Texas Instruments Incorporated
Sensors & Controls

TEXAS INSTRUMENTS

34 Forest Street
P.O. Box 2964
Attleboro, MA 02703-0964

[redacted]

(508) 236-3245

September 10, 2003

VIA HAND DELIVERY

Ms. Kathleen DeMeter
Office of Defects Investigation
National Highway Safety Traffic Administration
400 Seventh St., SW
Washington, DC 20890

Re: EA 02-025, Response of Texas Instruments, Inc. to Your June 25, 2003 Information Request

Dear Ms. DeMeter

This will respond on behalf of Texas Instruments, Inc. ("TI") to your June 25, 2003 Information Request letter. To prepare this response, TI has reviewed relevant materials and compiled information from knowledgeable TI personnel. While TI's response to this letter is current as of the date of this response, in some cases the documents that are being produced by TI were previously collected during the course of litigation. TI conducted a review for additional documents in response to your letter and any responsive documents located during that review are produced. A disk which contains a copy of this response is also enclosed, as per the instructions in your letter.

TI is producing a privilege log identifying documents responsive to the requests that are protected by the attorney client and work product privileges. TI interprets the requests to exclude documents prepared in connection with litigation and mediation. Due to the volume and expense associated with collecting information about such documents, TI has not identified those litigation/mediation documents on its privilege log.

At various points in this letter, we identify documents that are not being produced, but that TI is prepared to produce should NHTSA be interested in reviewing such documents. TI is also prepared to further discuss with you and your colleagues any matter relative to your inquiry or this letter.

As a matter of general background, the subject switch is a hydraulic pressure switch that functions as a redundant cruise control deactivation switch used in all of the subject vehicles. The switch converts pressure from brake fluid into an electrical switching action designed to deactivate the vehicle's cruise control. The switch is screwed into a proportioning brake valve that is filled with brake fluid. The fluid enters the hydraulic part of the switch and presses against a seal or diaphragm. The diaphragm is composed of three layers of Kapton, each layer of

which is coated on both sides with Teflon (Kapton 500FN131). The Kapton and the Teflon are manufactured by Dupont.

When a driver of a vehicle equipped with the switch presses on the brake pedal, there is an increase in the pressure of the brake fluid pressing against the switch's diaphragm. This pressure increase is transferred to a converter and disk in the switch, causing a spring arm in the switch to move into an open position at a designed pressure. This open circuit between the switch terminals prevents current flow to elements of the cruise control system, thereby disengaging the cruise control.

TI does not believe that the subject switches contain a safety defect, and TI is not aware of any safety data or trend that demonstrates that a further recall is warranted. TI is not familiar with the 26 incidents of vehicle fires identified in your letter (or with the incidents identified in the materials forwarded to Ford on July 30, 2003), but notes that assigning causation in the case of under hood fires is extremely difficult given the numerous potential causes of such fires and the frequent absence of dispositive evidence of causation. TI further notes that the subject switch was never installed in two of the vehicles that were among the 26 identified in your letter, specifically, the 1999 Town Car and the 1998 Crown Victoria.

1. **Provide an electronic listing, in Microsoft Excel 2000, of all speed control deactivation and other brake pressure switches of similar construction manufactured by Texas Instruments for use in motor vehicles. Provide this listing by switch type, switch part number, switch cycling pressures, years of production, vehicle applications (by make, model, and model years), number produced for original equipment installation (by calendar year), and number produced for sale as service replacement parts (by calendar year). Show switches produced for use in the subject recall as a separate entry.**

Exhibit 1 hereto contains an electronic listing in MS Excel 2000 of all TI manufactured speed control deactivation switches, regardless of whether or not they are of similar construction. This listing, which includes the subject switches, reflects the best information available to TI with respect to each element of this question. It is subject to the following caveats:

First, TI produces and has previously produced a variety of other brake pressure switch products that perform functions different from the subject switches, including parking brake, ride control and Electronic Brake Deactivation switches. TI will supply a separate list of these other switches if NHTSA so requests. Second, because TI was a Tier 2 supplier to Ford, it was not in a position to know which model vehicles received the switches. Third, it is possible that TI's records concerning the number of switches supplied are not fully accurate. Fourth, it is possible that the part volumes listed under the volume by year category may include service parts. If the vehicle manufacturer did not indicate that its order included service parts, TI may not have known whether switches were ordered for original installation or for service parts. Finally, with respect to the service parts by year tab in Exhibit 1, TI assumes that any parts ordered during years when the part was not in production were service parts. These assumed service part volumes are highlighted in grey shading in Exhibit 1.

2. Provide copies of all engineering standards and specifications relating to the subject switches.

TI interprets this request to include specifications and standards that relate to the subject switches, rather than individual components of the subject switches. TI does not interpret the request to include general engineering testing standards. TI is producing the Ford specification for the subject switches and engineering drawings for the subject switch. In addition, TI possesses copies of Ford's specification and engineering drawings for the brake proportioning valve into which TI's switch was installed. The specification was prepared for one of Ford's Tier I suppliers (Hilite Industries). These documents can be produced upon request. Among other things, the Hilite documents demonstrate that Tier I suppliers were required to test the brake proportioning valve, including the subject switch.

3. Describe, and provide copies of all documents relating to, all design verification and validation tests that relate in any way to the durability of the subject switches.

TI understands this question to request pre-production verification and validation testing consistent with the general understanding of those terms within the automobile parts manufacturing industry. TI will describe and produce documents relating to additional testing, including production testing and testing during the pre- and post-recall investigations, in connection with its response to request number 7 below.

