



Kia Motors America, Inc.
Corporate Headquarters

[REDACTED] Irvine, CA [REDACTED] USA
T [REDACTED] F [REDACTED]

June 28, 2019

VIA FEDERAL EXPRESS

Paul Simmons, Chief
Vehicle Defect Division C
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: **Preliminary Evaluation [REDACTED]**
Non-Crash Fires (MY) 2011-2014 Kia Optima and Sorento and
MY) 2010-2015 Kia Soul

Dear Mr. Simmons:

Pursuant to the extension you granted Kia on May 16, 2019, this letter contains Kia's supplemental responses to Request No. 2, 5, 6, 10, 11 and 12 of your letter dated April 12, 2019 (Reference [REDACTED]). As you are aware, Kia's May 31, 2019 submission included Kia models equipped with the *same* Theta II, Lambda, Gamma and Nu engines as the 2011-2014MY Optima, Sorento and 2010-2015MY Soul. For completeness purposes, Kia has expanded the scope of its responses to include all Kia models equipped with Theta II, Lambda, Gamma and Nu engines without limitation. As a result, Kia is submitting supplemental information and documents to all applicable Requests identified in the letter.

REQUEST NO. 1:

State, by model, model year, and engine type, 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. Engine (by type, displacement and company engine code);

- f. Whether the vehicle is covered by Recall(s) 17V-224, 18V-907, 19V-101 and/or 19V-120 and/or the Knock Sensor Detection System (KSDS) campaign, and if so, specifically identify the recall(s) and/or campaign;
- g. Remedy/repair date(s) of vehicle for each of the above-mentioned recall(s) and/or KSDS campaign;
- h. Date of manufacture;
- i. Date warranty coverage commenced; and
- j. 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:

A chart summarizing the total number of subject vehicles broken down by model and model year is being provided. **TAB 1.** A list of these vehicles is provided on the data collection file under the category "PRODUCTION DATA" and is submitted contemporaneously with this response.

SUPPLEMENTAL RESPONSE TO REQUEST NO. 1:

A chart which includes the total number of all Kia vehicles equipped with the Theta II, Lambda, Gamma and Nu engines broken down by model and model year is provided. **TAB 1.1.** A list of the expanded scope of vehicles is provided on the data collection file under the category "PRODUCTION DATA_EXPANDED SCOPE" and is submitted concurrently with this response.

REQUEST NO. 2:

State, by model, model year, and alleged defect category (i.e., A, B, C and D), 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 vehicles¹:

- a. Consumer complaints, including those from fleet operators;
- b. Field reports, including dealer field reports;
- c. Reports involving a fire, 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

¹ For the subject vehicles equipped with Lambda II, Gamma and Nu engines, which relate to allegations of engine stalling and/or seizures that did not result in engine compartment fires, separately provide all the requested information in questions 2 through 4 of this letter.

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 chart summarizing the total of each of the items requested in 2(a) through (f) is being submitted contemporaneously with this response. **TAB 2.** Pursuant to the extension granted by Paul Simmons on May 16, 2019, the assessment portion of this Request will be provided on June 28, 2019. The information requested in footnote 1 has been determined to be held in abeyance.

SUPPLEMENTAL RESPONSE TO REQUEST NO. 2:

An updated and corrected chart summarizing the total of each of the items requested in 2(a) through (f) is being submitted concurrently with this response. **TAB 2.1**

The assessments associated with items 2(c) through (f) have been included in the files titled

- REQUEST NUMBER TWO DATA_CONSUMER COMPLAINTS_5.31.19_WITH ASSESSMENTS;
- REQUEST NUMBER TWO DATA_LAWSUITS_5.31.19_WITH ASSESSMENTS
- REQUEST NUMBER TWO DATA_TECHLINES_5.31.19_WITH ASSESSMENTS
- REQUEST NUMBER TWO DATA_CONSUMER COMPLAINTS_EXPANDED SCOPE_WITH ASSESSMENTS; and
- REQUEST NUMBER TWO DATA_LAWSUITS_EXPANDED SCOPE_ASSESSMENTS.

