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October 16, 2015

VIA FEDERAL EXPRESS

Scott Yon, Chief
Vehicle Integrity Division
Office of Defects Investigation Enforcement
U.S. Department of Transportation
National Highway Traffic Safety Administration
1200 New Jersey Avenue, S.E.
Washington D.C. 20590

Re: **Preliminary Evaluation (PE15-031)**
Front Passenger Seat OCS (MY) 2007-2009 Kia Spectra

Dear Mr. Yon:

This letter is submitted in response to your letter dated September 8, 2015 sent to Kia Motors America ("Kia") (Reference NVS-212sly/PE15-031). That letter requested information regarding allegations of the front passenger seat occupant classification system (OCS) malfunctioning in certain 2007-2009 Spectra vehicles.

REQUEST NO. 1:

State, by model and model year, the number of subject vehicles Kia has manufactured for sale or lease in the United States. Separately, for each subject vehicle manufactured to date by Kia, state the following:

a. Vehicle identification number (VIN);
b. Make;
c. Model;
d. Model Year;
e. Subject component part number and design version installed as original equipment;
f. Date of manufacture;
g. Date warranty coverage commenced; and
h. The State in the United States where the vehicle was originally sold or leased (or delivered for sale or lease).

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

RESPONSE TO REQUEST NO. 1:

Below is a table identifying the total number of 2007-2009 MY LD Spectra vehicles manufactured for sale in the United States.

Model Year	Vehicle Production
2007	65,324
2008	60,402
2009	60,406
TOTAL	186,132

A listing of all 2007-2009 Kia LD Spectra is provided on a Data Collection Disc under the category "PRODUCTION DATA" and submitted contemporaneously with this response.

REQUEST NO. 2:

State the number of each of the following, received by Kia, or of which Kia 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, including dealer field reports;
c. Reports involving a crash, injury, or fatality;
d. Property damage claims;
e. Third-party arbitration proceedings where Kia is or was a party to the arbitration; and
f. Lawsuits, both pending and closed, in which Kia is or was a defendant or codefendant.

For subparts "a" through "f" 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", provide a summary description of the alleged problem and causal and contributing factors and Kia's assessment of the problem, with a summary of the significant underlying facts and evidence. For items "e" and "f," 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.

RESPONSE TO REQUEST NO. 2:

a. Consumer Communications—202

b. Field Reports—1

c. Technical Assistance Reports—150

d. Reports involving crash, injury, or fatality caused by possible defect—0

e. Property Damage Claims—0

f. Third Party Arbitrations—4

g. Lawsuits—0

A summary description of item "f" is attached. **Tab A.**

REQUEST NO. 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. Kia'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. Vehicle's make, model and model year;
f. Vehicle's mileage at time of incident;
g. Incident date;
h. Report or claim date;
i. Whether the SRS light was illuminated;
j. What diagnostic trouble code was detected;
k. What repairs were required;
l. Was the vehicle repaired;
m. Estimated/actual cost of repairs;
n. If the vehicle was not repaired, what was the customer's reason;
o. Whether a crash is alleged;
p. If there was a crash, did the airbags deploy;
q. Was the airbag deployment as intended;
r. Whether property damage is alleged;
s. Number of alleged injuries, if any; and
t. Number of alleged fatalities, if any.

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

RESPONSE TO REQUEST NO. 3:

A listing of the responsive communications identified in Request No. 2 is provided on a Data Collection disc under the category "REQUEST NUMBER TWO DATA" and submitted with this response.

REQUEST NO. 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 Kia used for organizing the documents. Describe in detail the search methods and search criteria used by Kia to identify the items in response to Request No. 2.

RESPONSE TO REQUEST NO. 4:

Copies of the documents identified in response to Request No. 2 are submitted with this letter. **See Tab B**. They are organized by the following categories:

- Consumer Affairs department files from KMA's department database (202)
- Field Reports (1)
- Technical Assistance Case Center Reports (150)
- Third Party Arbitrations (4)

Kia's search has identified a total of 315 unique VINs relating to the alleged vehicle complaints. Kia's search included all files through September 16, 2015 which included the words "airbag" and "passenger"; "air bag" and "passenger"; "OCS"; and "passenger" and "seat". The results were then reviewed to identify those items which related, or may relate to the alleged defect as described in your letter.

