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May 22, 2015

VIA FEDERAL EXPRESS

Otto Matheke, Acting Director
Office of Defects Investigation
U.S. Department of Transportation
National Highway Traffic Safety Administration
1200 New Jersey Avenue, S.E.
Washington D.C. 20590

Re: **Engineering Analysis (EA14-002)**
Panorama Sunroof Option (MY) 2011-2014 Kia Optima & Sportage

Dear Acting Director Matheke:

This letter is submitted in response to your letter dated April 15, 2015 sent to Kia Motors America, Inc. ("Kia") (Reference NVS-212eer/EA14-002). That letter requested information regarding the allegations of spontaneous sunroof shattering, resulting in potential driver distraction (while in motion) and injuries from falling glass fragments in model year (MY) 2011-2014 Kia Optima and 2011-2014 Kia Sportage vehicles. That letter also requested information concerning certain Kia vehicles equipped with a glass "panoramic" type sunroof system.

REQUEST NO. 1:

State, by model and model year, the number of subject peer 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. Date of manufacture;
- f. Date warranty coverage commenced; and
- g. 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:

The total number of 2011-2014 MY Optima and 2011-2014 MY Sportage vehicles manufactured with panorama sunroofs for sale in the United States is summarized in the chart below:

	Optima	Sportage
2011MY	22,731	10,177
2012MY	43,474	9,030
2013MY	82,093	9,456
2014MY	36,574	4,480
TOTAL	184,872	33,143

A listing of all 2011-2014 MY Optima and Sportage vehicles with panorama sunroofs is provided on a Data Collection Disc under the category "PRODUCTION DATA" submitted 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; and
- 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:

The following is a breakdown of the requested information which relate to or may relate to sunroof breakage:

CATEGORY	11-14 MY Optima	11-14 MY Sportage
Consumer Complaints	168	35
Field Reports	60	8
Technical Assistance Case Center Reports	58	11
Reports involving injury	11	7
Reports involving crash	0	0
Reports involving fatality	0	0
Property Damage Claims	2	0
Third Party Arbitrations	0	0
Lawsuits	0	0

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), 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 vehicle was occupied when the incident occurred;
- j. Whether the vehicle was in motion when the incident occurred;
- k. Whether a crash is alleged;
- l. Whether property damage is alleged;
- m. Number of alleged injuries, if any; and
- n. 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 that alleges a crash, injury, or fatality occurred. (Also include all documents related to any incident in which Kia conducted a field assessment of the incident vehicle, including all photographs.) 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 responsive to Request No. 2 where a crash, injury or fatality is alleged and where a field assessment was done are submitted with this letter. **See Tab A.** They are organized by the following categories:

- Consumer Affairs department files from KMA's department database where an injury was alleged. There are no crashes or fatalities.
 - 2011-2014 MY Optima (11)
 - 2011-2014 MY Sportage (7)
- Field Reports where an assessment was done.
 - 2011-2014 MY Optima (60)
 - 2011-2014 MY Sportage (8)
- Technical Assistance Case Center Reports where an assessment was done.
 - 2011-2014 MY Optima (10)
 - 2011-2014 MY Sportage (4)

The search method used to obtain the data identified in its response to Request No. 2 is as follows: Kia searched all files through March 31, 2015 which included the words "roof" and "broke" or "break"; "roof" and "shatter"; and "roof" and "explode" or "explo". Kia's search identified a total of 173 unique VINs for the 2011-2014 Optima MY and 37 for the 2011-2014 MY Sportage. The results were then reviewed to identify those items which related, or may relate to the alleged defect.

REQUEST NO. 5:

For each model, model year and panoramic sunroof system design manufactured on the subject peer vehicles, identify the part number, supplier name and a complete street address, contact name, and telephone number.

RESPONSE TO REQUEST NO. 5:

The part numbers for the glass in the 2011-2014 MY Optima are 81620-2T000 (front), 81630-2T000 (center) and 81616-2T010 (rear). The front, center and rear glass panel supplier for the 2011-2014MY Optima is KAC, #134, SANDAN-GIL, Jeoneui-Myun, Sejong-Si, Korea. The point of contact is Jong Kyu Kim, General Manager, Quality Division. Mr. Kim can be reached at 82 10 2287 0136.

The part numbers for the frame assembly in the 2011-2014 MY Optima are 81610-2T110 and 81610-2T111. The supplier of the panorama sunroof assembly for the 2011-2014MY Optima is Webasto Donghee, 13-28, Sujangri, Shinchangmyun, Asan City, Korea. The point of contact is Ki-Sung Kim, Director, Quality Division. Mr. Kim can be reached at 82 10 5331 4615.

The part numbers for the glass in the 2011-2014 MY Sportage are 81610-3W000 (front), 81611-3W000 (center) and 81616-3W000 (rear). The front, center and rear glass panel supplier for the 2011-2014MY Sportage is Hankuk Sekurit, 55 Soryong-dong, Gunsan, Joellabuk-do, 573-400, Korea. The point of contact is Yeon-Hyuk Lim, Vice-President, Quality Division. Mr. Lim can be reached at 82 10 8951 0193.

The part numbers for the frame assembly in the 2011-2014 MY Sportage are 81620-3W010 and 81630-3W012. The supplier of the panorama sunroof assembly for the 2011-2014MY Sportage is Webasto Donghee, 6, Cheoyongsanup-ro, Onsan-eup, Ulju-gun, Ulsan, Korea. The point of contact is Ki-Sung Kim, Director, Quality Division. Mr. Kim can be reached at 82 10 5331 4615.