In 1987, Ford asked TI to design a redundant cruise control deactivation switch beginning with Model Year 1992 Panther Platform (Lincoln Town Car, Mercury Grand Marquis and Ford Crown Victoria) vehicles. When Ford asked TI to design these so-called Next Generation Cruise Control Deactivation switches, TI was already manufacturing power steering pressure switches and ride control (anti-dive) brake pressure switches for Ford.

Ford provided the specifications for the subject switches that set forth testing the switches had to pass before production. In consultation with Ford, TI began design and testing at the end of 1988. TI conducted numerous pre-production tests on the manufacturing processes, alternate component parts, and prototype switches. For example, TI conducted multiple cycle/impulse tests, salt spray tests and burst tests and a variety of other tests during 1989 through 1991. These initial pre-production tests were designed to ensure that the subject switches would meet Ford's specifications. In addition to conducting internal testing, TI routinely provided prototype switches to Ford and its Tier 1 suppliers for laboratory testing and testing in prototype fleet vehicles.

During the period 1989 to 1991, TI designed two types of switches for the Panther Platform vehicles: the 57PSL5-3 switches and the 77PSL2-1 switches. A difference between the 57PSL and 77PSL switches was that the 57PSLs used an "S" shaped spring arm as opposed to an "L" shaped spring arm.

Because the 77PSL switches would not be produced in time for the model year 1992 Lincoln Town Car, TI tested and submitted to Ford an Initial Sample Report ("ISR") to qualify the 57PSL5-3 for use in the Lincoln Town Car on January 1, 1991. Ford approved the ISR and TI shipped 57PSL5-3 switches which it believes were installed on Lincoln Town Cars during the first few months of production of those vehicles.

During the summer of 1991, TI conducted final pre-production testing to validate the design of the 77PSL2-1 switch. These tests were required by Ford as part of its specification and included: a calibration test, a voltage drop test, a current leakage test, a burst test, a vibration test, a vacuum test, a temperature cycle test, a fluid resistance test, an impulse test, a terminal strength test, a humidity test, and a salt spray test. The testing criteria are discussed in detail in the Ford specification produced in response to request number 2 and the ISR packages produced in response to this request.

During pre-production testing for the 77PSL2-1 switch, in the late summer of 1991, TI discovered that certain switches crimped on its automatic-load crimping machine ("AMI") at its Attleboro, Massachusetts facility were not passing one of the cycle tests. However, switches produced on the manual-load crimping machine passed this same test. As a result of the unexpected problem with the crimping on the AMI machine, TI sought permission from Ford to begin production of the 77PSL2-1 switches using the manual crimper for the first 90 days of production while TI resolved the issue. Ford gave TI permission to use the manual crimper and approved TI's September 9, 1991 ISR for production of the 77PSL2-1 switches. After TI performed some maintenance on the crimp portion of the AMI machine, including cleaning the pressure lines and filters, and replacing the crimping dies, TI retested the 77PSL switches on the AMI machine and determined that all of the switches passed Ford's test specifications. TI submitted an addendum to its ISR on December 12, 1991 and obtained permission from Ford to begin production of the 77PSL2-1 switches using the automatic-load crimp portion of the AMI machine in late 1991/early 1992. TI began using the automated crimper for production of the 77PSL2-1 switches in approximately February 1992. The automated crimper was used for all 77PSL2-1 switches manufactured by TI after this date.

In the spring of 1992, Ford asked TI to design a quieter cruise control deactivation switch. TI did so, developing TI part number 77PSL3-1. TI submitted an interim ISR to Ford on April 13, 1992. Ford approved the interim ISR and, TI understands, Ford began using the 3-1 switch on the Mercury Grand Marquis and the Ford Crown Victoria shortly thereafter. A final ISR was submitted to Ford on August 4, 1992 and approved shortly thereafter. Key differences between the 77PSL2-1 and the 77PSL3-1 were that the base material was different and that the disc had a softer "snap" when the switch was triggered.

TI's testing reports, engineering notes, correspondence, and ISR reports are being produced in chronological order. Certain documents produced in response to request numbers 2 and 7 also may be responsive to this request.

4. **Provide a chronology of all events relating to the initial testing and supply of the subject switches for MY 1992 through 1997 Ford Crown Victoria, Lincoln Town Car, and Mercury Marquis vehicles and of the subsequent investigation that led to the subject recall.**

See TI's response to request number 3 for a chronology of the initial testing and supply of the subject switches.

TI supplied the 77PSL2-1 switches (for the Lincoln Town Car) and the 77PSL3-1 switches (for the Mercury Grand Marquis and the Ford Crown Victoria) for Model Years 1992 through 1997 without receiving any safety complaints related to the switches. TI conducted its own production testing on the switch lots coming off the production line. The switches pulled off the line (approximately 5 switches per each 2,000 of production) were tested and routinely met 500,000 full scale pressure cycles. In addition, TI conducted production testing required by Ford. The switches tested met or exceeded Ford's specifications. TI is producing sample documents demonstrating the production lot testing in response to request number 7. TI possesses approximately 140 additional boxes of production lot testing documents which can be made available upon request.

TI interprets the "subsequent investigation that led to the subject recall" to mean the investigation that led to Recall No. 99V-124. TI first learned of the under hood fire issue in approximately November 1998, when Ford representatives contacted TI personnel and advised that NHTSA had contacted Ford regarding under hood fires in 1992 Lincoln Town Cars. Prior to Ford contacting TI, no one at Ford or any Ford Tier 1 supplier had raised with TI any questions regarding the possibility of fires in the subject switches. TI immediately started investigating the under hood fire issue and sent an engineer to Ford's facility to assist with the investigation.

