

VOLKSWAGEN

GROUP OF AMERICA

Ann Carlson, Acting Administrator
National Highway Traffic Safety Administration
1200 New Jersey Avenue, S.E.
Washington, DC 20590

Christopher T. Sandvig NAME
Director Title
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January 16, 2024 Date

Subject: Amended Chronology for Volkswagen Recall 93U9/ NHTSA 23V-867
High-Voltage Battery Module(s)

Dear Ms. Carlson:

VOLKSWAGEN GROUP OF AMERICA, INC.
3800 HAMLIN ROAD
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Volkswagen hereby submits the following amended chronology associated with the subject recall.

Chronology of Defect

In April 2020, Audi received a claim from outside of the U.S. alleging that the high-voltage battery pack in an Audi e-tron quattro vehicle caused a fire. Audi opened a product investigation on June 10, 2020 to investigate that claim and the potential root cause together with the HV battery supplier. At that point the battery module was ruled out as the root cause of the thermal event.

Between mid-2020 and mid-2023, Audi became aware of additional thermal event cases and conducted in detail investigations, onsite vehicle inspections, and part analyses to investigate the origin of the fires. Audi also worked with LG Energy Solutions, the supplier of the high-voltage battery cells, to identify a potential root cause. The analyses pointed towards a potential issue with the cell module controller.

As part of the continued analysis, vehicle battery performance data was monitored closely and a lifetime endurance campaign carried out in certain markets in 2021 and 2022. These actions did not reveal any new results with respect to the analysis of the potential root cause.

In April 2022, Audi launched service campaign 93N6 with a software update of the battery to improve the balancing of the cell modules. In preparation for this campaign, 93P1 had to be carried out on some vehicles in the market. With the software updates from these two campaigns, the function of the control units has been optimized in terms of balancing and the cell voltage measurement has been stabilized. Audi continued the field monitoring and investigation of additional field cases.

In July 2022 and November 2022, Audi received claims related to two additional thermal events in the US that may have related to the vehicles' battery cell modules. Audi investigated both vehicles in consultation with LGES. The root cause could not be determined, and it was unclear if the cause was the same for each vehicle. Nevertheless, LGES confirmed that neither event was caused by the identified defects underlying prior recalls involving LG batteries. Additionally, LGES indicated that the two thermal events were not indicative of a broader safety defect in the battery modules.

January – February 2023: On January 20, 2023 Volkswagen Group of America received an Information Request Letter as part of EQ22-001 regarding LG high-voltage batteries.

The background of the listed recalls was researched in detail and discussed with the supplier. Volkswagen Group received a statement from the supplier that battery cells are unique for each OEM and vehicle model. The supplier also confirmed that Volkswagen is not affected by the known root causes that may have led to the recalls mentioned in the Equipment Query. Based on the confirmation and explanation by the supplier, additional comprehensive testing, and our own analysis of field claims, Volkswagen Group responded to NHTSA that at that point it was not aware of any safety defect or noncompliance in the LGES HV batteries other than the limited population already covered by NHTSA recall 22V-162 (only Volkswagen vehicles).

July – November 2023: After noticing an increase in field cases, all available data from those cases were analyzed and the data indicated that a previous self-discharge condition could be indicative of an issue with the HV battery modules.

December 13, 2023: Even though the root cause analysis together with LGES is ongoing, out of an abundance of caution, the Audi Product Safety Committee decided to conduct a voluntary safety recall on all potentially affected vehicles worldwide.

While the root cause of each of these incidents is unknown, and they are potentially unrelated to each other, Audi is aware of five (5) thermal event cases in the U.S. which could be potentially related to a self-discharge condition of a high-voltage battery module. These occurred on the following dates:

- 19.07.2022
- 21.11.2022
- 27.10.2023 – analysis ongoing
- 05.11.2023 – analysis ongoing
- 09.11.2023 – analysis ongoing

Audi is not aware of any deaths or injuries due to this condition.

Please contact me if you require any additional information or have any questions related to this information.

Sincerely,

Christopher T. Sandvig
Director, Group Customer Protection
Group Quality