REQUEST NO. 6:

For each panoramic sunroof system utilized in the subject peer vehicles, provide the following information:

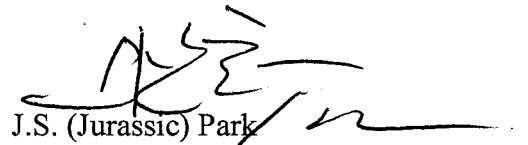
- a. Marketing or Common item name;
- b. Movable or Fixed glass panel system;
- c. Single or multiple panel design (state no. of panels);
- d. Type of movable glass panel deployment design (i.e., Slide-in-Roof; Tilted and Slide over roof; Titled [sic], Slide and Stacked (for sectioned design), etc.);
- e. Sunshade type (manual or automatic, 1 or 2-piece)
- f. Location of glass panel(s) (i.e., "over 1st-row occupants", "over 2nd- row occupants", etc.);
- g. Size of panel(s) (length x width in centimeters);
- h. Thickness of glass panels (millimeters);
- i. Weight of glass panel(s) (kilograms);

- j. Type of glass used as classified in ANSI/SAE Z26.1 (i.e. laminated, tempered, tempered-laminated, etc.)
- k. Certified to ANSI/SAE Z26.1, Item 3/4 Glazing Material Standard (specify all applicable Table 1 Tests);
- l. Provide any impact test results per ANSI/SAE Z26.1 Test No. 6-14 or per other standards if available;
- m. ANSI/SAE Z26.1 certification marking (i.e. AS1, AS2, etc.) if any;
- n. Explain the reasons for selecting the type, thickness and other relevant aspects of the glass used in the subject component in comparison with other types, thickness, and other relevant aspects of glass, which were considered or which could have been used.
- o. Engineering drawings of the panoramic sunroof system, including a depiction and/or description of how it is assembled in the subject vehicle.

RESPONSE TO REQUEST NO. 6

See attached chart. **Tab B.**

Sincerely,


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

EA14-002

KIA

5/22/2015

EA14-002 KIA 5-22-2015

Category		2011-2014 Optima	2011-2014 Sportage
a.	Marketing or Common Item Name	Panorama Roof Assembly	Panorama Roof Assembly
b.	Movable or Fixed Glass Panel System	Movable	Movable
c.	Single or Multiple Panel Design (No. of Panels)	Multiple (3 panels)	Multiple (3 panels)
d.	Type of Movable Glass Panel Deployment Design	Tilt and Slide Over Roof	Tilt and Slide Over Roof
e.	Sunshade Type	Automatic (2 piece)	Manual (2 piece)
f.	Location of glass panels	Front & Movable over 1st Row Rear over 2nd Row	Front & Movable over 1st Row Rear over 2nd Row
g.	Size of panel(s) (length x width in centimeters)		
	Front Glass	99.73 x 13.46	98.43 x 10.24
	Movable Glass	98.79 x 58.90	97.89 x 80.44
	Rear Glass	92.93 x 83.01	95.61 x 83.22
h.	Thickness of glass panel(s) (millimeters)		
	Front Glass	4.0	4.0
	Movable Glass	4.0	4.0
	Rear Glass	4.0	4.0
i.	Weight of glass panel(s) (kilograms)		
	Front Glass	1.1	1
	Movable Glass	5.6	7.4
	Rear Glass	7.8	7.8
j.	Type of glass used as classified in ANSI/SAE Z26.1	Tempered	Tempered
k.	Certified to ANSI/SAE Z26.1, Item 3/4 Glazing Material Standard (Specify all applicable Table 1 Tests)	Test No. 6-8.	Test No. 6-8.
l.	Impact test results per ANSI/SAE Z26.1	See Tab C	See Tab D
m.	ANSI/SAE Z26.1 certification marking	AS3	AS3
n.	Reasons for selecting type, thickness and other relevant aspects of the glass used in the subject component in comparison with the other types, thickness, and other relevant aspects of glass, which were considered or which could have been considered.	<p>The panorama sunroofs in the 2011-2014 Optima and Sportage vehicles were designed in conjunction with existing suppliers. The technologies involved did not incorporate new innovations, but rather utilized existing technologies and manufacturing processes that had been common in the industry and common in Kia vehicles for many years previously. Working with its suppliers, Kia chose tempered glass due to its proven strength capacity to withstand high breaking stresses. The 4mm thickness was selected since such glass had been used in Kia's prior sunroofs successfully. The 4mm thickness maintains sunroof strength without adding weight high up on the vehicle, which NHTSA studies have stated would otherwise adversely impact vehicle stability. It is important that the increased size of panorama sunroof glass increases the need not to unnecessarily add thickness and thus weight, compared to vehicles with earlier smaller roofs. In its decision-making, Kia compared existing vehicles manufactured with larger sunroofs and determined that other manufacturers used tempered glass with the same thickness and success. Kia used this benchmarking in its design process. As to the panel choice issue, Kia adopted a 3 panel design primarily in response to customer choice trends in the industry.</p>	
o.	Engineering drawings of panoramic sunroof system, including depiction of how assembled.	See Tabs E & F	See Tabs G & H

TAB C

DOCUMENTS SUBMITTED

CONTEMPORANEOUSLY

TAB D
DOCUMENTS SUBMITTED
CONTEMPORANEOUSLY

TAB E

DOCUMENTS SUBMITTED

CONTEMPORANEOUSLY

TAB F
DOCUMENTS SUBMITTED
CONTEMPORANEOUSLY

TAB G

DOCUMENTS SUBMITTED

CONTEMPORANEOUSLY

TAB H
DOCUMENTS SUBMITTED
CONTEMPORANEOUSLY