



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



1200 New Jersey Avenue SE.
Washington, DC 20590

OCT 24 2019

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Al Prescott
Deputy General Counsel
Tesla, Inc.
3550 Deer Creek Rd.
Palo Alto, CA 94304

NEF-104kh
DP19-005

Dear Mr. Prescott:

This letter is to inform you that the Office of Defects Investigation (ODI) of the National Highway Traffic Safety Administration (NHTSA) has opened Defect Petition DP19-005 to evaluate a petition requesting an investigation of certain battery management system software updates in model year (MY) 2012 through 2019 Tesla Model S and Model X vehicles, and to request certain information to assist us in our evaluation.

This office has received a letter from Mr. Edward C. Chen (the Petitioner) dated September 17, 2019, petitioning NHTSA "to initiate a Defect Investigation into the recent set of software updates, including software updates 2019.16.1 and 2019.16.2 and all subsequent updates issued by Tesla, Inc. to its Model S and Model X vehicles, which have been alleged to be issued by Tesla in response to the alarming number of car fires that have occurred worldwide." The Petitioner is an attorney representing a plaintiff in a class action lawsuit related to the software updates, which is currently pending in the United States District Court for the Northern District of California. A copy of the class action complaint was provided by the Petitioner as supporting material. A copy of the petition and supporting information are provided for your information.

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

- **Subject vehicles:** all MY 2012 through 2019 Tesla Model S and Model X vehicles manufactured for sale or lease in the United States and federalized territories.
- **Subject software updates:** all software updates released by Tesla from January 1, 2019 to the date of Tesla's response to this letter, which, limit the maximum battery capacity or maximum cell charging voltage of the high-voltage battery.

- **Subject system:** the Battery Management System (BMS), including all charging control and battery thermal management firmware.

- **Tesla:** Tesla, Inc. (collectively, “Tesla”), 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 agency, 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 Tesla (including all business units and persons previously referred to), who are or, on or after January 1, 2010, were involved in any way with any of the following related to the alleged defect in the subject vehicles:
 - 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, or lawsuits; 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 such entities or individuals.

- **Alleged defect:** High-voltage battery fires that are not related to collision or impact damage to the battery pack.

- **Document:** “Document(s)” is used 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, bulletin, 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, pleadings, 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 Tesla, 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 which 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 Tesla 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 CFR 579.4.

In order for my staff to evaluate the alleged defect, certain information is required. Pursuant to 49 U.S.C. § 30166, please provide numbered responses to the following information requests. Insofar as Tesla has previously provided a document to ODI, Tesla may produce it again or identify the document, the document submission to ODI in which it was included, and the precise location in that submission where the document is located. When documents are produced, the documents shall be produced in an identified, organized manner that corresponds with the organization of this information request letter (including all individual requests and subparts). When documents are produced and the documents would not, standing alone, be self-explanatory, the production of documents shall be supplemented and accompanied by explanation.

Please repeat the applicable request verbatim above each response. After Tesla's response to each request, identify the source of the information and indicate the last date the information was gathered.

1. State, by model and model year, the number of subject vehicles Tesla has manufactured for sale or lease in the United States. Separately, for each subject vehicle manufactured to date by Tesla state the following:
 - a. Vehicle identification number (VIN);
 - b. Model;
 - c. Model year;
 - d. Battery pack;
 - e. Battery cell design level;
 - f. Date of vehicle's manufacture;
 - g. Warranty start date (date of first sale);

- h. Whether the vehicle was purchased with free unlimited Supercharging (yes/no);
 - i. Whether the vehicle is within the scope of the subject software update (yes/no); and
 - j. Date the subject software update was installed.
2. State the number of each of the following, received by Tesla, or of which Tesla is otherwise aware, which relate to, or may relate to, the alleged defect in the subject vehicles:
- a. Consumer complaints, including those from fleet operators;
 - b. Field reports;
 - c. Reports involving a property damage, fire, injury or fatality;
 - d. Property damage claims;
 - e. Third-party arbitration proceedings where Tesla is or was a party to the arbitration;
 - f. Pre-litigation demands, matters not yet in suit, or by whatever name called by Tesla, which were resolved or concluded before the commencement of a filed lawsuit; and
 - g. Lawsuits, both pending and closed, in which Tesla is or was a defendant or codefendant.

