U.S. Department of Transportation
**National Highway Traffic Safety Administration**

NHTSA

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**VIA Email – Delivery and Read Receipt Requested**

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NEF-107MB
EQ22-001
20V-630
20V-701
21V-127
21V-560
21V-650
23V-369
23V-626
23V-840
23V-867

Dear Mr. Englund:
The Office of Defects Investigation (ODI), Recall Management Division (RMD), is conducting an Equipment Query (EQ) in relation to Part 573 Recall Report filing from multiple vehicle manufacturers describing defects that exist in high voltage batteries produced by LG Energy Solutions (LGES). The reports either identify the defects contained in the batteries as the root cause or as the potential cause of vehicle fires or stalls. This investigation is assigned the identification EQ22-001.

After review of LGES' responses to Information Request (IR) letters dated April 4, 2022, and October. 5, 2022, and the submission of additional Part 573 recall reports received from four vehicle manufacturers (Jaguar Land Rover 23V-369, Ford 23V-626, Porsche 23V840, and Volkswagen 23V867), the Office of Defects Investigation (ODI), Recall Management Division (RMD) now requests additional information from LGES:

RMD has identified the following excerpts from public statements, NHTSA recall filings, and recall owner notification letters. These excerpts indicate that General Motors, Hyundai, Ford, and Jaguar Land Rover have identified anode and cathode tab defects in LGES batteries as a root cause of their battery fires. Other excerpts indicate that General Motors, Hyundai, Jaguar Land Rover, and Volkswagen have implemented charge limits as an interim remedy to prevent battery fires. Each of these manufacturers have specified defects in the battery cells produced by LG as the root cause.

General Motors 21V-560: General Motors Press release dated Aug 20, 2021, "In rare circumstances, the batteries supplied to GM for these vehicles may have two manufacturing

defects – a torn anode tab and folded separator – present in the same battery cell, which increases the risk of fire."

Hyundai 21V-127: Hyundai Part 573 Recall Report Filing dated Mar 1, 2021, "The subject vehicles are equipped with battery cells manufactured in the LG Energy Solutions China (Nanjing) plant in which the Anode (Negative) tab can be folded. A folded Anode tab in the battery cell could allow the Lithium plating on the Anode tab to contact the Cathode resulting in an electrical short."

Ford 23V-626: Ford Part 573 Recall Report Filing dated Sep 8, 2023, "The root cause of this condition is partially due to the presence of a folded anode tab within a cell in the high voltage battery."

Jaguar Land Rover 23V-369: Jaguar Land Rover Part 573 Recall Report Amendment 4 Filing dated Dec 21, 2023, "Vehicles have experienced thermal overload which may show as smoke or fire, that may occur underneath the vehicle where high voltage traction battery is located. The investigation is ongoing. Modules that were identified by the remedy software as having characteristics of a folded anode tab, which may contribute to a risk of thermal overload, are still being inspected by the supplier."

Porsche 23V-840: Porsche Part 573 Recall Report Filing dated Dec 13, 2023, "The current analysis suggests that multiple charging events above the upper voltage limit can degrade battery cells and cell-walls and increase the risk of internal short circuits."

Jaguar Land Rover 23V-369: Jaguar Land Rover Part 577 Owner Notification Letter dated Jul 18, 2023, "This software provides an enhanced level of vehicle diagnostics that will provide driver warnings in relation to battery condition and where the software determines a risk exists, the High Voltage battery charging capacity is limited to up to 75%."

General Motors 21V-560: Remedy Instructions and TSB dated Jun 13, 2023, "The software will initially limit your vehicle's high voltage battery to a maximum state of-charge of 80%."

Hyundai 21V-127: Hyundai Interim Owner Notification Letter dated Apr 14, 2021, "In the meantime, owners are recommended to perform the following: Adjust or confirm your vehicle's "Max. % Charge" level to 80%."

Volkswagen 23V-867: Volkswagen Part 573 Recall Report filing dated Dec 20, 2023, "For vehicles where online-data is available, the vehicles can be closely monitored through online data evaluation (customers with enrolled vehicles). Where the online data shows a potentially critical battery module, the customer will be contacted and advised to only charge the vehicle at 80% charging capacity until the affected module can be replaced at an authorized Audi dealer."