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. Alleged defect category (i.e., A, B, C or D);
- b. Kia’s file number or other identifier used;
- c. The category of the item, as identified in Request No. 2 (i.e., consumer complaint, field report, etc.);
- d. Vehicle owner or fleet name (and fleet contact person), street address, email address and telephone number;
- e. Vehicle’s VIN;
- f. Vehicle’s make, model and model year;

- g. Vehicle's mileage at time of incident;
- h. Incident date;
- i. Report or claim date;
- j. Whether property damage is alleged;
- k. Number of alleged injuries, if any;
- l. Number of alleged fatalities, if any, and;
- m. For property damage claims, the amount paid and, expressed as a percentage, the ratio of the amount paid to the amount claimed in the original demand.

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

RESPONSE TO REQUEST NO. 3:

A list of the responsive communications is provided on the data collection file under category "REQUEST NUMBER TWO DATA" and is submitted contemporaneously with this response.

SUPPLEMENTAL RESPONSE TO REQUEST NO. 3:

A list of the responsive communications for the expanded scope of vehicles is provided on the data collection field under the category "REQUEST NUMBER TWO DATA_EXPANDED SCOPE" and is submitted concurrently with this response.

REQUEST NO. 4:

Produce copies of all documents related to each item within the scope of Request No. 2 including, but not limited to, investigators' reports examining the origin, cause and course of any fire. Investigators' reports include any reports or assessments provided to Kia by any other party, such as expert or investigator reports prepared by or on behalf of any plaintiff or claimant, including any insurer or subrogee of same. Organize the documents separately by the alleged defect category (i.e., A, B, C and D) and field data 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 are organized electronically in folders titled Alleged Defect A, B, C and D. Each Alleged Defect folder contains copies of the responsive Consumer Assistance Center Case Reports (CA's), Technical Assistance Center Case Reports, Field Reports, Lawsuits & Arbitrations, including documents relating to those cases, if any, and are organized by model. Any document associated with a particular Kia file is named by the file number assigned to it by Kia as identified in Request 3(b).

KMA's search included all CA's, Field Reports and Techline Reports that were TREAD coded for fire. In addition, separate searches using the words "smoke" and "flame", "smoke" and

“melt”, “smoke” and “burn”, and “melt” and “burn” were also conducted. Those cases were then reviewed for responsiveness. Any documents associated with a particular case are saved electronically in Kia’s system and were pulled for purposes of this response. With respect to CA reports, KMA is not always able to extract incident date information in an automated manner from the source system. KMA is including incident date information where it can be discerned based on its review of the case. As to lawsuits and arbitrations, KMA’s search included all Complaints, Claims and Arbitrations involving an allegation of a non-crash related fire involving the subject vehicles. The same time parameters as identified in Footnote 2 below were also used purposes of identifying the Lawsuits, Claims and Arbitrations.

SUPPLEMENTAL RESPONSE TO REQUEST NO. 4:

Copies of the additional documents relating to the expanded scope of vehicles is organized in the same manner and was searched for using the same parameters described in Kia’s response above which was submitted on May 31, 2019.

REQUEST NO. 5:

State, by model and model year, a total count for all of the following categories of claims, collectively, that have been paid by Kia that relate to, or may relate to, the alleged defects 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. Whether there was a claim for a towing expense on or near the date of the repairs to the subject components;
- l. Concern stated by customer;
- m. Cause as stated on the repair order;
- n. Correction as stated on the repair order; and
- o. Additional comments, if any, by dealer/technician relating to claim and/or repair.

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

RESPONSE TO REQUEST NO. 5:

Pursuant to the extension granted by Paul Simmons on May 16, 2019, the response to this Request will be provided by June 28, 2019.

SUPPLEMENTAL RESPONSE TO REQUEST NO. 5:

A list of the warranty claims identified as a result of the search specified in Kia's response to Request No. 6 is provided on the data collection file under the category "WARRANTY DATA". In addition, Kia is also providing a list of goodwill claims approved by KMA's Consumer Affairs Department under the category and "WARRANTY DATA 2". Both Access files are submitted concurrently with this response.