REQUEST NO. 5:

State, by model and model year, a total count for all of the following categories of claims, collectively and to date, that Kia paid in full or where Kia made a partial payment toward the cost of the repairs that relate to, or may relate to, the alleged defect in the subject vehicles: warranty claims; extended warranty claims; claims for good will services that were provided; field, zone, or similar adjustments and reimbursements; and warranty claims or repairs made in accordance with a procedure specified in a technical service bulletin or customer satisfaction campaign.

Separately, for each such claim, state the following information:

a. Kia's claim number;
b. Vehicle owner or fleet name (and fleet contact person), street address, email address and telephone number;

c. VIN;
d. Repair date;
e. Vehicle mileage at time of repair;
f. Repairing dealer's or facility's name, telephone number, city and state or ZIP code;
g. Labor operation number(s);
h. Problem code(s);
i. Diagnostic trouble code(s);
j. Replacement part number(s) and description(s);
k. Concern stated by customer;
l. Cause as stated on the repair order;
m. Correction as stated on the repair order;
n. Additional comments, if any, by dealer/technician relating to claim and/or repair;
o. Amount Kia paid toward the cost of the repairs; and
p. Total cost of repairs.

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

RESPONSE TO REQUEST NO. 5:

A total of 1,853 warranty claims have been received by KMA through September 16, 2015 for the 2007-2009MY LD Spectra that relate or may relate to the alleged defect. A total of 7 goodwill claims approved through the Consumer Affairs department have been received through this same time period for the 2007-2009MY LD Spectra which relate or may relate to the alleged defect. A listing of the responsive warranty and goodwill claims is provided on a Data Collection Disc under the category "WARRANTY DATA 1 and WARRANTY DATA 2."

REQUEST NO. 6:

Describe in detail the search methods and search criteria used by Kia to identify the claims in response to Request No. 5, including the labor operations, problem codes, diagnostic trouble codes, part numbers and any other pertinent parameters used.

Provide a list of all labor operations, labor operation descriptions, problem codes, and problem code descriptions, diagnostic trouble codes and diagnostic trouble code descriptions applicable to the alleged defect in the subject vehicles. State whether the diagnostic trouble codes are automatically reported to the warranty database electronically or manually entered into the warranty database by a claims administrator.

State, by make and model year, the terms of the new vehicle warranty coverage offered by Kia on the subject vehicles (i.e., the number of months and mileage for which coverage is provided and the vehicle systems that are covered). Describe any extended warranty coverage option(s) that Kia offered for the subject vehicles and state by option, model, and model year, the number of vehicles that are covered under each such extended warranty.

RESPONSE TO REQUEST NO. 6:

Kia searched for all seat cushion repair/replacement warranty claims through September 16, 2015. Kia also searched for all goodwill claims approved through KMA's Consumer Affairs Department through the same date. That data was then reviewed and claims that either related or could relate to the alleged defect was provided.

Codes Used. In your letter you requested that Kia provide its "problem code" information. Kia refers to the "problem code" as the "cause code" which carries a letter "C" which reflects the technician's evaluation of the cause of the problem. You also requested that Kia provide information regarding the "concerns stated by the customer." Kia's code chart refers to these as "condition codes," but they are commonly referred to as "nature codes," and carry the "N" designation. These reflect the service writer's or technician's understanding of the customer's information.

A copy of KMA's coding sheet for warranty claims is submitted with this response. **See Tab C.**

The 2007-2009MY LD Spectra vehicles have a 5 year, 60,000 mile basic warranty. No extended or additional warranties were provided to Kia customers.

REQUEST NO. 7:

Produce copies of all service, warranty, and other documents that relate to, or may relate to, the alleged defect in the subject vehicles, that Kia has issued to any dealers, regional or zone offices, field offices, fleet purchasers, or other entities. This includes, but is not limited to, bulletins, advisories, informational documents, training documents, or other documents or communications, with the exception of standard shop manuals. Also include the latest draft copy of any communication that Kia is planning to issue within the next 120 days.

RESPONSE TO REQUEST NO. 7:

Attached is a copy of KMA's internal email communication regarding the collection of passenger seat cushions to further evaluate the subject component. **See Tab D.**

REQUEST NO. 8:

Describe all assessments, analyses, tests, test results, studies, surveys, simulations, investigations, inquiries and/or evaluations (collectively, "actions") that relate to, or may relate to, the alleged defect in the subject vehicles that have been conducted, are being conducted, are planned, or are being planned by, or for, Kia. 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.