As part of the investigation, Ford asked TI to conduct laboratory controlled tests to determine whether it was possible to create a fire in the subject switches. In TI's April 28, 1999 report entitled "77PS Test Synopsis Draft," TI discussed the tests it performed in this regard. In addition to this report, documents are being produced that relate to the report, the testing and relevant communications between TI and Ford.

Ford issued its recall notice in May 1999. At Ford's request, TI supplied approximately 275,000 replacement 77PSL2-1 switches for installation in the vehicles serviced under the recall. TI continued to conduct laboratory testing and testing of returned switches after the recall notice was issued.

TI is producing the pre- and post-recall investigative tests in response to request number 7. Documents produced in response to request numbers 9 and 10 demonstrate TI's communications with Ford and DuPont regarding the investigation. Documents produced in response to request number 11 reflect TI's internal communications regarding the investigation.

5. Describe, and provide copies of all documents relating to, all inspections, tests, and other analyses of subject switches returned from vehicles serviced under the subject recall. Provide a listing of all such switches that were inspected, tested, evaluated, or assessed by stating the vehicle's VIN, recall repair date, mileage at the recall repair date, switch part number, part serial number (identifying marking), part date of build, and anomalies detected.

TI tested 40 returned switches that were obtained from Ford dealerships in the vicinity of its Attleboro, Massachusetts' facility. During the testing of these switches, TI did not observe any quality defects. None of the switches were leaking brake fluid. TI also determined that the terminal to terminal resistance of the switches met Ford's specification. In addition, although the Kapton seals in the switch showed some normal Teflon delamination, there were no cracks on the second and third layers of Kapton, the layers closest to the electrical side of the switch. TI's analysis of these returned switches is reported in TI's September 1, 1999 "77PSL2-1 Field Campaign Analysis Report" and accompanying notes and photographs prepared by TI engineer, Bryan Dague, which are among the documents produced in response to this request.

In October 1999, TI's Steve Beringhause traveled to Ford's Central Laboratory in Michigan and examined approximately 11 returned switches. According to Mr. Beringhause's notes, the switches exhibited symptoms of electrical anomalies, possibly indicating fluid leakage. Ten of the approximately eleven switches examined had fluid in the switch cavity. Mr. Beringhause's notes from this visit to the Ford laboratory are produced in response to this request.

In late November or early December 1999, Ford asked TI to cycle test to failure switches that Ford sent to TI. The only information that TI received regarding the switches was a date code, which indicated that these switches were at least seven years old. TI informed Ford by telephone on December 14, 1999 that TI could not interpret the results of the testing because it was impossible to know the number of cycles that each of these switches had already experienced. Documents bearing on this testing are among those produced in response to this request.

In August 2000, Mr. Beringhause traveled to the facility of a Ford consultant, where he examined a small subset of switches from vehicles recalled in Recall No. 99V-124. Mr. Beringhause's notes and accompanying photographs reflect his analysis of some of these switches and are produced in response to this request. Mr. Beringhause returned to this facility in November 2000, at which time he further examined a subset of approximately 37 of the switches believed to have exhibited small amounts of fluid leakage into the switch's electrical cavity. The 37 subset switches had been cut open either before or during the time of the visit to allow for further analysis. With respect to the leakage detected in these switches, Mr. Beringhause observed, in some switches, external leakage of fluid into the electrical cavity through the switch's connector and, in others, internal leakage of fluid into the electrical cavity through the diaphragm. Further, in some of the switches that exhibited internal leaking, Mr.

Beringhause observed radial cracking of the Kapton and in others circumferential cracking of the Kapton. Mr. Beringhause concluded that there were no manufacturing defects in the switches. Mr. Beringhause's notes are produced in response to this request.

Where available, the documents produced in response to this request contain the vehicle's VIN, recall repair date, mileage at the recall repair date, switch part number, part serial number (identifying marking), part date of build, and any anomalies detected. In most instances, this information was not available to TI or was incomplete. TI cannot independently verify this information or lacks the information needed to provide a comprehensive listing of the returned switches TI inspected in response to this request. TI also has various litigation documents, including pleadings, depositions, and other documents from cases involving vehicles subject to the recall. These documents can be produced to NHTSA upon request.

6. **Describe, and provide copies of all documents relating to, all inspections, tests, and other analyses of subject switches returned from subject vehicles that were not included in the subject recall. Provide a listing of all such switches that were inspected, tested, evaluated, or assessed by stating the vehicle's VIN, recall repair date, mileage at the recall repair date, switch part number, part serial number (identifying marking), part date of build, and anomalies detected.**

TI interprets this request to include only switches from vehicles that were not included in the recall. As a result, TI cannot provide a recall repair date or mileage at the recall repair date in response to this request.

TI has not tested or analyzed any switches from out of recall vehicles, except as noted below. When notified of a potential claim or named as a defendant, TI has retained experts who have inspected and photographed the vehicle, and where possible, the switch at issue. Exhibit 3 lists non-recall vehicle claims known to TI and includes, where available the vehicle's VIN and other identifying information. In response to this request, TI is producing photographs taken in certain matters listed in Exhibit 3 (Guest, Norfleet, Ufert, Prout, Scott, Morton, Hencka, Gonzalez, Smith and Farris). TI also possesses depositions of Ford employees and experts as well as depositions of various plaintiff's experts regarding out of recall vehicles, which it will make available upon request.