In light of the above noted recalls issued for LGES batteries RMD is requesting the following:

1. Provide explanation for how the safety defects identified in vehicles recalled by 20V-630, 20V-701, 21V-127, 21V-560, 21V-650, 23V-369, 23V-626, 23V-840, and 23V-867 are not the same or similar, despite having the same charge limit remedies to reduce interim

risk and "anode, cathode, and battery cell wall" defects that have been determined to be the cause of battery fires.

2. State LGES's intent to file a Part 573 Defect Information Report with NHTSA for these battery defects. If LGES does not agree that these high voltage batteries contain a safety related defect, you must explain your decision, including all supporting documents, analysis, and/or test reports.

Unless otherwise stated in the text, the following definitions apply to these information requests:

- **LGES:** LG Energy Solutions, LG Chem, LG Electronics, all of its past and present officers and employees, whether assigned to its principal offices or any of its field or other locations, including all of its divisions, subsidiaries (whether or not incorporated) and affiliated enterprises and all of their headquarters, regional, zone and other offices and their employees, and all agents, contractors, consultants, attorneys and law firms and other persons engaged directly or indirectly (e.g., employee of a consultant) by or under the control of LGES (including all business units and persons previously referred to), who are or were involved in any way with any of the following related to the alleged defect in the subject equipment:
  a. Design, engineering, analysis, modification or production (e.g., quality control);
  b. Testing, assessment or evaluation;
  c. Consideration, or recognition of potential or actual defects, reporting, record-keeping and information management, (e.g., complaints, field reports, warranty information, part sales), analysis, claims, lawsuits or arbitrations; or
  d. Communication to, from or intended for zone representatives, fleets, dealers, or other field locations, including but not limited to people who have the capacity to obtain information from dealers.

- **Document: :** "Document" is defined in the broadest sense of the word and shall mean all original written, printed, typed, recorded, or graphic matter whatsoever, however produced or reproduced, of every kind, nature, and description, and all non-identical copies of both sides thereof, including, but not limited to, papers, letters, memoranda, correspondence, communications, electronic mail (e-mail) messages (existing in hard copy and/or in electronic storage), faxes, mailgrams, telegrams, cables, telex messages, notes, annotations, working papers, drafts, minutes, records, audio and video recordings, data, databases, other information bases, summaries, charts, tables, graphics, other visual displays, photographs, statements, interviews, opinions, reports, newspaper articles, studies, analyses, evaluations, interpretations, contracts, agreements, jottings, agendas, bulletins, notices, announcements, instructions, blueprints, drawings, as-builts, changes, manuals, publications, work schedules, journals, statistical data, desk, portable and computer calendars, appointment books, diaries, travel reports, lists, tabulations, computer printouts, data processing program libraries, data processing inputs and outputs, microfilms, microfiches, statements for services, resolutions, financial statements, governmental records, business records, personnel records, work orders, documents generated through litigation, arbitration, or mediation, pleadings, mediation statements, discovery in any form, affidavits, motions, responses to discovery, all transcripts, administrative filings and all mechanical, magnetic, photographic and electronic records

or recordings of any kind, including any storage media associated with computers, including, but not limited to, information on hard drives, floppy disks, backup tapes, and zip drives, electronic communications, including but not limited to, the Internet, and shall include any drafts or revisions pertaining to any of the foregoing, all other things similar to any of the foregoing, however denominated by LGES, any other data compilations from which information can be obtained, translated if necessary, into a usable form and any other documents. For purposes of this request, any document that contains any note, comment, addition, deletion, insertion, annotation, or otherwise comprises a non-identical copy of another document shall be treated as a separate document subject to production. In all cases where original and any non-identical copies are not available, "document(s)" also means any identical copies of the original and all non-identical copies thereof. Any document, record, graph, chart, film or photograph originally produced in color must be provided in color. Furnish all documents whether verified by LGES or not. If a document is not in the English language, provide both the original document and an English translation of the document.

- **Other Terms:** To the extent that they are used in these information requests, the terms "claim," "consumer complaint," "dealer field report," "field report," "fire," "fleet," "good will," "make," "model," "model year," "notice," "property damage," "property damage claim," "rollover," "type," "warranty," "warranty adjustment," and "warranty claim," whether used in singular or in plural form, have the same meaning as found in 49 C.F.R. § 579.4.

