



August 18, 2022

**SENT VIA E-MAIL**

Eddie Gates  
Director, Field Quality  
Tesla, Inc.  
45500 Fremont Blvd.  
Fremont, CA 94538

NEF-104  
EA22-002

Dear Mr. Gates,

This letter is to inform you that the Office of Defects Investigation (ODI) of the National Highway Traffic Safety Administration (NHTSA) has upgraded investigation PE21-020 from a Preliminary Evaluation to an Engineering Analysis (EA22-002) to continue and extend work initiated in PE21-020. To support this continued work, we request updated and additional information from Tesla.

Unless otherwise stated in the text, the following definitions apply to these information requests:<sup>1</sup>

- **Level 2 ADAS**: a driver support feature (Advanced Driver Assistance System) on the vehicle that can control both steering and braking/accelerating simultaneously under some circumstances. The human driver must remain fully and continuously engaged in the (Level 2) driving task.<sup>2</sup>
- **ODD**: Operational Design Domain or operating conditions under which a given driving automation system or feature thereof is specifically designed to function, including, but not limited to, environmental, geographical, and time-of-day restrictions, and/or the requisite presence or absence of certain traffic or roadway characteristics.<sup>3</sup>

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<sup>1</sup> Unless otherwise specified herein, any terms in these information requests that relate to an Advanced Driver Assistance System (ADAS), including the SAE International levels of driving automation, should be construed to have the same meaning as any overlapping term defined in NHTSA First Amended Standing General Order 2021-01, which is located at [https://www.nhtsa.gov/sites/nhtsa.gov/files/2021-08/First\\_Amended\\_SGO\\_2021\\_01\\_Final.pdf](https://www.nhtsa.gov/sites/nhtsa.gov/files/2021-08/First_Amended_SGO_2021_01_Final.pdf)

<sup>2</sup> “Level 2” means the same as and is coterminous with the definition of “Level or Category 2 - Partial Driving Automation” in SAE J3016 Taxonomy and Definitions for Terms Related to Driving Automation Systems for On-Road Motor Vehicles § 5.3 (April 2021).

<sup>3</sup> “ODD” means the same as and is coterminous with the definition of “Operational Design Domain” in SAE J3016 Taxonomy and Definitions for Terms Related to Driving Automation Systems for On-Road Motor Vehicles § 3.22 (April 2021).

- **DDT**: Dynamic Driving Task or all of the real-time operational (lateral and longitudinal movement of vehicle) and tactical (planning component) functions required to operate a vehicle in on-road traffic, excluding the strategic functions such as trip scheduling and selection of destinations and waypoints, and including without limitation:
  - a. Lateral vehicle motion control via steering (operational);
  - b. Longitudinal vehicle motion control via acceleration and deceleration (operational);
  - c. Monitoring the driving environment via object and event detection, recognition, classification, and response preparation (operational and tactical);
  - d. Object and event response execution (operational and tactical);
  - e. Maneuver planning (tactical); and
  - f. Enhancing conspicuity via lighting, signaling, and gesturing, etc. (tactical).<sup>4</sup>
  
- **OEDR**: Object and event detection and response or the subtasks of the DDT that include monitoring the driving environment (detecting, recognizing, and classifying objects and events and preparing to respond as needed) and executing an appropriate response to such objects and events (i.e., as needed to complete the DDT and/or DDT fallback).<sup>5</sup>
  
- **Subject System**: Suite of software, hardware, data, and any other related systems on or off the vehicle that contributes to the conferral of any vehicle capabilities that Tesla labels Level 2 or above, including but not limited to the various “Autopilot” packages.
  
- **Subject Vehicles**: All Tesla vehicles, model years 2014 - 2023, equipped with the subject system at any time, and manufactured for sale or lease in the United States, including, but not limited to, the District of Columbia, and current U.S. territories and possessions.
  
- **Subject Crashes**: Incidents in which any subject vehicle experiences a crash in the United States (including any of its territories) with the subject system engaged at any time during the period beginning 30 seconds immediately prior to the commencement of the crash.
  
- **Tesla**: Tesla, Inc. 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 Tesla (including all business units and persons previously referred to), who are or, in or after January 1st, 2011 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;

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<sup>4</sup> “DDT” means the same as and is coterminous with the definition of “Dynamic Driving Task” in SAE J3016 Taxonomy and Definitions for Terms Related to Driving Automation Systems for On-Road Motor Vehicles § 3.13 (April 2021).

<sup>5</sup> “OEDR” means the same as and is coterminous with the definition of “Object and Event Detection and Response” in SAE J3016 Taxonomy and Definitions for Terms Related to Driving Automation Systems for On-Road Motor Vehicles § 3.20 (April 2021).