7. **Describe all assessments, analyses, tests, test results, studies, surveys, simulations, investigations, inquiries, assessments and/or evaluations (collectively, "actions"), that relate to, or may relate to, the alleged defect in any of the subject switches, that have been conducted, are being conducted, are planned, or are being planned by, or for, Texas Instruments. For each such action, provide the following information:**

(a) Vehicle make, model, and model year for which the subject switch was or may be used;
(b) Action title or identifier;

(c) The actual or planned start date;
(d) The actual or expected end date;
(e) Brief summary of the subject and objective of the action;
(f) Engineering group(s)/supplier(s) responsible for designing and for conducting the action; and,
(g) A brief summary of the findings and/or conclusions resulting from the action.
(h) 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.

As noted above in response to request number 4, TI conducted production testing on the 57PSL5-3, 77PSL2-1, and 77PSL3-1 switches to ensure that the switches coming off the production line met Ford's specifications and TI's quality standards. As part of its production testing, TI pulled approximately 5 switches from each 2,000 switches produced and subjected them to various tests, including cycle testing. These tests confirmed that the switches pulled from the production lots consistently met manufacturing standards. TI is producing a sample of the production lot testing in response to this request. TI has an additional approximately 140 boxes of production lot testing that TI will make available upon request.

Ford's specification required TI to conduct routine in-process tests of the production lots. These tests consisted of a subset of the tests that the specification required in order to qualify the switch for production. The production switches tested according to Ford's specifications also met Ford's specifications. TI is producing documents relating to Ford required production testing in response to this request. Documents produced in response to request number 3 may also contain examples of TI's production testing.

TI has evaluated whether "teardrops" in the Kapton diaphragm could decrease switch durability or life. TI first investigated the teardrop phenomenon in 1991 and 1992 during pre-production testing to determine whether teardrops impacted cycle life. The pre-production testing revealed no conclusive evidence that teardrops adversely impacted cycle life. Documents produced in response to request number 3 discuss the pre-production testing of the teardrop phenomenon. Switches tested both during production validation and on-going production that exhibited teardrops met the Ford specifications.

TI again tested whether teardrops could contribute to switch leakage or failure in 1999 and 2000. Based upon the results of these tests, TI confirmed that the presence of teardrops had no demonstrated relationship to leakage or failure, and that there is no significant difference in cycle life between switches that exhibit teardrops and those that do not. August 17, 1999 and December 23, 2000 test reports that address these tests are being produced in response to this request.

In addition, according to a September 1, 1999 report ("77PSL2-1 Field Campaign Analysis Report," produced in response to question 5), of the 40 switches taken from recalled

vehicles that TI examined, none of which exhibited any leaking or other defects, approximately 60% had teardrops. No correlation between these teardrops and wear of the switches was detected. The group of 40 switches includes switches manufactured on the manual-load crimper, as well as those manufactured on the automatic-load crimper. Further, of the switches that had exhibited leakage that TI examined at the facility of Ford's contractor in November 2000 (see response to question 5, above), some had teardrops and others did not.

Documents and videotapes relating to the manufacturing process, pre-recall testing described in response number 4 and post-production testing are being produced in response to this request. TI is also producing the transcripts of depositions of its witnesses Roger Owens (TI expert witness) and Steven Beringhause (TI engineer) from cases involving vehicles subject to the 1999 recall. TI is also producing corrective action reports and correspondence regarding switches returned from Ford's Tier 1 suppliers. The switches returned from the Tier 1 suppliers were not related to fire claims.

TI is not currently planning or conducting any testing related to the alleged defect in the subject switches. Documents produced in response to request numbers 5 and 6 may also contain information on testing responsive to this request.

TI is producing documents chronologically in response to request number 7, but has not separated the documents by each described action discussed above because there is significant overlap among actions. TI is also producing, under separate cover, an Exhibit 2 and related documents that contain information responsive to this request, but as to which TI is requesting NHTSA to find that the standards for confidentiality are met. TI's submission of these materials is being made in accordance with NHTSA's rules for the submission of confidential materials.

8. Describe all modifications or changes made by, or on behalf of, Texas Instruments in the design, material composition, manufacture, quality control, supply, or installation of the subject switches, 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 production;
(b) A detailed description of the modification or change;
(c) The reason(s) for the modification or change;
(d) The part numbers (service and engineering) of the original component;
(e) The part number (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.

See TI's response to request numbers 3 and 4, including the discussion of the supply of the 57PSL5-3 switches at the outset of production of the Town Cars, followed by the supply of the 77PSL2-1 switches, as well as the discussion of the initial use of the manual-load crimper and eventual transition in February 1992 to the automatic-load crimper.

TI supplied replacement 77PSL2-1 switches to Ford as part of the recall service. These switches were the same basic design and manufacture as the original switches in the vehicles that were recalled. However, it is possible that vehicles that originally had 57PSL5-3 switches (which use an S-shaped spring arm rather than an L-shaped spring arm) or 77PSL3-1 switches (which is the "quiet" switch described above) may have received 77PSL2-1 replacement switches during recall service.

TI is also producing its SREA summaries which show the manufacturing and design changes to the 77PSL2-1 and 77PSL3-1 switches during production. TI does not believe that any of the changes identified on the SREAs relate to the alleged defect. In addition, documents relating to the change in the base material used for the 77PSL3-1 switch are also being produced, although TI does not believe that these changes relate to the alleged defect.

TI is not aware of any changes in quality control or supply which relate to the alleged defect.

TI is not in a position to respond with respect to any changes in the installation of the subject switches. TI supplied the switches to Ford's Tier 1 suppliers who installed the switches in a proportioning brake valve, which was then supplied to Ford for vehicle installation.

9. Provide copies of all documents relating to all communications between Texas Instruments and Ford regarding the alleged defect in the subject switches. Organize the document copies in chronological order.