For each subpart, separately state the total number of each item (e.g., consumer complaints, field reports, etc.). Multiple incidents involving the same vehicle are to be counted separately. Multiple reports of the same incident are also to be counted separately (i.e., a consumer complaint and a field report involving the same incident in which a crash or fire occurred are to be counted as a crash or fire report, a field report and a consumer complaint).

3. Separately, for each item (complaint, report, claim, notice, or matter) within the scope of your response to Request No. 2, state the following information:
- a. Tesla's file number;
 - b. The category of the item, as identified in Request No. 2 (i.e., consumer complaint, field report, etc.);
 - c. Vehicle owner or fleet name (and fleet contact person), address, and telephone number;
 - d. Vehicle VIN;
 - e. Vehicle model and model year;
 - f. Vehicle mileage at time of incident;
 - g. Incident date;
 - h. Report or claim date;
 - i. Number of alleged injuries;
 - j. Number of alleged fatalities;
 - k. Whether Tesla investigated the incident; and
 - l. Tesla's assessment of the cause of the fire.

Provide this information in Microsoft Access 2010, or a compatible format, entitled "DP19-005_ INCIDENT DATA." "A pre-formatted Data Collection File, which provides further details regarding this submission, will be emailed to you.

4. Produce copies of all documents related to each item within the scope of Request No. 3. Organize the documents separately by category (i.e., consumer complaints, field reports, event data recorder reports, police reports, etc.) and describe the method Tesla used for organizing the documents. Describe in detail the search methods and search criteria used to identify the items in response to Request No. 3.

5. Describe all software updates to the subject system that Tesla has released from January 1, 2017, to the date of Tesla's response to this letter, which relate to charging rate, charging capacity, or battery thermal management during or after charging. For each such update, provide the following information:
 - a. The update number;
 - b. The date the update was released;
 - c. A description of the scope of vehicles that were sent the update by model, model year, battery pack, and vehicle volume;
 - d. A description of how the vehicles receiving the update were selected;
 - e. Information provided to owners about the update;
 - f. A description of the update, including the potential effects on vehicle driving range after charging the battery to maximum capacity; and
 - g. The reason for the update, including the effect of the update on the risk of battery fire.

Also, provide the above information for any such updates that Tesla is planning to release within the next 120 days of the date of Tesla's response to this letter.

6. Describe all assessments, analyses, tests, test reports, studies, surveys, simulations, investigations, inquiries and/or evaluations (collectively, "actions") that relate to, or may relate to, the influence of charging history (e.g., including, but not limited to, charging speed, depth of charge, thermal history, and the relationship between speed and/or depth of charge on maximum cell temperatures) on any or all of the following: 1) battery health and longevity; 2) the occurrence of internal cell shorts; or 3) the alleged defect in the subject vehicles; that have been conducted, are being conducted, are planned, or are being planned by, or for, Tesla. This should include all analyses of data collected via telematics from the subject vehicles. For each such action, provide the following information:
 - a. Action title or identifier;
 - b. The actual or planned start date;
 - c. The actual or expected end date;
 - d. Brief summary of the subject and objective of the action;
 - e. Engineering group(s)/supplier(s) responsible for designing and for conducting the action; and
 - f. A brief summary of the findings and/or conclusions resulting from the action.

For each action identified, provide copies of all documents related to the action, regardless of whether the documents are in interim, draft, or final form. Organize the documents chronologically by action.

7. Provide the following information for each of the fire incidents referenced in the attachment to the subject defect petition:
 - a. Incident date;
 - b. Incident location (city, state/country);
 - c. Vehicle identification number;
 - d. Model and model year;

- e. Incident mileage;
 - f. Battery state of charge;
 - g. Summary of most recent charge (manner of charging, level of charging, approximate time/distance from charging event to the incident origin);
 - h. Whether the fire was investigated by Tesla; and
 - i. Tesla's assessment of the cause of the fire.
8. Provide the following information about cell shorts in the subject vehicles:
- a. Describe all cell shorting failure mechanisms in the subject vehicles that are influenced by cell charging/discharging history (e.g., dendrite growth);
 - b. Describe cell design and subject system battery management strategies to inhibit mechanisms described in Request No. 8.a;
 - c. Describe the types of cell shorts that are detectable by the subject system, the manner in which the subject system detects the shorts, the effects of the shorts on vehicle performance, and the warnings provided to the operator; and
 - d. Describe how the subject system manages detected cell shorts to mitigate potential safety hazards.
9. Furnish the following information for subject vehicles that are within the scope of the subject software update:
- a. The number of vehicles sent the subject software update by model and model year;
 - b. A comparison of the rates of non-crash high-voltage battery fires in vehicles sent the subject software update and other subject vehicles of the same model year range;
 - c. A comparison of the rates of high-voltage battery replacements for cell short fault conditions in vehicles sent the subject software update and other subject vehicles of the same model year range; and
 - d. Copies of all instructions to owners for battery care and maintenance.