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, part numbers and any other pertinent parameters used.

RESPONSE TO REQUEST NO. 6:

Pursuant to the extension granted by Paul Simmons on May 16, 2019, the response to this Request will be provided on June 28, 2019

SUPPLEMENTAL RESPONSE TO REQUEST NO. 6:

The Warranty claims are not specifically coded for fire. As a result, Kia searched for all repair/replacement warranty claims through March 31, 2019 applicable to the subject vehicles. A key word search using the terms "fire," "melt," "smoke," "flame" or "burn" was conducted.² A review of records resulting from that initial search identified many that were non-responsive and thus additional searches were conducted to exclude claims that were clearly non-responsive such as the following: claims where the word "fire" appeared in the context of "misfire", "firestone", "firewall"; "fluid burnt" or "clutch burnt"; "bulb burnt or burned out" with no other obvious indication of a thermal event; claims involving excessive oil consumption (e.g., "burning a lot of oil") or excessive smoke from exhaust claims.

Codes Used. In your letter you requested that Kia provides its "problem code" information. Kia refers to the "problem code" as the "cause code" which carries a letter "C" and 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." These are commonly referred to as

² For the Kia vehicles identified in [REDACTED] KMA is providing supplemental data through March 31, 2019.

“nature codes” and carry the “N” designation. These reflect the service writer’s or technician’s understanding of the customer’s concern.

REQUEST NO. 9:

Produce copies of all service, warranty, and other documents that relate to, or may relate to, the alleged defects 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. This request applies irrespective of the form in which such material was transmitted and expressly includes materials issued in electronic formats, including but not limited to, electronic communications, videos, recordings, photographs, images, and other electronically stored information. Also include the latest draft copy of any communication that Kia is planning to issue within the next 120 days.

RESPONSE TO REQUEST NO. 9:

Copies of the documents responsive to this request are provided. **TABS 4-35.**

SUPPLEMENTAL RESPONSE TO REQUEST NO. 9:

Copies of the documents responsive to this request for the expanded scope of vehicles are provided. **TABS 36-79.**

REQUEST NO. 10:

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 defects 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. 10:

Pursuant to the extension granted by Paul Simmons on May 16, 2019, the assessment portion of this Request will be provided by June 28, 2019.

SUPPLEMENTAL RESPONSE TO REQUEST NO. 10:

A summary chart of the actions in response to this request is submitted concurrently with this response. **TAB 80.**

REQUEST NO. 11:

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 components, from the start of production to date, which relate to, or may relate to, Alleged Defect A, B or C in the subject vehicles and either directly or indirectly reduce or mitigate the risk of fire or thermal events. 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. 11:

Pursuant to the extension granted by Paul Simmons on May 16, 2019, the assessment portion of this Request will be provided by June 28, 2019.

SUPPLEMENTAL RESPONSE TO REQUEST NO. 11:

A chart identifying the information responsive to this request is submitted concurrently with the response. **TAB 81.**

REQUEST NO. 12:

Furnish Kia's assessment of the alleged defects in the subject vehicles, including:

- a. The root cause and all 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 VOQ reports referenced in this inquiry.

RESPONSE TO REQUEST NO. 12:

Pursuant to the extension granted by Paul Simmons on May 16, 2019, the assessment portion of this Request will be provided by June 28, 2019.

SUPPLEMENTAL RESPONSE TO REQUEST NO. 12 (a)-(f):

1. Overview

Kia has in its responses to this IR provided a wide range of additional information relating to non-collision "fires" requested by NHTSA's April 12, 2019 letter. The term "fire" as defined in 49 CFR Part 579.4 includes all thermal events regardless of whether they result in a fire or not, such as the appearance of smoke or reports of melted insulation on wires and the like.