TI is producing in chronological order documents reflecting communications with Ford regarding the alleged defect, including correspondence, e-mails and notes of meetings and telephone calls. TI interprets this request to exclude general commercial communications, as well as litigation or mediation-related communications. Documents produced in response to requests numbers 3, 5, 6, and 7 may be responsive to this request.

10. Provide copies of all documents relating to all communications between Texas Instruments and DuPont regarding the alleged defect in the subject switches. Organize the document copies in chronological order.

TI is producing in chronological order documents reflecting communications with DuPont regarding the alleged defect in the subject switch, including correspondence, e-mails and notes of meetings and telephone calls. TI is also producing product brochures and other information that TI received from Dupont. TI interprets this request to exclude general commercial communications and litigation or mediation-related communications. Documents produced in response to request numbers 3, 5, 6, and 7 also may be responsive to this request.

11. Provide copies of all documents transmitted internally within Texas Instruments that relate to the durability of the subject switches.

TI is producing documents reflecting internal TI communications regarding the alleged defect in the subject switches. TI interprets this request to exclude internal communications that are unrelated to any alleged defect with the subject switches, as well as litigation or mediation-related internal communications. Documents produced in response to request numbers 3, 5, 6, 7, 9, and 10 also may be responsive to this request.

12. Describe all identifying markings used by Texas Instruments on the subject switches.

The only identifying markings on the subject switches are the Ford part numbers ∇F2VC-9F924-BB (57 PSL5-3), ∇F2VC-9F924-AB (77PSL2-1), ∇F2AC-9F924-AA (77PSL3-1), and a TI date code. The TI date code is a four-digit Julian date code.

13. Provide copies of all failure mode and effects analyses related to the subject switches.

TI is producing its Design Failure Mode Analyses reports ("DFMEA") and its Process Failure Mode Analyses reports ("PFMEA") for the subject switches. Documents produced in response to request number 3 also may be responsive to this request because the DFMEAs and PFMEAs are typically included in the ISR submissions to Ford. TI interprets this request to exclude DFMEAs and PFMEAs prepared with respect to component parts of the subject switches.

14. Provide an electronic summary, in a format compatible with Microsoft Excel 2000, of each fire claim of which Texas Instruments is aware of, regardless of whether the claim is against Texas Instruments, relative to the alleged defect in the subject switches that involve vehicles outside the scope of the subject recall. For each such claim, include the following information in the summary:

(a) Vehicle owner name, address, and telephone number;
(b) Vehicle model, model year, and identification number (VIN);
(c) Incident date and vehicle mileage;

(d) Summary of the claim and evidence provided to support the claim of switch failure; and
(e) Texas Instruments' assessment of the claim.

Texas Instruments is aware of fourteen claims in which it is alleged that the subject switch caused a fire in a non-recalled subject vehicle. In the MS Excel 2000 spreadsheet accompanying this response, attached as Exhibit 3, Texas Instruments provides (to the extent that the information is available to it) the name, address, and telephone number of the vehicle owner, the vehicle model, model year, and VIN, and the date of loss and vehicle mileage. TI has not separately summarized each claimant's allegations but can produce complaints and/or demand letters detailing these allegations upon request.

TI further notes as follows with respect to two of the complaints identified on the spreadsheet. Concerning [redacted] (VIN: 1LNLM81W0PY677138), during discovery plaintiff's expert, [redacted] admitted at his deposition that the switch was not defective. *See* [redacted] deposition at 234:18-23 ("Q. Back to my question. This switch that lasted eight, nine plus years and 280,000 miles, you are not suggesting to this jury that there is anything defective about that switch when it left our facility back in 1992, are you sir? A. No, sir."). Shortly thereafter, the case settled for nuisance value.

Concerning the Guest claim (VIN: 1LNLM81W9PY709035), plaintiffs' insurer investigated the fire and concluded that the fire originated at the passenger side of the dash within the wiring harness. After TI sent plaintiffs' counsel a sanction's letter for filing a lawsuit without a factual basis, on July 15, 2003, plaintiffs dismissed TI without prejudice.

With respect to each of the other claims, TI has denied liability.

15. Furnish Texas Instruments' assessment of the alleged defect in the subject switches, including:

(a) An assessment of the failure mechanism;
(b) An assessment of the long term resistance of the subject switches to automotive brake fluid at 100°C, 120°C, and 150°C;
(c) An assessment of the estimated service life of the subject switches in hours and pressure cycles when subjected to the conditions described in 16.b;
(d) An assessment of the design factors of the subject switches that may influence the durability of the subject switches;
(e) An assessment of the manufacturing factors that may influence the durability of the subject switches;
(f) An assessment of the vehicle assembly factors that may influence the durability of the subject switches; and
(g) An assessment of the use factors of the subject switches that may influence the durability of the subject switches.

Please be as specific as possible in your answers and provide engineering explanations for how various factors affect the switch durability.

TI does not believe that there is a safety defect associated with the subject switches. The switch is not subject to any federal motor vehicle safety standard and thus is not out of compliance with any such standard. The switch design and operation do not give rise to any safety hazard or to an unreasonable risk to motor vehicle safety. With respect to the "alleged defect," as defined in your June 25 letter, TI is not aware of any defect in the operation of the switch's cruise control deactivation function. TI will nonetheless offer a discussion below of the potential failure mechanisms of the switch, and respond to each of the specific elements of this question.

(a) An assessment of the failure mechanism;

(a) A series of hypothetical switch failure mechanisms are described in the PFMEA and DFMEA documents being produced by TI, in response to question 13. These documents, which were shared with Ford as attachments to ISRs, were prepared by TI as a matter of ordinary course practice with respect to any product of this nature. They are designed to address for the benefit of TI and its customer those things that could go wrong with the product, and therefore they describe a wide range of theoretically potential design and process failure mechanisms in the subject switches, including, e.g., potential failure of the switch's hexport, base and diaphragm.