RESPONSE TO REQUEST NO. 8:

Below is a table that summarizes the actions taken by or on behalf of Kia that may relate or relate to the alleged defect.

Action Title	Start Date	End Date	Subject/Object of Action	Group Responsible	Finding/Conclusion Summary
KMA Product Quality Technical Report, 11/24/08	N/A	N/A	KMA identification of SRS lamp illumination and OCS mat issue	KMA Product Quality Department	KMA identified 2 warranty return OCS mats. Report of 1 sensor circuit separation and 1 bent/partially cracked. See photos. Request KMC support. **Tab E.**
Spectra (LD) OCS Damage Inspection Results, 1/09/09	N/A	N/A	Evaluation of N.America OCS mat warranty return part	KMC Quality Testing Team	Inner side of circuit bridge crack due to tensile stress; crack expanded to outside without separation. Microscope analysis showed related hairline crack on inner side caused by repeated pressure from angular object(s). **Tab F.**
LD F/L OCS-B1448 DTC Issue, 1/19/09 (analysis updated through 2/17/10)	N/A	N/A	Evaluation of same N.America OCS mat warranty return parts	IEE	IEE evaluates OCS final cut tool used during production--not causing damage. IEE identifies sharply folded mat bridge. Visual and microscopic inspection shows torn sensor circuit due to dynamic stress; no fatigue. **Tab G.**[1]

[1] Information contained in Tab G which is unrelated to the 2007-2009MY Spectra has been redacted.

Action Title	Start Date	End Date	Subject/Object of Action	Group Responsible	Finding/Conclusion Summary
KMC Quality Information Status Report (QIS), 3/06/09	N/A	N/A	Communicate results of investigation identified by KMA's Product Quality Technical Report	KMC Quality Assurance Team	Reliability testing of OCS identifies no problem with mat; KMC opinion that cause is stress loading, especially by sharp object. Continue monitoring. **Tab H.**
LD OCS Warranty Return Part Inspection Report, 9/30/15	9/11/15	9/17/15	Update new mat inspections with prior data in accordance with request from NHTSA	KMC Quality Assurance Team 2 including Electrical Improvement Team 2	New inspections show cracks caused by repeated force application by hard surface/foreign object(s) with angular component. Note: subsequent review of documents by IEE confirms focused load causation. **Tab I.**
LD Spectra OCS Warranty Return Part Inspection Results, 10/7/15	10/05/15	10/07/15	"To analyze the cause of Airbag Warning Light ON by inspecting OCS Warranty Return Parts"	KMC Quality Assurance Team 2, including Chassis Engineering Improvement Team and Electronics Improvement Team 2	4 newly returned KMA warranty parts plus 3 NHTSA VOQ mats (7 total) show damage by repeated weight pressure on focused ["small affected"] area. Each inspected part had a different damage location. **Tab J.**

REQUEST NO. 9:

Describe all modifications or changes made by, or on behalf of, Kia 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. 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 part number(s) (service and engineering) of the original component;
e. The part number(s) (service and engineering) of the modified component;

f. Whether the original unmodified component was withdrawn from production and/or sale, and if so, when;
g. When the modified component was made available as a service component; and
h. Whether the modified component can be interchanged with earlier production components.

Also, provide the above information for any modification or change that Kia is aware of which may be incorporated into vehicle production within the next 120 days.

RESPONSE TO REQUEST NO. 9:

There are no modifications to the subject component that either relate or may relate to the alleged defect.

REQUEST NO. 10:

State the number of each of the following that Kia has sold that may be used in the subject vehicles by component name, part number (both service and engineering/production), model and model year of the vehicle in which it is used and month/year of sale (*including the cut-off date for sales, if applicable)*:

a. Subject component;
b. Add any further requests or delete all, including requests for similar or substantially similar components; and
c. Any kits that have been released, or developed, by Kia for use in service repairs to the subject component/assembly.

For each component part number, provide the supplier's name, address, and appropriate point of contact (name, title, and telephone number). Also identify by make, model and model year, any other vehicles of which Kia is aware that contain the identical component, whether installed in production or in service, and state the applicable dates of production or service usage.

