



OFFICE OF DEFECTS &
INVESTIGATION
2014 JUL 15 P 4 03

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July 11, 2014

Mr. Jeffrey Quandt
Vehicle Integrity Division
Office of Defects Investigation
National Highway Traffic Safety Administration
1200 New Jersey Avenue S.E.
Washington, D.C. 20590

Re: PE13-029; NVS 213swm

Dear Mr. Quandt:

Enclosed is Nissan's response to the referenced NHTSA Information Request of May 14, 2014 concerning the Agency's investigation of allegations concerning inaccurate fuel level reading in model year 2007 Nissan Quest Vehicles.

This submission includes appendices containing information that Nissan considers confidential. Nissan is submitting a confidentiality request to the Office of Chief Counsel pursuant to 49 C.F.R. Part 512 and is hereby requesting that the confidential attachments be permanently protected from public release.

The attached reply responds by first stating each question, then the response. Please contact us if you have any questions.

Sincerely,

Donald Neff
Manager
Technical Compliance

Enclosures

Response to

PE14-012

INTRODUCTION

In responding to this Information Request ("IR"), information has been obtained from those places within Nissan likely to contain such information in the regular and ordinary course of business. When a particular Request seeks "documents" as defined in the IR, reasonable, good faith searches have also been made of corporate records in those places likely to maintain them in the regular and ordinary course of business. Nissan has searched for and produced records that were created up to and on the date the IR was released, May 14, 2014.

The definitions of "documents" and "Nissan", however, are unreasonably broad, vague and ambiguous in the context of the information sought by this IR. For example, "calendars", "appointment books", "financial statements" and "personnel records" would not contain owner complaints, field reports or other information sought by Request 2 pertaining to the alleged defect. Therefore, searches were not made for such "documents", inasmuch as they would not likely contain responsive information. In addition, Nissan has not provided information from persons or entities over which it does not ordinarily exercise control. Nissan understands this IR to seek information on vehicles manufactured for sale in the United States.

Responses are provided after each request, and Attachments are utilized as appropriate. The source of information used as a basis for the data in each Attachment, including the date the data were updated and retrieved, is identified at the beginning of each Attachment, as applicable. If a document itself is the source for the requested information and it is provided, we assume no further source identification is called for. If a document, drawing or component is requested, or if no responsive information is available, we assume no further source identification is called for.

With regard to claims of privilege, Nissan understands that it is acceptable to the Agency for Nissan to identify specific categories of privileged documents rather than any specific document. These specific categories are: 1) communications between outside counsel and Nissan Legal Department employees, other Nissan employees, or other Nissan-represented parties in litigation and claims; 2) communications between Nissan Legal Department employees and other Nissan employees or other Nissan-represented parties in litigation or claims; 3) notes and other work product of outside counsel or of Nissan Legal Department employees concerning communications with Nissan employees or consultants, and the work product of those employees or consultants done for or at the request of outside counsel or Legal Department employees; and 4) other categories to be identified later as necessary. For any privileged documents that are not included in these categories, such documents, if any, will be specifically identified on a separate privilege index at a later time. To the extent that a document is furnished, Nissan is not asserting a privilege claim for that document, although the disclosure of such document does not waive the attorney-client privilege or work-product protection with respect to other documents prepared in connection with the specific litigation or claim or other litigation or claims. In addition, in submitting such documents, we reserve our right to claim the attorney-client privilege and/or work-product protection with respect to analyses that may be prepared subsequently in connection with these and other cases. Also, we understand documents specifically related to the preparation of the responses are not sought.

Nissan believes NHTSA's policy is to protect the privacy of individuals under exemption 6 of the Freedom of Information Act, 5 U.S.C. Section 552(b)(6). We understand that name, address, and other personal information of owners or other individuals, including Nissan personnel, contained in any of the attachments in this response will not be made available to the public. Therefore, Nissan is not requesting confidential treatment for this information pursuant to 49 CFR, Part 512, but we believe any private information concerning individuals should not be made public.