Consequently, the data requested by NHTSA and provided by Kia includes events in which the vehicles did not experience a fire as it is commonly understood by the public. Nevertheless, Kia understands that NHTSA finds such data is helpful in understanding heat sources, and Kia has diligently provided that expanded information. The bottom line of Kia's research and investigation shows that Kia's complaint rates for the broad range of thermal events are low and not indicative of any previously undiscovered safety defect trend.

The Agency has requested that Kia categorize its alleged thermal events into four (4) separate thermal event ("fire") categories: (a) within the engine compartment caused by engine failures; (b) within the engine compartment not associated with engine failure; (c) outside the engine compartment; and (d) unknown origin or location. Because NHTSA's defect definitions focus on the origin of the fire, Kia's assessment has been focused on customer complaints, as they tend to typically contain the most factual detail about visible indications of the fire origin.³ Kia has identified 1,579 customer complaints regarding non-collision thermal events ("fires") for an approximate overall rate of 0.029% of the relevant vehicle population (i.e., 13 vehicle models spanning 12 model years totaling 5,361,857 vehicles over an 11 year time period). Of these, 602 involved non-fire thermal events and 977 involved fires, meaning that almost 40% of the reported events did not involve what is commonly understood to be fires.

³ We determined that warranty claim data is not easily categorized into the alleged defect structure proposed by the IR and attempts to summarize warranty claims created more confusion than clarity as to fire origins.

2. Data Analysis

Within The Engine Compartment

Of the 1,579 alleged thermal events, approximately 71% (1,119), originated within the engine compartment. This is consistent with publicly available information from the U.S. Fire Administration (USFA) which indicates that a similar majority (62%) of all vehicle fires originate within the engine compartment.⁴

Specifically, 369 of the 1,119 alleged thermal events have been categorized under Alleged Defect A (non-crash fires caused by engine failures (i.e., engine seizure)). While some of the events are related to engine failures due to lack of maintenance (e.g., oil sludge, aftermarket oil filter) and repair errors (e.g., oil leaking from improperly installed oil drain plug, rag left in engine compartment and wrapped around crankshaft), most of the events identify an engine failure due to a hole in the engine block caused by a broken connecting rod which resulted in oil escaping and contacting hot exhaust components.

Approximately 28% (102) of the alleged thermal events ("fires") are for vehicles within the scope of Recall Nos. 17v224 and 19v120. The vast majority of the remaining thermal events (i.e., 267 of the 369 categorized as Alleged Defect A) that do not fall within the scope of the above recalls identify a hole in block as the cause. These events cover a range of 13 vehicle models equipped with 11 different engine types spanning 10 model years beginning in calendar year 2010 for a rate of 0.006%. This data reflects the reality that the connecting rod is a focus of engine stresses and loads. A connecting rod failure, however, is not, in and of itself, indicative of a defect and can occur for a variety of reasons including lubrication issues due to faulty maintenance (e.g., lack of oil, use of incorrect oil), over-revving, overloading the engine (e.g., exceeding tow capacity), low-speed pre-ignition events which can cause the connecting rod to buckle/bend and/or the bearings to be overloaded, and piston ring wear. Understanding that connecting rods can break and thus result in a stall and in some cases a fire due to oil escaping from a hole in the block, Kia took the additional step of developing the Knock Sensor Detection System "KSDS" software (more fully explained below) to proactively protect its customers from the potential results of engine failures caused by connecting rod bearing wear.

As it relates to Alleged Defect B, Kia has identified 750 thermal events ("fires") that were not caused by engine failure. While Kia has made significant efforts to determine the cause of these thermal events, the very nature of fires has created investigation obstacles. Of 750 thermal events categorized as Alleged Defect B, 342 of them (46%) report no identifiable cause. This is due to the extensive vehicle damage caused by the fire which frequently consumes critical evidence necessary to identify the cause. In these instances, Kia can identify the location of the fire (engine compartment) but is unable to specifically identify the cause. In addition, a significant number of earlier incidents needed to be characterized as unknown due to KMA's prior screening practice of advising the customer to tell their insurer of the incident, which insurer would then advise KMA if their investigator believed a vehicle defect might exist. In

⁴ Topical Fire Report Series, Highway Vehicle Fires (2014-2016) at 4, Issue 2, July 2018 Vol. 19.

those instances where the insurer asserted a claim of a potential defect, Kia maintained a record of such claims, which are included in Kia's responses to the current IR. If the insurer did not pursue the matter, Kia believed no defect was present, but has designated the matter as unknown in these responses.

