CHRYSLER

October 7, 2013

Mr. Scott Yon
Vehicle Integrity Division (VID), NVS-212
U.S. Department of Transportation

National Highway Traffic Safety Administration (NHTSA)
Office of Defects Investigation (ODI)
Room W48-314
1200 New Jersey Avenue SE
Washington, D.C. 20590

Reference: NVS-212ef; PE13-027

Dear Mr. Yon:

Attached is Chrysler Group LLC's response to the referenced inquiry PE13-027. In performing the analysis and reaching conclusions, and by providing the information contained herein, Chrysler Group LLC is not waiving its claim to attorney work product and attorney-client privileged communications.

Sincerely,

Kristin Kolodge

Kristin J. Kolodge

Attachment and Enclosures

Note: Unless indicated otherwise in response to a question, this document contains information through August 28, 2013, the date the information request was received.

1. State, by model and model year, the number of subject vehicles Chrysler has manufactured for sale or lease in the United States. Separately, for each subject vehicle manufactured to date by Chrysler, 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."

A1. Chrysler Group LLC ("Chrysler") notes that the subject vehicles in response to PE 13-027 are 2012MY Jeep Grand Cherokee (WK) vehicles and any vehicles with substantially similar subject components, which includes the 2011MY, 2013MY and 2014MY Jeep Grand Cherokee's and 2011-2014MY Dodge Durango's.

Vehicle Type	MY Total
2011 – 2014 Jeep Grand Cherokee (WK)	492,710
2011 – 2014 Dodge Durango (WD)	100,589
Total Vehicle Volume = 593,299	

The detailed response listing the production data as requested in Items (a) through (g) is provided in Enclosure 1- Production Data, "PRODUCTION DATA (PE 13-027).mdb".

2. State the number of each of the following, received by Chrysler, or of which Chrysler 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. Reports involving a fire;
e. Property damage claims; and
f. Third-party arbitration proceedings where Chrysler is or was a party to the arbitration; and
g. Lawsuits, both pending and closed, in which Chrysler is or was a defendant or codefendant.

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

A2. The following summarizes the reports located by Chrysler that relate to, or may relate to, the alleged condition in the subject vehicles. Chrysler has conducted a reasonable and diligent search of records kept in the ordinary course of business for information responsive to this inquiry.

a. There are a total of 28 consumer complaints relating to unique VINs.

b. There are 20 field reports relating to unique VINs.

c. There are 0 reports involving a crash, 3 minor injuries and 0 fatalities.

d. There are 48 reports of fire relating to unique VINs.

e. There are 22 reports of alleged property damage (within the 48 reports of fire).

f. There are no third-party arbitration proceedings.

g. There are no lawsuits and 22 legal claims (within the 28 consumer complaints).

ODI sent Chrysler four VOQs and two EWR Field Reports (related to one unique VIN) that the NHTSA believes may be related to this inquiry. All four VOQs and two EWR Field Report were identified by Chrysler as individual consumer complaints of a sun visor fire.

With respect to the incidents identified in sub-parts (a), (c), and (f) above, see Enclosure 3 – REQUEST NUMBER TWO DATA, for a summary description of complaints. For a summary description of the alleged problem and causal and contributing factors, see Enclosure 4 - Consumer Complaints, Field Reports, Legal Claims.

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. Chrysler'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 a crash is alleged;
j. Whether a fire is alleged;
k. Whether property damage is alleged;
l. Number of alleged injuries, if any; and
m. Number of alleged fatalities, if any.

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

A3. The information requested in items (a) through (m) is provided in the detailed response to Question 2, Enclosure 3 – REQUEST NUMBER TWO DATA, as part of a Microsoft Access 2010 table, and titled "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 Chrysler used for organizing the documents.

A4. Enclosure 4 - Consumer Complaints, Field Reports, Legal Claims, contains folders with copies of the available consumer complaints, field reports, legal claims and legal summaries. Legal claims are arranged in folders by the claimant name.

5. State, by model and model year, a total count for all of the following categories of claims, collectively, that have been paid by Chrysler to date 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. Chrysler's claim number;
b. Vehicle owner or fleet name (and fleet contact person) 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;
h. Problem code;
i. Replacement part number(s) and description(s);
j. Concern stated by customer; and
k. Comment, 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."