* * * * *

1. State, by model, engine and model year, the number of MY 2007 Nissan Quest vehicles Nissan has manufactured for sale or lease in the United States and federalized territories. Separately, for each subject vehicle manufactured to date by Nissan, state the following:

- a. Vehicle identification number (VIN);
- b. Model;
- c. Model Year;
- d. Date of manufacture;
- e. Date warranty coverage commenced; and
- f. The State in the United States, or the federalized territory, where the vehicle was originally sold or leased (or delivered for sale or lease).

Provide the table in Microsoft Access 2003, 2007, or a compatible format, entitled "PE14 012 PRODUCTION DATA."

Table 1. Production Data Summary

Make	Model Year	Model	Units
Nissan	2007	Quest	37,668

The information requested in 1.a through 1.f is provided, when known, in a Microsoft Access database titled " PE14-012 DATA" on a CD enclosed as Attachment A.

2. State, by model and model year, the number of MY 2007 Nissan Quest vehicles Nissan has manufactured for sale or lease in the United States and federalized territories for which Nissan has sold an extended service plan. For vehicles with more than one extended service plan, list the vehicle separately for each plan. Separately, for each vehicle, state the following:

- a. Vehicle Identification number (VIN);
- b. Model;
- c. Model Year;
- d. Name of battery, powertrain or chassis extended service plan;
- e. Mileage at which the extended service plan expires; and
- f. Number of months from the warranty start date at which the extended service plan expires.

Provide this information in Microsoft Access 2003 or 2007, or a compatible format, entitled "PE14 012 SERVICE PLAN DATA."

Table 2. Service Plan Data Summary

Make	Model Year	Model	Units
Nissan	2007	Quest	14,222

The information requested in 2.a through 2.f is provided, when known, in a Microsoft Access database titled "PE14-012 DATA" on a CD enclosed as Attachment A.

The answers given to Request Number Two above were gathered from Nissan's data and are current as of May 14, 2014.

3. State, by model, engine and model year, the number of each of the following, received by Nissan, or of which Nissan is otherwise aware, which relate to, or may relate to, the alleged defect in MY 2007 Nissan Quest vehicles:
- a. Consumer complaints, including those from fleet operators;
 - b. Field reports, including dealer field reports;
 - c. Reports involving a crash, injury, or fatality, based on claims against the manufacturer involving a death or injury, notices received by the manufacturer alleging or proving that a death or injury was caused by a possible defect in a subject vehicle, property damage claims, consumer complaints, or field reports;
 - d. Property damage claims;
 - e. Third-party arbitration proceedings where Nissan is or was a party to the arbitration; and
 - f. Lawsuits, both pending and closed, in which Nissan is or was a defendant or codefendant.

For subparts "a" through "d," 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 Nissan'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.

- a) Consumer complaints, including those from fleet operators:

57 complaints from Nissan's Consumer Affairs database, representing 50 unique VIN's. Within these 57 complaints, three customers had multiple complaints filed on the same day. When these duplicates are taken into account there are 52 unique complaints. Since the duplicate complaints have unique file numbers and slightly differing verbatim, they are included in the responses to requests 4 and 5 below.

- b) Field reports, including dealer field reports:

54 Dealer field reports, representing 54 unique VINs.

- c) Reports involving a crash, injury, or fatality, based on claims against the manufacturer involving a death or injury, notices received by the manufacturer alleging or proving that a death or injury was caused by a possible defect in a subject vehicle, property damage claims, consumer complaints, or field reports:

There were no reports of crash, injury or fatality found in the subject vehicles that were related to the alleged defect.

- d) Property damage claims, alleged to have resulted from alleged defect:

There are no property damage claims responsive to this inquiry.

- e) Third-party arbitration proceedings where Nissan is or was a party to the arbitration:

There are no third party arbitration proceedings responsive to this inquiry.

- f) Lawsuits, both pending and closed, in which Nissan is or was a defendant or codefendant:

There are no lawsuits responsive to this inquiry.

4. Separately, for each item (complaint, report, claim, notice, or matter) within the scope of your response to Request No.3, state the following information:

- a. Nissan's file number or other identifier used;
- b. The category of the item, as identified in Request No.3 (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 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 property damage is alleged;
- k. Number of alleged injuries, if any; and
- l. Number of alleged fatalities, if any.

Provide this information in Microsoft Access 2003 or 2007, or a compatible format, entitled "PE14 012 REQUEST NUMBER FOUR DATA."

