added risk to this timeline since the vehicle would not be available for sale nor on public roads during this time.

As the technology and resources continue to progress in developing repeatable, reproducible, and practical test methods, minimizing the safety risk is our top priority. Until we can be assured that all test methods will be consistently performed in safe and practical conditions, we would encourage NHTSA to alternatively utilize the documentation method.

Sincerely,

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