A5. The detailed response that lists the warranty claim information as requested in items (a) through (k) is provided in Enclosure 5 – Warranty Claims Narrative, Warranty Data, as a Microsoft Access 2010 table, titled "WARRANTY DATA (PE 13-027).mdb"

6. Describe in detail the search criteria used by Chrysler to identify the claims identified in response to Request No. 5, including the labor operations, problem 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 applicable to the alleged defect in the subject vehicles. State, by make and model year, the terms of the new vehicle warranty coverage offered by Chrysler 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 Chrysler 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.

A6. The warranty claims identified in response to Q5 were selected by first identifying all potentially applicable Labor Operation Codes (LOP) relating to the servicing or replacement of the subject components. These LOPs are provided within Enclosure 6 – Visor LOP Detail. These LOPs were used to search for responsive claims paid relating to the subject vehicles and are provided within Enclosure 5 - Warranty Claims Narrative, Warranty Data, "WARRANTY DATA (PE13 – 027).mdb".

Chrysler believes that only a small number of the warranty claims may be related to the alleged condition as there are other reasons to replace certain components, such as the sun visor or headliner for trim fit and finish or sunroof related repair. The number of warranty claims that are being reported may be artificially high with regard to the alleged condition. Thus, Chrysler has not drawn conclusions regarding trends from the warranty data alone.

The small number of warranty claims that are or may be responsive were identified by a text search using fire related terms and the resulting data was then reviewed for available dealer write-ups associated with the warranty claims. Chrysler identified eight warranty claims where there was sufficient information related to the alleged defect. These have been included in the total count of unique vins responsive to the alleged defect.

Reports of alleged fire events are generally otherwise received by the Chrysler Office of the General Counsel, the Chrysler Customer Assistance Center (as a Customer Assistance Inquiry Request or "CAIR") or from other Chrysler field organizations. If an alleged fire event comes to the attention of a dealer technician during a warranty repair, Chrysler requires the dealership to notify the company and a CAIR is created. The CAIRs, legal claims and field reports, to the extent that they are responsive to this investigation, are being submitted in response to Requests 2, 3, and 4.

The standard warranty offered on all 2011 through 2014 MY Jeep Grand Cherokee and Dodge Durango vehicles was 36 months / 36,000 miles. There were no extended warranty coverage claims. Owners may have purchased additional warranty coverage through third-party providers not affiliated with Chrysler. This warranty coverage is not available to Chrysler and is not included with this response.

7. Produce copies of all service, warranty, manufacturing instructions and processes/procedures, and other documents that relate to, or may relate to, the alleged defect in the subject vehicles, that Chrysler has issued to any dealers, regional or zone offices, field offices, fleet purchasers, or other entities including manufacturing associates. 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 Chrysler is planning to issue within the next 120 days.

A7. In February 2013, the Jefferson North Assembly Plant (JNAP) procedure relating to roof systems repairs was updated to be consistent with dealership service procedures. The procedure is located in Chrysler's dealer CONNECT online electronic system Group 23 - body interior, sun visor removal and installation instructions. See Enclosure 7- Public, Service, for the instructions.

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, Chrysler. 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.

A8. On a prior conference call discussion, with Scott Yon of ODI, Chrysler was asked to conduct a survey of company fleet vehicles to inspect for wiring chafe or piercing, due to sun visor screw interference. Chrysler has reviewed 6 vehicles to date and found no wiring chafes, or piercings due to sun visor screw interference.

9. Describe all modifications or changes made by, or on behalf of, Chrysler 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 Chrysler is aware of which may be incorporated into vehicle production within the next 120 days.

A9. Chrysler Group has searched for and reviewed the design records for the subject vehicles sought in this request. CBI Enclosure 9 – Change History CBI, "PE13–027 Subject Component Change History.pdf", contains information regarding the engineering changes performed as well as the change history summary. CBI Enclosure 9 – Change History CBI,

has been submitted under separate cover to NHTSA's Chief Counsel with a request for confidential treatment.

Additionally, within the next 120 days, Chrysler plans to implement a production change to the sun visor spacer that positively locates the sun visor connector inboard of the visor screws. This production change is intended to retain the pigtail wire loop in its proper position during roof systems repair. See CBI Enclosure 9 – Change History CBI, "New Production Visor Spacer.pdf", for the new sun visor spacer details.