The information requested in 4.a through 4.l is provided, when known, in a Microsoft Access database titled "PE14-012 DATA" on a CD enclosed as Attachment A.

5. Produce copies of all documents related to each item within the scope of Request Organize the documents separately by category (i.e., consumer complaints, field reports, etc.) and describe the method Nissan used for organizing the documents.

The requested documents are on a CD enclosed as Attachment A. The documents are organized by category.

6. State, by model, engine and model year, total counts for all of the following categories of claims, collectively, that have been paid by Nissan to date that relate to, or may relate to, the alleged defect in MY 2007 Nissan Quest 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. Nissan's claim number;
- b. Vehicle owner or fleet name (and fleet contact person) and telephone number;
- c. VIN;
- d. Repair date;
- e. Whether a claim for towing was made within five days of the claim date;
- f. Vehicle mileage at time of repair;
- g. Repairing dealer's or facility's name, telephone number, city and state or ZIP code;
- h. Labor operation number and description;
- i. Problem code, DTC and description;
- j. Replacement part number(s);
- k. Replacement part supplier and description;
- l. Concern stated by customer;
- m. Cause and Correction stated by dealer/technician; and
- n. Additional comments, if any, by dealer/technician relating to claim and/or repair.

Provide this information in Microsoft Access 2003 or 2007, or a compatible format, entitled "PE14 012 WARRANTY DATA."

Table 2. Warranty Data Summary

Make	Model Year	Model	Warranty Count
Nissan	2007	Quest	89

The information requested in 6.a through 6.n is provided, when known, in a Microsoft Access database titled "PE14-012 DATA" on a CD enclosed as Attachment A.

7. Describe in detail the search criteria used by Nissan to identify the claims identified in response to Request No.6, 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 Nissan on the subject vehicles (i.e., the number of months and mileage for which coverage is provided and the vehicle systems that are covered).

Descriptions of each labor operation code, problem code, and part number are given in the Warranty Data table in Attachment A.

The search criteria used by Nissan to identify the claims identified in response to Request No. 6 are set forth in Attachment B.

The requested new vehicle warranty coverage documents are on a CD enclosed as Attachment C. All vehicles are no longer covered by the new vehicle warranty.

8. Produce copies of all service, warranty, and other documents that relate to, or may relate to, the alleged defect in the subject vehicles, that Nissan has issued to any dealers, regional or zone offices, field offices, fleet purchasers, or other entities. This includes, but is not limited to, bulletin, 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 Nissan is planning to issue within the next 120 days.

Nissan has issued no communications relating to the alleged defect.

Nissan does not plan to issue any communication(s) at this time.

9. 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 that have been conducted, are being conducted, are planned, or are being planned by, or for, Nissan. 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.

The response to this request should include a detailed description of all past, present and future actions by any and all engineering working groups (e.g., engine stall task force) of which Nissan is an active member or is otherwise aware. This includes, at a minimum, all of the information requested in items "a" through "f."

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.

The information requested in 9.a through 9.f is provided, when known, in a spreadsheet titled "List of Actions" and is enclosed in Confidential Attachment D. Copies of the documents related to the actions are also attached in Confidential Attachment D.

10. Describe all modifications or changes made by, or on behalf of, Nissan in the design, material composition, manufacture, quality control, supply, or installation of the subject system, 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; and
- g. When the modified component was made available as a service component;

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

Nissan has not performed any modifications relating to the alleged defect in the subject vehicles from the start date of production.

There are no planned changes that Nissan is aware of at this time.

11. Produce one sample of each of the following:

- a. Representative sample of a new MY 2007 fuel level gauge sender/sensor unit; and
- b. Field return sample of the MY 2007 subject component exhibiting the subject failure mode.

Include the following information about the parts provided in response to this request: (1) the vehicle identification number; (2) the repair claim number; and (3) copies of all documents related to analysis of the part.

The sample parts and associated documentation detailing the VIN and repair claim number information requested in 11.a and 11.b are being sent under separate cover.