A significant filtering point for Alleged Defect B is the number of engine compartment fires related to recalls Kia has conducted (Recall No. 15v015 for cooling fan resistor overheating; Recall No. 17v-586 for improperly heat treated crankshaft; Recall No. 18v-754 for front wiring harness short issue; Recall No. 18v-907 for high pressure fuel pump installation issues; and Recall No. 19v-101 for engine oil pan leaks). Of the 750 vehicles referenced above, 19% of the vehicles have VINs within the scope of these recalls.

For the engine compartment thermal events ("fires") not associated with any of the recalls referenced above, we have identified a variety of failure mechanisms reported among the identified incidents. As identified by the USFA, this is consistent with the fact that the engine compartment houses a high density of complex electrical and mechanical components, piping systems and reservoirs which contain flammable liquids, multiple heat sources which can ignite, and various combustible materials. These incidents involve an extensive gamut of causes including repair facility installation error and lack of maintenance. Properly designed and manufactured components are further subject to wear, damage and deterioration and can thus fail if not replaced/repaired in a timely manner. Sources for such cumulative thermal events ("fires") include engine fans, motors, hose and piping leaks of flammable fluids, electrical wiring, overheating headlamps, overheating radiators and remote start mechanisms.

Based on a review of the data gathered, we have identified no issues (other than ones already recalled) that are indicative of a safety trend within the engine compartment.

Outside Engine Compartment

309 of the 1,579 (20%) alleged thermal events occurred outside the engine compartment (Alleged Defect C). Twenty (20) of these events were caused by objectively identified external factors such as arson, cigarette burns, road debris contacting hot components, electrical outlet misuse, and others. In relation to the remaining 289 complaints, a wide range of origins were identified including seat heaters, door panels, dome lights, wiring harnesses, fuses, tail lamps, speakers, lights, headliners, door sills and aftermarket accessories. The wide distribution of origins and causes are typical for automotive manufacturer fleets, and none of the identified origins/causes contain any data peaks which might indicate a safety defect trend and no individual investigations revealed a vehicle defect requiring a safety recall.

Unknown Origin or Location of Fire

151 of the 1,579 (approximately 10%) of the alleged incidents have no identifiable origin or location that could be determined (Alleged Defect D). Kia emphasizes that such lack of origin identification is not due to a lack of diligence in researching incidents and issues. Since early 2016, KMA has systematically investigated fire incidents as part of an overall effort to understand the complex issue of fire and Kia continues to make increasing significant efforts to

determine causes for most vehicle fire incidents. Still, the nature of fires creates a significant obstacle for identifying origin and in many cases cause.

One Fatality Incident Involving 2011MY Sportage⁵

KMA has not just looked at extensive data analyses and vehicle inspection/investigation reports to search out fire issues. It has also integrated PL and warranty litigation lawsuits into its reviews so that it believes it is trapping all events reported to it, regardless of the source. NHTSA has requested that Kia evaluate any fatalities reported in connection with the "Alleged Defects" identified in the Information Request letter. In response, Kia has been able to identify an incident that occurred on November 16, 2014 with notice being provided to KMA on November 21, 2014. The incident was then immediately investigated by KMA. A lawsuit was filed two years later on October 5, 2016.⁶ Plaintiff's wife and 3 year old daughter were killed by smoke inhalation in the incident. Plaintiff alleged that the couple's 2011MY Kia Sportage contained an unspecified defective electrical system and wiring harness that caused the fire. The family purchased the Sportage used in January 2014. Although they were the fourth owners of the vehicle, the vehicle purportedly had approximately 25,000 miles on the odometer when they purchased it.