Descriptions and documents regarding Chrysler's Automatic Manufacturing Planning Systems (AMPS) for the assembly of the headliner/sun visor system is provided in the attached CBI Enclosure 7- AMPS CBI , which is being submitted to the NHTSA Office of the Chief Counsel under separate cover with a request for confidential treatment. The removal and installation service procedures are contained within Enclosure 7- Public, Service.

10. Produce two of each of the following:

a. Field return samples of the subject component exhibiting the subject failure mode;

b. Any kits that have been released, or developed, by Chrysler for use in service repairs to the subject component/assembly which relate, or may relate, to the alleged defect in the subject vehicles.

A10.

a. Chrysler has received the driver's side sun visor from the vehicle reported in VOQ #10536895. Due to the limited damage found by the dealership technician, only the sun visor itself was replaced. The dealer technician determined that the headliner and all associated wiring did not need replacing. Chrysler has taken photographs and has shipped the sun visor to NHTSA at the same time as this response. No other field samples are available.

b. No kits have been developed by Chrysler for use in service repairs to the subject components.

11. Furnish Chrysler'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.

A11. There are 56 unique VINs that are or may be related to the alleged defect. 48 VINs are identified in response to Q2 and 8 additional VINs are identified in response to Q5. Of the 56 unique VINs Chrysler inspected, 22 vehicles experienced conditions related to the alleged defect. The fire damage did not involve the entire interior of the vehicle, and, therefore, the cause could be determined. Chrysler determined that all 22 occurred in the sun visor vanity lamp circuit due to a resistive short.

The remaining 34 inputs may be related to the alleged defect, but the reported damage is less extensive. There were 20 unique field reports, 6 consumer complaints and 8 unique warranty claims in which words associated with a fire event were present within a repair narrative. All of the reports suggest localized, minor thermal damage in the area around the sun visor. Most of the 34 customers drove their vehicle to the dealer for the repair, and the dealer was able to repair the vehicle and release the vehicle back to the customer.

Chrysler's investigation of the 22 reported fires, in which an inspection was performed, determined the root cause of vanity lamp wiring resistive short was damage due to a visor screw being driven through the vanity lamp wiring. The investigation also determined that the damage was caused during the re-assembly process of the sun visor to the headliner after repair, and not during vehicle assembly.

If, during assembly plant quality testing, a roof system component fails a test, the vehicle is diverted to an in plant repair area where the sun visor is removed to allow the headliner to be lowered and allow access to the repair location. The sun visor is removed by pulling down on the sun visor and separating the wiring service length from its secured production location so that the sun visor pigtail can be disconnected from the headliner wiring harness. Following the completion of the repair, the sun visor pigtail is reconnected to the headliner wiring harness. The service length (including the pigtail) should be properly pushed back up through the headliner access hole and properly tucked away from the access hole and secured to the headliner top surface by gathering the wiring as far inboard as possible and taping it away from the sun visor fastener locations. The sun visor is aligned with the headliner and roof mounted holes and the screws installed to the appropriate torque. This service procedure is further described within Enclosure 7- Public, Service, "Service Installation Repair Procedure.pdf". Properly following this procedure ensures that the screws do not come into contact with the repositioned wiring harness. Dealership service procedures required the same removal and reassembly process as described above.

Failing to follow the service procedure can result in the vanity lamp wiring to be mispositioned within the path of the sun visor attaching screws, and the potential to pierce one or more strands of the vanity lamp wiring while driving the attaching screws. Pushing the wiring service length up through the access hole, without properly tucking the wiring away from the hole can result in wiring bunching near the screw holes. A screw driven through the hole will then likely damage the wire that is bunched near the hole. This random error during the reassembly of a sun visor could potentially create a resistive short within the vanity lamp

wiring and may lead to an inoperative vanity lamp, a burning smell, visible smoke, melting and/or a visible flame. Only when the wiring is no longer secured to the headliner can the wiring be exposed to a risk of a resistive short by contact with a sun visor attachment screw.

After a review of manufacturing and other vehicle records, it was determined that 15 of the 22 vehicles inspected had repairs to the roof system components at the plant prior to the fire event. An additional seven vehicles had a roof system repair at a dealership prior to the reported fire. 22 of the 56 inputs were known to have prior repairs to the roof system. The remaining 34 reported fire events have no records available to determine whether a repair of a roof system component preceded the fire event.