- 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 dealers.
- **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, 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, 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 or operation 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. Subject component trade / trim name, part number and design version installed as original equipment; including:
    - i. Software version;
    - ii. Firmware version;
    - iii. Hardware version;
    - iv. Cabin Camera installed (yes / no);
  - e. Date of manufacture;
  - f. Date warranty coverage commenced;
  - g. Date and mileage of Cabin Camera Data Sharing enabled;
  - h. The State in the United States where the vehicle was originally sold or leased (or delivered for sale or lease);
  - i. Latest known vehicle mileage and commensurate date;
  - j. Whether the vehicle is "Tesla Vision"- equipped (subject system relies on cameras only and not radar);
  - k. Subject component trade / trim name, part number and design version installed as an aftersales customer- requested upgrade; including:
    - i. Software version;
    - ii. Firmware version;
    - iii. Hardware version;
    - iv. Cabin Camera installed (yes / no);
  - l. If the consumer has purchased "Full-Self Driving":
    - i. Has the customer applied to be in the "Full-Self Driving beta" program (yes / no);
    - ii. Most recent associated Safety Score;

- +The date on which the vehicle was admitted into the “Full-Self Driving beta” program; and
- m. Date and identities of the most recent software, firmware, and hardware updates.

Provide the table in Microsoft Access 2010, or a compatible format, entitled “PRODUCTION DATA.”

2. Cumulative mileage covered overall and separately with the subject system engaged by subject vehicle model / Model Year vs Calendar Year / Quarter.

Provide the table in Microsoft Excel 2010 or compatible format entitled “MILEAGE ACCUMULATION.”

3. Describe in detail the process and methodology Tesla employs to produce the Tesla Vehicle Safety Report (<https://www.tesla.com/VehicleSafetyReport>). The description should include but not be limited to:
  - a. Data sources used (including incidents and vehicle miles traveled);
  - b. Assumptions and definitions for key parameters (e.g., roadway type, crash type, vehicle age);
  - c. Copies of the materials used to generate Tesla’s most recently published Vehicle Safety Report; and
  - d. Assessment of the applicability of SGO reportable crashes to the Vehicle Safety Report.
4. Please update Request 7 of ODI’s August 31, 2021 PE21-020 Information Request to current from the Tesla’s original response: For each trade name / trim level of the subject system available in the subject vehicles, describe all modifications or changes made by, or on behalf of, Tesla in the design, material composition, manufacture, quality control, supply, function, or installation of the subject system, from the start of production to date, which relate to, or may relate to driver engagement / attentiveness and OEDR by the subject system in the subject vehicles. For each such modification or change, provide the following information:
  - a. The date or approximate date on which the modification or change was incorporated into vehicle production;
  - b. A detailed description of the modification or change;
  - c. The reason(s) for the modification or change;
  - d. The hardware, firmware, and software names and numbers of the original version;
  - e. The hardware, firmware, and software names and numbers of the modified version;
  - f. Primary distribution method of related firmware and software updates (over the air or in-person service); and
  - g. When the modified version / update was made available as a service component.

Also, provide the above information for any modification or change that Tesla is aware of which may be incorporated into vehicle production or pushed to subject vehicles in the field within the next 120 days.

5. Describe the role that the Cabin Camera plays in the enforcement of driver engagement / attentiveness and the manner in which its inputs are factored into the subject system's operation including but not limited to:
  - a. Impact on driver engagement alert types and timing and how it integrates with the existing engagement strategy;
  - b. Recoverable data elements pointing to its influence either via telemetry or from the vehicle's onboard storage; and
  - c. Impact on driver alerting and recoverable data if the driver does not opt to share data from the camera with Tesla;
  
6. Identify each lawsuit or arbitration in the United States involving Tesla in which a party alleged that a motor vehicle crash was affected, in whole or in part, by the subject system in the subject vehicles. For each such lawsuit, identify:
  - a. The full case caption (case name, cause number, and venue);<sup>6</sup>
  - b. Each current or former party to the lawsuit and, if applicable, their designated legal representative(s) in the case;
  - c. The current status of each case, as categorized by:
    - i. The disposition of each case: (1) settled; (2) dismissed at summary judgment, motion to dismiss, or otherwise; or (3) currently pending; and
    - ii. The stage of disposition: (1) pretrial and before expert disclosures occurred; (2) pretrial (including during trial) and after expert disclosures occurred; (3) post-trial; (4) during an appeal; or (5) other (please specify).
  
7. For each lawsuit or arbitration identified in response to Request 6, produce the complete deposition transcripts, as well as any deposition exhibits, for the following witnesses. To the extent depositions for the witnesses below have been noticed, but have not yet occurred, identify the date on which they are currently scheduled.
  - a. Any vehicle occupants in the subject crash;
  - b. Any Tesla employees or officers (current or former);
  - c. Any individuals designated as corporate representatives of Tesla, such as under Fed. R. Civ. P. 30(b)(6) or any state law equivalent;
  - d. Any experts from any party offering opinions regarding the Tesla vehicle's operation, design, or performance.<sup>7</sup> In the event such an expert has disclosed a report in the litigation that is not an exhibit to the deposition, produce a full copy of each such report;

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<sup>6</sup> For actions involving removals, remands, or venue transfers, please list the current or last applicable venue.