TI is not aware of any data trend suggesting an unreasonable risk to safety associated with any of the potential failure mechanisms identified in the PFMEAs or DFMEAs, or otherwise. Accordingly, TI does not believe that the switch constitutes an unreasonable risk to motor vehicle safety. Nonetheless, TI understands that NHTSA is interested in the potential for ignition of the switch, and therefore will specifically address this. Documents produced previously by Ford, and additional documents produced by TI in response to request number 7, indicate that ignition of the switch is possible under certain laboratory conditions. TI has no definitive information as to whether these laboratory results can serve as a proxy for actual under hood conditions. TI thus makes note of these results here as a matter of information, rather than confirmation that the subject switches are in fact susceptible to ignition under actual under hood conditions. The laboratory testing has shown that ignition is possible where conductive fluids (a solution of 5% salt water was used in the testing) are present in the electrical cavity of the switch, together with sufficient electrical current. The laboratory test indicates that the combination of (1) conductive fluid within the switch's electrical cavity and (2) a sufficient level of available electrical current, and continuous voltage applied to the switch, caused corrosion within the switch and heating of the switch's plastic molding to a point where there was melting of that molding and, in some cases, ignition.

Laboratory testing reports previously produced by Ford to NHTSA and included in TI's production also indicate that the level of electrical current applied to the switch during cruise control operation (typically 0.5 amps) did not result in sufficient heating to cause melting or

ignition of the switch even in the presence of conductive fluid in the electrical cavity of the switch. The test results indicate that if the system current is limited to this level, the only result of fluid in the electrical cavity is that the switch could become inoperable, disabling the operation of the vehicle's cruise control function. TI does not believe that this constitutes a safety defect.

(b) An assessment of the long term resistance of the subject switches to automotive brake fluid at 100°C, 120°C, and 150°C;
(c) An assessment of the estimated service life of the subject switches in hours and pressure cycles when subjected to the conditions described in 16.b;

(b) and (c) TI will respond to these two subparts together since the responses call for overlapping information. Kapton used in the switch diaphragm tends to degrade more rapidly when stressed at higher temperatures than lower temperatures. Thus, the long term resistance of the subject switches to pressure cycling with brake fluid at 150 degrees C is not as great as it is at 100 degrees C.

TI has not tested the subject switches at the specific temperatures identified in the question. Documents reflecting testing that was performed at various temperatures are being produced by TI in response to request number 3. Further, as part of its specification testing, TI tested the subject switches at the temperature specified in the Ford specification, which was 135 degrees C, plus or minus 14 degrees C for the fluid temperature and 107 degrees C minimum for the switch temperature. Those tests indicated that the switch, including the diaphragms, met or exceeded the Ford specification, including the 500,000 cycle impulse tests. TI lacks any more specific information on the estimated life of the subject switches when subjected to the conditions described in the question.

(d) An assessment of the design factors of the subject switches that may influence the durability of the subject switches;

(d) One design factor influencing the subject switches' durability is the design of the diaphragm. In order to ensure that the diaphragm would meet the Ford specification in the face of its exposure to stress from cycling, brake fluid/water, and elevated temperature, TI decided to use the multi-layer Kapton/Teflon "sandwich" combination described above. Given Kapton's known susceptibility to deterioration from exposure to water, Teflon was utilized as a coating due to its resistance to water. A third layer of Teflon-coated Kapton (beyond the two layers used in prior TI-manufactured switches for use in power steering applications) was added to further enhance the durability of the switch

Other design factors that could bear on durability include the design of the gasket which seals the switch to brake fluid in conjunction with the diaphragm. TI chose a material for the gasket that is compatible with brake fluid and chose a gasket compression level that would provide enough seal force to meet the Ford specification.

There are numerous other factors in the design of the switch that affect the switch's actuation point and could cause that point to drift. For example, converter and washer

dimensions could affect the actuation point. The DFMEAs that TI is producing identify other relevant design factors that could impact durability.

(e) An assessment of the manufacturing factors that may influence the durability of the subject switches;

(e) TI interprets this question to refer to TI manufacturing factors that could influence durability, as opposed to component manufacturing factors. The TI manufacturing factors that may influence the durability of the switch are as follows: (1) the crimping process; (2) the process for inserting the 3-layer Kapton/Teflon diaphragm, (3) damage to the Kapton diaphragm during the manufacturing process, and (4) the process for loading the gasket in the correct location and avoiding any damage to the gasket during the process.

As to the first process described above, crimping, TI has discussed above the circumstances that arose from use of the automatic-load crimping (AMI) at the outset of production of the 77PSL switch. The second and third manufacturing factors that could influence durability -- failure to insert the multi layer Teflon/Kapton sandwich or damage to the diaphragm during manufacturing – would potentially weaken the diaphragm and cause the switch to fail prematurely. TI has no basis for believing that these problems occurred during the manufacturing process for its switch. The fourth manufacturing factor identified in the prior paragraph – issues relating to the inserting of the gasket -- could result in damage to the gasket which could result in leakage of the switch. The PFMEA documents TI is producing in response to request 13 describe other failure modes relating to the manufacturing process.

(f) An assessment of the vehicle assembly factors that may influence the durability of the subject switches;

(f) We understand the term "vehicle assembly factors" to refer to factors associated with the manufacture of the vehicle. We also note that the subject switch was assembled with other vehicle components by Tier 1 suppliers, and that the group of assembled components was supplied as a unit to Ford.