Pursuant to Federal law, a manufacturer of motor vehicle equipment must notify NHTSA within five (5) business days of when they first learn a safety defect or a noncompliance with an FMVSS exists in that equipment. In the case of a defect or noncompliance in original equipment installed in the vehicles of more than one manufacturer, notification to NHTSA must be made by the original equipment manufacturer as to the equipment item, and by each vehicle manufacturer as to those vehicles it manufactured in which the defective equipment was installed. The content of that notification is specified in 49 U.S.C. § 573.6, *Defect and Noncompliance Information Report*.

This Defect and Noncompliance Information Report must be submitted electronically through the Agency's Recalls Portal pursuant to 49 U.S.C. § 573.9. To access the portal and register as a manufacturer, go to: https://map.safercar.gov/mportal/signin and use the appropriate link on the left side of the page. Questions concerning how to register for an account and other issues associated with use of the portal may be directed to the Recalls Portal Helpdesk toll free at 1-888-719-9220 or by email at recalls.helpdesk@dot.gov**. Hard and E-mailed copies are not accepted. Please do not send them to this office.**

## Legal Authority for This Request

This letter is being sent to LGES pursuant to 49 U.S.C. § 30166, which authorizes NHTSA to conduct any investigation that may be necessary to enforce Chapter 301 of Title 49 and to request reports. This letter constitutes a new request for information.

## Civil Penalties

LGES' failure to respond promptly and fully to this letter could subject LGES to civil penalties pursuant to 49 U.S.C. § 30165 or lead to an action for injunctive relief pursuant to 49 U.S.C. § 30163. (Other remedies and sanctions are available as well.) The Vehicle Safety Act, 49 U.S.C. § 30165(a)(3), provides for civil penalties of up to $27,168 per violation per day, with a maximum of $135,828,178 for a related series of daily violations, for failing or refusing to perform an act required under 49 U.S.C. § 30166. *See* 49 C.F.R. § 578.6(a)(3). This includes failing to respond completely, accurately, or in a timely manner to ODI information requests.

If LGES cannot respond to any specific request or subpart(s) thereof, please state the reason why it is unable to do so. If on the basis of attorney-client, attorney work product, or other privilege, LGES does not submit one or more requested documents or items of information in response to this information request, LGES must provide a privilege log identifying each document or item withheld, and stating the date, subject or title, the name and position of the person(s) from, and the person(s) to whom it was sent, and the name and position of any other recipient (to include all carbon copies or blind carbon copies), the nature of that information or material, and the basis for the claim of privilege and why that privilege applies.

**Confidential Business Information**

If LGES' response contains any information that you claim is confidential business information, LGES must request two secure electronic file transfer links from Matthew Brisson at matthew.brisson@dot.gov. One secure electronic file transfer link is for your request for confidential treatment in compliance with 49 C.F.R. § 512 and will be directed to NHTSA's Office of the Chief Counsel. The second secure electronic file transfer link is for your non-confidential response to this letter. Do not submit any confidential business information along with your non-confidential submission. Please refer to **EQ22-001** in LGES' response to this letter and in a request for confidential treatment that LGES may submit.

If you have any questions regarding submission of a request for confidential treatment, contact Daniel Rabinovitz, Trial Attorney, Office of Chief Counsel at daniel.rabinovitz@dot.gov or (202) 366-8534.

DO NOT submit your numbered responses to this letter (or any responsive materials) through the Recalls Portal. Rather, send correspondence and materials directly to Matthew Brisson of my staff at matthew.brisson@dot.gov.

**Due Date**

LGES' response to this letter must be submitted to this office within 30 days of receipt of this letter. If LGES finds that it is unable to provide all the information requested within the time allotted, LGES must request an extension from me at (202) 366-0388 no later than five business days before the response due date. If LGES is unable to provide all of the information requested by the original deadline, it must submit a partial response by the original deadline with whatever information LGES then has available, even if an extension has been granted.

If you have any questions concerning this matter, please contact Matthew Brisson at (202) 366-0399 or by e-mail at matthew.brisson@dot.gov.

Sincerely,

Alexander Ansley

Alex Ansley, Chief
Recall Management Division
Office of Defects Investigation