The fire occurred on a farm where the family lived in an old all-electric mobile home which had been abandoned for a lengthy period prior to the family moving in. The mobile home had an old central air system, and the Plaintiff installed two additional AC window units to supplement cooling. We do not have any information on the steps taken to ensure the capacity and functioning of the electrical system with these types of loads in a mobile home. The home also contained several powered appliances. A carport was located adjacent to the end of the mobile home where a four-wheeler, mower and other equipment were stored. On the day of the incident, the Plaintiff's mother, grandmother, and the decedents returned home at around 4:30-5:00 p.m. and parked the Sportage in the open approximately 25+ feet away from the mobile home.

Just prior to the incident, the Plaintiff's mother said she was on the phone with the Plaintiff's wife who stated there was an explosion and the mother lost phone contact.

The trailer home was engulfed when the fire department arrived. However, as opposed to death from burns, autopsies showed the decedents died from inhalation of products of combustion and, significantly, that the Plaintiff's wife had blunt impact to her torso and limbs, and lacerations on her elbow and forearm. The fire department reported the origin of the fire was as being in a corner of the mobile home, but did not determine a cause.

⁵ This incident was previously reported to NHTSA in the fourth quarter of 2016. Following a request from NHTSA for additional information, KMA responded to DI17-014 on April 21, 2017.

⁶ Copies of the notice and complaint have been produced in response to Request Number 4.

The scene was cursorily documented after the incident, and the mobile home, tools and other equipment were not preserved. Certain destructive work was performed by the Plaintiff's consultant in the absence of Kia representatives.

Kia inspected the Sportage three (3) times by joint inspections prior to the lawsuit being filed (June 9, 2016, July 19, 2016, and September 8, 2016). It is Kia's assessment working with its on-scene expert consultants that the Sportage was not the source of the fire.

Specifically, the physical evidence on the Sportage was consistent with the fire entering the left front of the vehicle and then moving into the engine and passenger compartments. Kia's consultants did not discover any evidence in the Sportage that would indicate the fire started in the vehicle or that the vehicle was subject to an explosion. The front of the Sportage, which was closest to the trailer, but was still 25+ feet away, was found to have been exposed to the most heat. The 2011 Sportage was completely burned. KMA consultants conducted testing that it would take 60-90 minutes for the vehicle to reach this completely burned state. There is no identifiable reason why the decedents would have remained in the trailer for a prolonged period of time while the Kia burned without calling emergency services and exiting the mobile home. Rather, the explosion reported by the daughter to her mother likely occurred in the trailer, with good indications that the daughter may have been incapacitated with traumatic injuries, or at the least trapped and subject to prolonged smoke exposure. In light of the many potential sources of the fire in the old and formerly abandoned trailer and other equipment parked immediately adjacent, there are good logical reasons to believe that one of those was the source of the fire, especially when coupled with the absence of evidence to indicate that the Sportage was the source of the fire. Kia settled the matter for a nominal sum.

Kia's Long Term Fire Investigation Efforts

Kia has always understood the safety importance of not permitting defects causing fires to go unresolved, and it has thus consistently investigated fire reports where it thought appropriate, similar to other potential defects. However, KMA substantially increased its focus on fires in Spring 2016 as a result of an overall review of CA reports regarding fires and the awareness that there were simply more fires in the U.S. than Kia had previously understood. It therefore began a detailed analysis of all fire incident reports and increased resources to focus on investigating fire incidents.

By the end of 2016, KMA had evaluated all potential fire issues and KMA's engineers were now regularly reviewing and evaluating all fire incidents which appeared to be significant from field or media reports. Kia believed that it had a good handle on the fire issue, including a growing understanding of the wide range of external causes of fire, and it had initiated recalls where the data, individual inspections and engineering analysis from KMC in Korea had established that a recall was appropriate.