<sup>7</sup> For instance, NHTSA anticipates that this subpart would generally include experts offering opinions on matters such as accident reconstruction, human factors or warnings, vehicle design, or the Tesla driver's behavior in the subject crash. NHTSA would not generally expect this request to include experts whose opinions solely relate to matters concerning alleged injuries or damages, such as biomechanical or medical experts.

- e. Any investigating officer of the subject accident or other law enforcement personnel offering testimony concerning the Tesla vehicle's operation or performance.
8. To the extent not provided in response to Request Number 7 above, provide a full copy of any report that has been produced by Tesla or received from another party in any proceeding identified in response to Request Number 6 of an expert offering opinions regarding the Tesla vehicle's operation, design, or performance.<sup>8</sup> This includes any expert reports produced or exchanged for experts designated by any party in such a proceeding, including Tesla, plaintiff(s), or co-defendants. This does not include reports that Tesla has never produced to another party, to the extent Tesla claims a privilege exists for such a report.
9. Describe in detail the engineering and safety explanation and evidence for design decisions regarding enforcement of driver engagement / attentiveness during the subject system's operation in the subject vehicles including the evidence that justifies the period of time that the driver is permitted to have their hands off the steering wheel before receiving a warning, the amount of time that lapses if the driver does not respond to a warning before receiving a second or third warning, and driver attentiveness warning that are triggered by the cabin camera. Your response should identify any study, report, analysis, assessment or evaluation that Tesla considered in the design, modification or update of the driver engagement/ attentiveness enforcement algorithm of the subject system. Please provide a copy of every study, report, analysis, assessment or evaluation referenced or identified in this response.
10. For each incident VIN on the enclosed **Incident List**, please provide from either the CAN Logs or Video / Data Clip:
- a. Total Subject System use time in the last drive cycle (seconds);
  - b. Road Class at the time of impact (Restraint Control Module Wakeup) (Tesla Road Class List);
  - c. During the last Subject System use cycle (prior to impact):
    - i. Cycle duration (seconds);
    - ii. Subject System Operating Mode;
    - iii. Hands on Wheel warnings visible to the driver:
      1. Number of each type;
      2. Duration from the last one of each type to impact (seconds);
    - iv. Number of Hands on Wheel Required flags and duration from the last one to impact;
    - v. Were the Driver's Hands on Wheel detected at the time of impact (yes / no);
      1. If yes, how long prior to the crash were they detected (seconds)?;
    - vi. Indications and timing of defeat device usage;
    - vii. Name the first alert and its timing relative to impact (seconds);
    - viii. Cabin Camera data elements at immediately prior to impact;
    - ix. Name of the firmware onboard;
    - x. Crash Incident Neural Network in use immediately prior to impact;
    - xi. Vehicle speed at impact;

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<sup>8</sup> *Supra* note 7.

- xii. Timing (seconds) and Vehicle Speed Reduction (mph) resulting from AEB immediately prior to impact;
- xiii. Timing (seconds) resulting from FCW warnings, if FCW fired, immediately prior to impact; and
- xiv. Driver Steering, Accelerator, Brake Inputs and Timing relative to impact.

Provide the table in Microsoft Access 2010, or a compatible format, entitled “INCIDENT\_DATA”.

### **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(a)(3), provides for civil penalties of up to \$24,423 per violation per day, with a maximum of \$122,106,996 for a related series of daily 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. 114-94, § 24110(a)(2), 129 Stat. 1312 (Dec. 4, 2015)). This includes failing to respond completely, accurately, and in a timely manner 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 PE21-020 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. Additional information can be found here: <https://www.nhtsa.gov/coronavirus/submission-confidential-business-information>.

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](mailto:daniel.rabinovitz@dot.gov) or (202) 366-8534.

### **Due Dates**

Tesla's response to Requests 1 – 9 of this letter, in duplicate, together with a copy of any confidentiality request, must be submitted to this office by **September 19, 2022**. Tesla's response to Request 10 of this letter, in duplicate, together with a copy of any confidentiality request, must be submitted to this office by **October 12, 2022**. Tesla's response to Request 10 should be furnished via a weekly rolling production prior to October 12, 2022. Tesla's response must include all non-confidential attachments and a redacted version of all documents that contain confidential information.

Please send email notification to Steven Posada at [STEVEN.POSADA@DOT.GOV](mailto:STEVEN.POSADA@DOT.GOV) and to [ODI\\_IRresponse@dot.gov](mailto: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 Steven Posada of my staff at (202) 366-9402.

Sincerely,

Stephen A. Ridella, Ph.D.  
Director, Office of Defects Investigation

Enclosures:

Reporting Templates for Requests 1, 2, 10  
Incident List (Request 10)