Legal Authority for This Request

This letter is being sent to Tesla 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 and the production of things. It constitutes a new request for information.

Civil Penalties

Tesla's failure to respond promptly and fully to this letter could subject Tesla 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, as amended, 49 U.S.C. § 30165, provides for civil penalties of up to \$22,329 per day, with a maximum of \$111,642,265 for a related series of violations, for failing or refusing to perform an act required under 49 U.S.C. § 30166. *See* 49 CFR 578.6 (as amended by Fixing America's Surface Transportation Act (the "FAST Act"), Pub. L. 114-21, § 24110(a)(2), 129 Stat. 1312 (Dec. 4, 2015)). This includes failing to respond completely to ODI information requests.

If Tesla 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, Tesla does not submit one or more requested documents or items of information in response to this information request, Tesla 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

All business confidential information must be submitted directly to the Office of Chief Counsel as described in the following paragraph and should not be sent to this office. In addition, do not submit any business confidential information in the body of the letter submitted to this office. Please refer to DP19-005 in Tesla's response to this letter and in any confidentiality request submitted to the Office of Chief Counsel.

If Tesla claims that any of the information or documents provided in response to this information request constitute confidential commercial material within the meaning of 5 U.S.C. § 552(b)(4), or are protected from disclosure pursuant to 18 U.S.C. § 1905, Tesla must submit supporting information together with the materials that are the subject of the confidentiality request, in accordance with 49 CFR Part 512, as amended, to the Office of Chief Counsel (NCC-111), National Highway Traffic Safety Administration, Room W41-326, 1200 New Jersey Avenue, S.E., Washington, D.C. 20590. *See* 5 U.S.C. § 552(b)(4); 49 CFR §412.5; *Food Marketing Institute v. Argus Leader Media*, 139 S. Ct. 2356 (2019). Tesla is required to **submit two copies of the documents containing allegedly confidential information (except only one copy of blueprints) and one copy containing only the portions for which no claim of confidential treatment is made and from which those portions for which confidential treatment is claimed has been redacted. See 49 CFR § 512.5.** Please remember that the phrase "ENTIRE PAGE CONFIDENTIAL BUSINESS INFORMATION" or "CONTAINS CONFIDENTIAL BUSINESS INFORMATION" (as appropriate) must appear at the top of each page containing information claimed to be confidential, and the information must be clearly identified in accordance with 49 CFR 512.6. If you submit a request for confidentiality for all or part of your response to this IR, that is in an electronic format (e.g., CD-ROM), your request and associated submission must conform to the requirements in NHTSA's Confidential Business Information Rule regarding submissions in electronic formats. *See* 49 CFR 512.6(c).

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

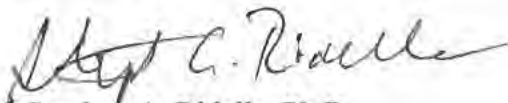
Due Date

Tesla's response to this letter, in duplicate, together with a copy of any confidentiality request, must be submitted to this office by **November 28, 2019**. If Tesla finds that it is unable to provide all of the information requested within the time allotted, Tesla must request an extension from me at (202) 366-4703 no later than five business days before the response due date. If Tesla 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 Tesla then has available, even if an extension has been granted.

Please send email notification to Kareem Habib at Kareem.Habib@DOT.gov and to ODI_IRresponse@dot.gov when Tesla sends its response to this office and indicate whether there is confidential information as part of Tesla's response.

If you have any technical questions concerning this matter, please call Kareem Habib of my staff at (202) 366-8703.

Sincerely,



Stephen A. Ridella, Ph.D.

Director

Office of Defects Investigation

Enclosure 1: Petition