Kia was surprised by the unfocused and blunderbuss attack on Kia by the Center for Auto Safety (CAS) advocacy group, especially since CAS only threw numbers out without any analysis describing an engineering cause. KMA however quickly realized that it needed to be even more certain of what was happening in the field and it immediately initiated a wide range of additional

efforts to identify and investigate fires. It shared that information on an ongoing basis with NHTSA and with its dealers. It retained and deployed a range of outside fire investigation firms to supplement KMA's vehicle inspections, it retained a nationally respected vehicle fire expert to supervise and evaluate the fire investigation reports for indications of potential defect, improved its information gathering process with Consumer Affairs and other departments to ensure complete, detailed information was being collected from customers, and retained a former NHTSA safety official to evaluate the incoming data with KMA in real time. Early in 2019, KMC also assembled a fire evaluation team to quickly launch vehicle inspections and evaluate fire issues in Korea and other countries outside the U.S., and has been looking at U.S. incidents also in coordination with KMA. The team is comprised of 9 members who are experts in various engineering disciplines. These efforts are intended to quickly identify the existence of any common root cause of fires, so they can be corrected on the front edge of the field experience curve. All information relevant to U.S. vehicles has been and will continue to be communicated to NHTSA and anticipated actions identified and discussed with NHTSA. The reality is that KMA is not aware of any persons who have died or received significant injuries as a result of any defect in a Kia vehicle, but Kia's goal is to dramatically increase the margin needed to protect the safety of its customers.

Kia's commitment to focusing on protecting its customers is perhaps best exemplified by its leadership role in getting Hyundai's permission and NHTSA's approval for the introduction of an innovative product improvement (referred to as KSDS) to proactively identify the very first moments when any bearing-connecting rod-crankcase connections begin heading in the direction of failure. The KSDS software takes advantage of a thoroughly tested and highly reliable sensor that is already present in the engine. The new software, in combination with the sensor, detects vibrations in a specific frequency range that has been correlated to bearing wear indicating a future engine failure. If the KSDS detects a developing condition, the Malfunction Indicator ("Check Engine") Light flashes continuously and the vehicle is placed into a reduced performance condition called "Limp Home Mode", a technology that was first developed by a major U.S. automotive supplier. In order to ensure that the Limp Home Mode did not endanger its customers, the parameters of this version of the Limp Home Mode limits engine RPMs to 1800-2000. This allows reasonable driving of the vehicle (e.g., up to 65 mph depending on vehicle loading and road conditions and progressive but torpid acceleration from a stop or low speed) while still making the driving experience unsatisfactory for the driver. This is fundamentally a way of safely coercing the driver to have their Kia vehicle promptly serviced. The objective of the KSDS is to mitigate the risk of both so called "stalling" due to bearing failure and consequently the far lesser risk of a fire associated with a connecting rod breaking and creating a hole in the engine block and oil leakage.

3. Conclusion

Kia's investigatory and analytical approach to evaluate fire incidents is as efficient and thorough as possible. We are unaware of any manufacturer who has any more complete and detailed procedure and dedicated expertise to ensuring that fires which might be related to defects are thoroughly analyzed and, when needed, corrected. This detailed understanding of the fire issue is what has allowed Kia to promptly retrieve and analyze data in response to NHTSA's extraordinarily broad information requests requiring arguably massive amounts of research and data. That depth of understanding also allows Kia to identify potential fire issues quickly, have KMC's quality and R&D engineers evaluate and test issues, and thus make decisions as to the possible need for a recall quickly. Using this thorough system, KMA and KMC have analyzed Kia field data and consulted with the KMC quality and R&D engineers in an integrated program. Kia has determined that, apart from the recalls already announced, it has no information which indicates any fire related safety defect trends. Kia intends to continue this program into the future, and to continue relevant reporting of any new issues to NHTSA as they develop.

Kia's assessment of the VOQs referenced in your letter is submitted concurrently with this response. **TAB 82.**

Sincerely,



J.S. (Jurassic) Park
Vice President, Product Litigation &
Regulatory Compliance
Kia Motors America, Inc.