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

NHTSA

1200 New Jersey Avenue SE.
Washington, DC 20590

SEP 2 1 2018

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Wayne Gates, Director
Engineering and Design Analysis
Hyundai Motor America
10550 Talbert Avenue
Fountain Valley, CA 92708

NEF-103no
PE18-003

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 opened a Preliminary Evaluation (PE18-003) to investigate allegations of the failure of the airbag control units (ACUs) supplied by ZF-TRW in certain model year (MY) 2011 Hyundai Sonata and 2011 Sonata Hybrid vehicles, and to request certain information.

The Office of Defects Investigation (ODI) has received one (1) Vehicle Owner Questionnaire (VOQ) report alleging the front airbag did not deploy in a frontal crash, due to an electrical overstress condition (EOS) of the ACU. Unless otherwise stated in the text, the following definitions apply to these information requests:

- **Subject vehicles:** All vehicles equipped with the subject component 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 that utilize the subject component.

- **Subject component:** Airbag Control Units manufactured by ZF-TRW or Mobis that contained the DS84 ASIC, without Schottky diodes on both the high and low communication lines.

- **Alleged defect:** Failure of the frontal air bags to deploy in a crash that involve any of the following allegations:

    A) A serious injury (AIS Code 3 or above) or fatal;
    B) The ACU could not be communicated with;
    C) The Event Data Recorder (EDR) record was found to be incomplete;
    D) The EDR record showed no crash record; or
    E) The ACU was sent to ZF-TRW or Mobis for analysis.

- **Hyundai:** Hyundai Motors America, 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 Hyundai (including all business units and persons previously referred to), who are or, in or after January 1, 2008, 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 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 Hyundai, 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 Hyundai 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 Hyundai has previously provided a document to ODI, Hyundai 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 Hyundai's response to each request, identify the source of the information and indicate the last date the information was gathered.

1. State the number of vehicles equipped with the subject component Hyundai has manufactured for sale or lease in the United States by the following:

   a. Model Year;
   b. Model;
   c. Supplier of the subject component (TRW or Mobis); and
   d. The part number(s) (service and engineering) of the subject component.

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

2. State, by model, model year, and alleged defect category (i.e., A, B, C, etc.), the number of each of the following, received by Hyundai, or of which Hyundai is otherwise aware, which relate to, or may relate to, the alleged defect due to subject component in the subject vehicles:

   a. Consumer complaints, including those from fleet operators;
   b. Field reports, including dealer field reports;
   c. Reports involving a crash, injury or fatality;
   d. Reports involving a fire;

e. Property damage claims;
f. Third-party arbitration proceedings where Hyundai is or was a party to the arbitration; and
g. Lawsuits, both pending and closed, in which Hyundai is or was a defendant or codefendant.

For subparts "a" through "f, / g, " state the total number of each item (e.g., consumer complaints, field reports, etc.) separately. 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 occurred are to be counted as a crash report, a field report and a consumer complaint).

In addition, for items "c" through "f, / g," provide a summary description of the alleged problem and causal and contributing factors and Hyundai's assessment of the problem, with a summary of the significant underlying facts and evidence. For items "e / f" and "f, / g," identify the parties to the action, as well as the caption, court, docket number, and date on which the complaint or other document initiating the action was filed.

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. Hyundai's file number or other identifier used;
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), street address, email address and telephone number;
d. Vehicle's VIN;
e. Model year;
f. Vehicle's mileage at time of incident;
g. Incident date;
h. Report or claim date;
i. Whether a crash is alleged;
j. Whether property damage is alleged;
k. Number of alleged injuries, if any;
   i) The AIS score of the injuries,
   ii) Description of injury and location;
l. Number of alleged fatalities, if any;
m. Supplier of the subject component; and
n. The category of alleged defect (A, B, C, etc.).

Provide this information in Microsoft Access 2010, or a compatible format, entitled "REQUEST NUMBER TWO DATA."