12. Provide the following information for the subject components:

- a. List and briefly describe all software diagnostic routines and associated DTCs performed on the fuel supply unit and fuel level gauge sender/sensor including sender failure determination strategies such as calibration at full/empty, full sweep tests, continuity and accuracy checks, circuit high/low voltage, counter/timer thresholds, delta fuel volume change (gallons) and accumulated distance range (miles);
- b. Fuel volume determination algorithms and associated available driving range estimation methodology including any designed-in system fail-soft strategies and countermeasures; and
- c. Fuel supply unit specifications including functional and performance requirements, design constraints and validation plans.

The information requested in 12.a through 12.c is provided, when known, in a file titled "PE14-012 Request 12 Response.pdf" and is enclosed in Confidential Attachment E.

13. Furnish Nissan's assessment of the alleged defect in the subject vehicles, including:
- a. The causal or contributory factor(s);
 - b. The failure mechanism(s);
 - c. The failure mode(s), including the specific operating conditions at which stall-related or inaccurate fuel readings can occur;
 - d. Nissan's assessment of the affected vehicle populations (state beginning and ending build dates for production affected by each issue), incident counts, failure rates, stall or inaccurate conditions projections, and age adjusted rates for each condition (provide either Weibull model analysis of each condition, with predicted 60, 84 & 120 month in service rates, or actual 60 & 84 month in service rates);
 - e. Nissan's assessment of factors affecting the operator's ability to resume safe operation of the vehicle, including first indications on inconsistent fuel gauge performance and reports alleging repeatable system malfunction after restarting the vehicle; and
 - f. What warnings, if any, the operator and the other persons both inside and outside the vehicle would have that the system may be about to malfunction before the vehicle loses power.

Nissan continues to access and analyze this issue.

Preliminarily, we believe that a combination of thermal shock and vibration may over time, cause a crack to develop in the soldering on the meter circuit board causing one of the two resistors to be open or lifted from the circuit board, causing all of the voltage to pass through one resistor. More specifically, the actual fuel sender unit resistance is higher than the resistance that is being recognized by the meter. This causes the meter to incorrectly display a ¼ of fuel left when the fuel tank is near empty.

Based on analysis of warranty data, extended service contract data, and consumer complaints, Nissan predicts an incident rate of 0.53% at 71 months, 0.74% at 80 months, and approximately 1.28% at 100 months. The full analysis is contained in Confidential Attachment F.

Nissan's preliminary view is that the lack of movement in meter gauge once it reaches ¼-tank should be obvious to the potentially affected customers.

Nissan's preliminary view is that in light of the vehicle's age, the projected incident rate does not constitute a defect trend. However, Nissan has begun investigating developing replacement service parts to be available for service.

ATTACHMENT A

CD with Information Related to Requests 1, 2, 4, 5 and 6

This attachment contains a CD containing the information related to Request Numbers 1, 2, 4, 5 and 6. The information reflects Nissan North America's databases and legal files as of May 14, 2014. The databases and legal files are updated daily.

ATTACHMENT B

Warranty Claims Search Criteria

Warranty claims data were gathered from the NNA warranty database May 14, 2014.

The search criteria used by Nissan to identify the claims identified in response to Request Nos. 6 is as follows:

Model Codes: V42 (Quest)
Model Year: 2007

Customer or Technician Verbatim must contain at least one word from each of the following 2 lists:

List A	List B
KeyWord	KeyWord
FUEL%GAUGE	INOP
GAS%GAUGE	INACCURATE
SENDING UNIT	WRONG
	FULL
	EMPTY
	HALF
	ERRATIC
	QUARTER
	1/2 %
	1/4 %
	1/8 %
	3/8 %
	1/3 %
	2/3 %
	3/4 %
	EIGHTH
	THIRD
	FOURTH
	FLUCTUAT
	READS
	ACCURACY
	INCORRECT
	OUT OF GAS
	STALL
	NO FUEL
	BROKEN

Claims matching the keywords as specified above were then reviewed for relevancy to the request. Any documents that were obviously a different issue or otherwise non-responsive were removed. Any documents in which relevancy could not be determined because the verbatim was too vague were included in the submission.

Descriptions of the parts, trouble codes, and labor operation codes are included in the data attached in Attachment A responsive to Request 6.

ATTACHMENT C

New Vehicle Warranty Coverage Documents

ATTACHMENT D

CD containing List of Actions responsive to Request 9

ATTACHMENT E

CD Responsive to Request 12

ATTACHMENT F

CD Responsive to Request 13.d