TI is not familiar with the Ford or Tier I supplier assembly processes and therefore cannot comment in any detail on this question. However, among the assembly factors that could influence the durability of the switch are: (1) exposure of the switch assembly to cleaning and/or test fluids that might contribute to deterioration of the diaphragm; (2) improper use of a vacuum system for filling brake fluid in the vehicle brake lines, or during the assembly or testing of the switch/proportional valve assembly, that could cause the Kapton diaphragm to be overstressed and thus impair its functioning; (3) issues with the mating connector seal, such as missing seals or damaged seals during assembly; and/or (4) incomplete attachment of the mating connector to the switch connector. In the event of a mating connector problem such as are noted in items (3) and (4) above, TI speculates that fluids such as puddled rain water or cleaning fluids could enter the electrical cavity of the switch externally through the connector seal between the switch and vehicle's wire harness.

With respect to the vacuum issue noted in item (2) of the preceding paragraph, TI notes that a vacuum must be created in the brake line of the vehicle so that air is removed from the

brake lines at the time that brake fluid is inserted. During the testing of Ford's manufacturing process for Capri vehicles in Australia, a vacuum was created using a system that was sufficiently powerful to pull the Kapton out of place and impair its utility for the Capri switches. Prior to actual production, this problem was resolved. Documents regarding the Capri testing are produced in response to request number 7.

(g) An assessment of the use factors of the subject switches that may influence the durability of the subject switches.

(g) TI understands the inquiry into "use factors" that could influence the durability of the subject switches to refer to the factors that pertain to the conditions surrounding the switch following assembly of the vehicle. The critical use factors bearing on durability are: (1) the temperature in the area in which the switch is located within the vehicle (see discussion in response to request 15(b) and (c), above) and (2) the actual number of brake cycles to which the switch is subject during vehicle operations.

With respect to the latter point, TI speculates that diaphragm cracking could result from exposure of the diaphragm to the stress resulting from excessive flexure/displacement, from pressure cycling in excess of the Ford specification. The deterioration and cracking of the diaphragm could be accelerated by exposure of the Kapton layer closest to the brake fluid to water in that brake fluid, following such stress-relating cracking in the Teflon coating. After sufficient time, and the process repeating in the other two Kapton layers (the ones closer to the electrical portion of the switch), small amounts of brake fluid could enter through the cracks in the diaphragm into the electrical portion of the switch. Entry of fluid into the switch cavity by this means appears to be an unusual phenomenon that occurs rarely relative to the very large number of switches in use.

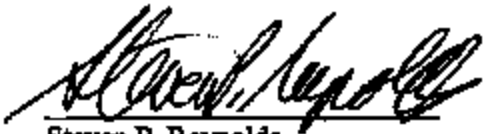
16. Provide the name and contact information of a Texas Instruments representative that can answer technical questions concerning the subject of this letter.

Steven Beringhause, TI Design Manager, is available to answer technical questions regarding the subjects of NHTSA's requests. Mr. Beringhause is located at TI's Attleboro Massachusetts facility and may be contacted through the undersigned.

* * *

TI has worked diligently to prepare the above responses and gather the documents being produced. TI is prepared to discuss with NHTSA any of the above answers and to respond to any questions that the agency might have about these answers and any of the documents being produced.

Respectfully,



Steven P. Reynolds
Senior Counsel, Law Dept.
Texas Instruments Incorporated

cc: Mr. Bruce York

[redacted]

EA 02-325
Texas Instruments Inc.'s Response to June 25, 2003 Information Request
Exhibit 1 page 1

Item	TI Number	Customer Part Number	Switch Type	Base Spring Type	Max Cycle Pressures	Actuation Pressure	Years of Production	Make	Model	Model Year	Volume by Calendar Year	Service Part Volume Calendar Year	Recall Volume by Calendar Year
4	57PSL5-2	F2TA-9C888-AA	Speed Control Deactivation	S-spring	1450+/-50 psi	300-200 psi	1997	Ford	F-Series - Bronco	1992	**See "Volume by Year" tab**	**See "Service Parts by Year" tab**	**See "Recall by Year" tab**
5	57PSL5-3	F2VC-9F924-BB	Speed Control Deactivation	S-spring	1450+/-50 psi	150-90 psi	1995	Ford, Lincoln	Town Car	1992	**See "Volume by Year" tab**	**See "Service Parts by Year" tab**	**See "Recall by Year" tab**
6	77PSL2-1	F2VC-9F924-AB	Speed Control Deactivation	L-spring	1450+/-50 psi	150-90 psi	1991-2003	Ford, Lincoln	Town Car - Grand Marquis (1992 only) - Crown Vic (1992 only)	1992-1997	**See "Volume by Year" tab**	**See "Service Parts by Year" tab**	**See "Recall by Year" tab**
7	77PSL2-3	F6LC-9F924-AA	Speed Control Deactivation	L-spring	1450+/-50 psi	300-200 psi	1991-1998, 2001	Ford	Econoline - Club Wagon	1992-1998	**See "Volume by Year" tab**	**See "Service Parts by Year" tab**	**See "Recall by Year" tab**
8	77PSL3-1	F2AC-9F924-AA	Speed Control Deactivation	L-spring	1450+/-50 psi	200-90 psi	1992-2003	Ford	Grand Marquis - Crown Vic	1992-1997	**See "Volume by Year" tab**	**See "Service Parts by Year" tab**	**See "Recall by Year" tab**
9	77PSL3-2	F58A-9F924-AA	Speed Control Deactivation	L-spring	1450+/-50 psi	150-90 psi	1993-2003	Ford	Windstar	1994-2002	**See "Volume by Year" tab**	**See "Service Parts by Year" tab**	**See "Recall by Year" tab**
10	77PSL3-3	F3TA-9F924-CA	Speed Control Deactivation	L-spring	1450+/-50 psi	300-200 psi	1992-2003	Ford, Lincoln	Bronco - Ranger - F-Series - Explorer - Expedition - Navigator	1993-2002	**See "Volume by Year" tab**	**See "Service Parts by Year" tab**	**See "Recall by Year" tab**
11	77PSL4-1	94DA-9F924-AA	Speed Control Deactivation	L-spring	1450+/-50 psi	150-90 psi	1994-2003	Ford	Falcon	1995-2002	**See "Volume by Year" tab**	**See "Service Parts by Year" tab**	**See "Recall by Year" tab**
12	77PSL5-2	F3DC-9F924-AA	Speed Control Deactivation	L-spring	1450+/-50 psi	150-90 psi	1992-1995, 1999-2002	Ford	Taurus SHO	1993-1995	**See "Volume by Year" tab**	**See "Service Parts by Year" tab**	**See "Recall by Year" tab**
13	77PSL6-1	94JA-9F924-AB	Speed Control Deactivation	L-spring	1450+/-50 psi	150-90 psi	1995-1994	Ford, Mercury	Capri	1994-1995	**See "Volume by Year" tab**	**See "Service Parts by Year" tab**	**See "Recall by Year" tab**