4. Produce copies of all documents related to each item within the scope of Request No. 2. Organize the documents separately by category (i.e., consumer complaints, field reports, etc.) and describe the method Hyundai used for organizing the documents. Describe in detail the

search methods and search criteria used by Hyundai to identify the items in response to Request No. 2.

5. Provide the following information to the subject component of the subject vehicles.
   a. Original design specification sent to supplier;
   b. All modifications or changes made by, or on behalf of, Hyundai in the design, material composition, manufacture, quality control, supply, or installation of the subject component, from the start of production to date, which relate to, or may relate to, the alleged defect in the subject vehicles;
   c. The date or approximate date on which the modification or change was incorporated into vehicle production;
   d. A detailed description of the modification or change;
   e. Whether the modified component can be interchanged with earlier production components; and
   f. Whether the part number contained protective circuitry (E.G., Schottky diodes or similar components intended to suppress transient electrical voltages and currents) for communication lines (e.g., to sensors or other external devices) connected to the DS84 ASIC.
      i) If so, to which ASIC and to which communication line or lines (low voltage, high voltage, or both);

6. Produce copies of engineering drawings, photos, and/or documents related to the wire configurations forward of the firewall of the subject vehicles.
   a. Original design specification
   b. Modified design specification
   c. Location(s) of the front impact sensors;
      i) Do they have dedicated harnesses in the crush zone?
      ii) Are the front crash sensors electromagnetically shielded and/or run as twisted pairs?
   d. Description of pathway the wires are routed through the engine bay;
   e. Descriptions of the wires bundled;
   f. The voltage and current load specifications for each wire; and
   g. And any physical shielding or wire protection to suppress unintended electrical voltages and currents for communication lines (e.g., to sensors or other external devices) connected to the DS84 ASIC.

7. Furnish Hyundai's assessment of the alleged defect in the subject vehicle, including:
   a. The causal or contributory factor(s);
   b. The failure mechanism(s);
   c. The failure mode(s);
   d. The risk to motor vehicle safety that it poses; and
   e. What warnings, if any, the operator and the other persons both inside and outside the vehicle would have that the alleged defect was occurring or subject component was malfunctioning; and
   f. The reports included with this inquiry.

Legal Authority for This Request

This letter is being sent to Hyundai 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

Hyundai's failure to respond promptly and fully to this letter could subject Hyundai 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 $21,000 per violation per day, with a maximum of $105,000,000 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 Hyundai 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, Hyundai does not submit one or more requested documents or items of information in response to this information request, Hyundai 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 PE18-003 in Hyundai's response to this letter and in any confidentiality request submitted to the Office of Chief Counsel.

If Hyundai 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, Hyundai 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-100), National Highway Traffic Safety Administration, Room W41-227, 1200 New Jersey Avenue, S.E., Washington, D.C. 20590. Hyundai is required to **submit two copies of the documents containing allegedly confidential information (except only one copy of blueprints) and one copy of the documents from which information claimed to be confidential has been deleted.** 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 new requirements in NHTSA's Confidential Business Information Rule regarding submissions in electronic formats. *See* 49 CFR 512.6(c) (as amended by 72 Fed. Reg. 59434 (October 19, 2007)).

If you have any questions regarding submission of a request for confidential treatment, contact Otto Matheke, Senior Attorney, Office of Chief Counsel at otto.matheke@dot.gov or (202) 366-5253.

Due Date

Hyundai's response to this letter, in duplicate, together with a copy of any confidentiality request, must be submitted to this office by **October 19, 2018**. Hyundai's response must include all non-confidential attachments and a redacted version of all documents that contain confidential information. If Hyundai finds that it is unable to provide all of the information requested within the time allotted, Hyundai must request an extension from me at (202) 366-2315 no later than five (5) business days before the response due date. If Hyundai 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 Hyundai then has available, even if an extension has been granted.

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

If you have any technical questions concerning this matter, please call Nathan Ong of my staff at (202) 366-1661.

Sincerely,



Paul Simmons, Chief
Vehicle Defects Division C
Office of Defects Investigation

Enclosure 1, a copy of the subject report referenced in the introduction of this letter identified by the following ODI reference number: 10849839