RESPONSE TO REQUEST NO. 10:

The attached chart identifying part sales by KMA reflects all front passenger seat cushion replacements regardless of reason for replacement. **See Tab K.**

The supplier of the passenger front seat cushion assembly (Part Nos. 88202-2F702, 88202-2F703, 88202-2F704) is Johnson Controls Automotive Korea, located at 45, Tangjeong-Ro, Tangjeong-Myun, Asan-city, Chungcheongnam-do 336-841, Korea. The point of contact is Gordon Oh, Assistant Manager, Quality Assurance. Mr. Oh can be reached at 82-41-538-6764.

The supplier of the occupant classification sensor mat (Part No. 88906-2F510) is IEE S.A., located at ZAE Weiergewan 11, rue Edmond Reuter L-5326 Contern Luxembourg. The point of contact is Manfred Boeffgen, Director, Quality. Mr. Boeffgen can be reached at 352-2454-2300.

There are no other Kia models that contain the identical components.

REQUEST NO. 11:

Furnish Kia'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;
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.

RESPONSE TO REQUEST NO. 11:

a-b. The causal or contributory factors/ failure mechanism(s).

Damage to the sensor circuit in the form of cuts, sharp bending and/or cracks is typically caused by dynamic focused load applications from a hard surface/foreign object(s), often with sharp or angular features. The basics of this analysis were identified by KMC working with IEE in testing and evaluations in 2009. As a result of NHTSA's recent IR letter, KMC did a deeper drill-down with subject components received from CA complaints and VOQ vehicles and reached the same but stronger conclusions. The conclusions were reinforced by the fact that each of the damage locations was different. This finding provided additional confirmation that no fatigue issues were involved.

c. The failure mode(s).

A focused load application damages the sensor circuit. This sets a fault code and illuminates the SRS airbag warning light on the instrument panel. The airbag system reverts to a default setting in which the front passenger airbag remains activated under all conditions.

d. The risk to motor vehicle safety that it poses.

The facts and engineering analysis do not indicate the presence of a risk to motor vehicle safety. Sensor circuit damage is caused by external force loading which is controllable by the customer and warned about in the Owner's Manual. As soon as the customer or their occupant damages the sensor circuit, the SRS airbag warning light notifies them of the need to service the airbag system.

Until such service is carried out, the system ensures that the front passenger airbag will continue to function. At this point in history, under NHTSA's leadership for the past two decades and as reinforced by Kia's messaging, customers nationwide have been trained to not place their children in the front seat and thus this separate safety issue has been addressed

by other means. Moreover, the history of Kia's advanced airbags is that they are not injury producing regardless of the occupant. The absence of any CA and VOQ complaint of a deployment injury due to an OCS malfunction provides further strong evidence of no safety risk.

The warranty claim data also does not support a defect trend. The warranty claim rate for the 2007-2009MY LD Spectra is low (0.99%) and did not begin to accelerate until toward the end of warranty period. In conjunction with the fact that there is no fatigue issue, this is a powerful indication that no durability problem exists.

e. **Warnings received by the operator and other persons inside the vehicle that the subject component was malfunctioning**.

Persons inside the vehicle are warned that a malfunction to the OCS system has occurred. The SRS airbag warning light located on the instrument panel will be continuously illuminated. In addition, the PASSENGER AIR BAG OFF indicator light will not illuminate even if the front passenger seat is not occupied or is occupied by a child.

The Owner's Manual provides several warnings that the airbag system is not working properly:

> "If the occupant classification system is not working properly, the airbag warning light [picture of SRS symbol] on the instrument panel will illuminate. If there is a malfunction of the occupant classification system, the 'PASSENGER AIR BAG OFF" indicator will not illuminate and the front passenger's air bag will deploy in the frontal crashes even if there is a child or no occupant in the front passenger's seat. If the SRS air bag warning light does not illuminate when the ignition key is turned to the 'ON' position, if it remains illuminated after blinking for approximately six seconds, or if it illuminates while the vehicle is being driven, have an authorized Kia dealer inspect the occupant classification system with the SRS air bag system as soon as possible."

f. **The reports included with this inquiry**.

An analysis of the VOQs included with this inquiry is attached. **See Tab L.**

Sincerely,

J.S. (Jurassic) Park
Executive Director, Product Liability &
Regulatory Compliance Kia Motors
America, Inc.