Most of the 56 inputs were of localized, minor thermal damage in the area around the sun visor. For example, in a legal claim (Timmons, also CAIR #23858386 and VOQ #10536895) the owner reported swirly smoke coming from driver visor and smelled something burning. The owner pulled into a service station, turned the ignition off and waited for 45 minutes. A friend moved the sun visor and the dome light flickered. The vehicle was then driven four miles to the dealership without witnessing any further smoke. The repair was to the sun visor only.

Chrysler arranged for an inspection of the vehicle, which revealed only localized minor thermal damage around the sun visor assembly. The photograph below shows evidence of a resistive short within the sun visor wiring at a screw location. This part was shipped to NHTSA in response to Q10.

Inspection photograph of CAIR # 23858386 (VOQ # 10536895)

Chrysler investigated the vehicle's history to determine whether any prior roof system repairs had been completed and found none. A follow up interview with the dealership service manager identified that the vehicle's owner had reported extensive hail damage to the roof and that it had been previously repaired. The service manager believes that the vehicle was repaired by a third party body dent repair business. The service manager also believes, and

Chrysler agrees, this roof repair disassembly and reassembly of the sun visor caused the sun visor vanity lamp wiring damage.

The above input is representative of most of the 56 inputs with localized damage to the sun visor. The other inputs involved a range of a variety of resistive short damage that extended beyond localized minor thermal damage.

Chrysler's analysis of the field inputs and its conclusion about the cause of these resistive shorts is consistent with what has been found from the design and manufacturing process review. There is no evidence to suggest that the alleged defect is related in any way to the headliner system design or to the initial assembly processes at either the supplier sub assembly plant or the Jefferson North Assembly Plant. The headliner assembly is delivered with both sun visor and sun visor spacer attached and with the wiring routed and secured away from the fastener locations.

Chrysler reviewed the sun visor's electrical system operation. The vanity lamp on the courtesy lamp circuit is powered when the key FOB is actuated, the door handle is touched (with Passive Entry feature) or when the door is opened. The courtesy circuit shuts off within a few minutes after the power is removed. The circuit remains unpowered until one of the three conditions above occurs.

A review of the vanity lamp circuit protection determined a mechanical fuse was not used to protect the circuit and instead an electronic output driver powered the vanity lamp. The output driver has a thermal shutoff when its temperature reaches 150ºC or above; once tripped, the output will stay off until the temperature is below the threshold again. Once the output driver reports an over temperature short circuit protection trip, the microprocessor will inhibit the convenience lamp circuit output until the next ignition cycle.

As noted in CBI Enclosure 9 – Change History CBI, two design changes were instituted to shorten the length of the wiring harness in 2012. In addition, by February 4, 2013, Chrysler instituted several removal and installation repair process changes to eliminate the possibility of the wiring coming in contact with the visor screw(s). Chrysler has received no reports of sun visor fires for vehicles built after February 4, 2013, that can be attributed to a screw through the wiring after the wiring length changes and latest repair process were introduced.

Within the next 120 days, Chrysler will also introduce a change to the sun visor spacer component that positively locates the inline connector and sun visor pigtail during the reassembly of the sun visor to the headliner. This can be reviewed in CBI Enclosure 9 – Change History CBI, "New Production Visor Spacer.pdf".

The fire hazard risk that results from a resistive short in the sun visor wiring assembly is minimal for two reasons. First, the interior of the subject vehicles meet the FMVSS 302 flammability of interior materials burn rate standard requirement (including the headliner and sun visor), which slows the progression of interior materials involved in a fire event. Second, occupants of a vehicle are alerted to the presence of a resistive short in a number of ways,

including a burning smell or visible smoke well before melting or other potentially hazardous conditions arise. If ignored, this may result in smoldering or a visible flame. In fact, in almost all of the inputs the occupants recognized these warning signs, pulled over and exited the vehicle. Only one smoke inhalation and two minor burn injuries were reported.

In summary, random occurrences of improperly repaired vehicles do not always cause a resistive short. If a resistive short does occur, it does not always result in a fire risk due to the variability of the resistive short. An intervention by the vehicle's thermal protection switching strategy may prevent the circuit from overheating and results in only minor localized damage. As witnessed in the field data, customers were warned and had ample opportunity to pull over, turn off their vehicle, safely exit and stop the progression of thermal damage to their vehicles.

Chrysler believes there is no unreasonable risk to motor vehicle safety and this investigation should be closed.