Exhibit 1 page 2

	Volume by Calendar Year																		
	Item:	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
4	57PSL5-2						26,049												
5	57PSL5-3						26,055												
6	77PSL2-1						23,858	207,101	266,926	128,281	1,428		1,190						
7	77PSL2-3						31,458	107,919	1,873	500	12,852	13,804	16,184	3,332					
8	77PSL3-1							128,996	54,671	255,779	285,116	328,918	216,794						
9	77PSL3-2								1,577	212,296	234,675	232,547	267,750	235,858	299,773	294,168	192,542	198,492	
10	77PSL3-3							164,250	601,927	646,359	1,269,837	1,424,221	1,609,456	1,942,799	1,956,464	2,195,324	1,851,145	1,204,510	
11	77PSL4-1									28,084	64,350	57,358	64,974	42,602	53,550	65,212	44,142	39,144	
12	77PSL5-2							7,535	15,470	12,614	3,332								
13	77PSL6-1								5,950	1,666									

Exhibit 1 page 3

	Service Parts by Calendar Year Item:	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
4	57PSL5-2																		
5	57PSL5-3																		
6	77PSL2-1							238	238	952		714	1,428		8,092				
7	77PSL2-3							238											
8	77PSL3-1													238	6,530	3,570	6,664	3,996	
9	77PSL3-2								714	476		714	714	1,666	5,474	1,666	11,900	16,422	
10	77PSL3-3							476	3,845	3,352		1,200	3,360		6,470	7,680		29,760	
11	77PSL4-1															2,618	11,536		
12	77PSL5-2							238	714										
13	77PSL6-1																		

EA 02-025
Texas Instruments Inc.'s Response to June 25 2003 Information Request
Exhibit 3

Name	Address	Number	Model	Year	VIN	Incident date	Mileage
[redacted]			LTC	1993	1LNLM81W0PY677138	January 20, 2001	280,562
			LTC	1993	1LNLM82W4PY727103	June 7, 2003	
			LTC	1993	1LNLM81W8PY720284	May 17, 2000	110,000
			LTC	1993			
			LTC	1993	1LNLM81W9PY709035	March 17, 2002	34,058
			CV	1993	2FACP71W8PX178941	November 8, 2000	166,000
			CV	1993	2FALP74W7PX149118	September 15, 2002	77,560
			GM	1993	2MELM75W9PX674293	August 4, 2002	
			GM	1993	2MELM74W4PX665373	April 19, 2001	
			LTC	1994	1LNLM82W8RY685277	April 24, 2003	
			GM	1994	2MELM75W6RX636696	January 11, 2002	
			GM	1994	2MELM75W8AX642468	February 26, 2001	
			GM	1994	2MELM75W5RX645201	October 29, 2002	
			LTC	1996	1LNLM82W6TY678111	December 18, 2002	64,830

Exhibit 1 page 4

	Recalled Parts by Calendar Year					
	Item:	1999	2000	2001	2002	2003
4	57PSL5-2					
5	57PSL5-3					
6	77PSL2-1	271,314				
7	77PSL2-3					
8	77PSL3-1					
9	77PSL3-2					
10	77PSL3-3					
11	77PSL4-1					
12	77PSL5-2					
13	77PSL6-1					

EA 02-025
Texas Instruments Inc.'s Response to June 25, 2003 Information Request
Privilege Log

Date	To	From	Copied	Privilege	Description	Bates Range
00/00/0000	[redacted]			Attorney-Client Privilege/Work-Product	Handwritten notes	TI NHTSA PRIV 001 - 040
06/28/1996				Attorney-Client Privilege	Memo re Question of first public disclosure	TI NHTSA PRIV 041
00/00/1998				Attorney-Client Privilege	Handwritten Note to file	TI NHTSA PRIV 042
11/23/1998				Attorney-Client Privilege/Work-Product	E-mail re Auto News	TI NHTSA PRIV 043-046
12/09/1998				Attorney-Client Privilege/Work-Product	E-mail re Car fires investigation	TI NHTSA PRIV 047
12/14/1998				Attorney-Client Privilege/Work-Product	Facsimile re [redacted]	TI NHTSA PRIV 048
12/15/1998				Attorney-Client Privilege/Work-Product	Facsimile re	TI NHTSA PRIV 049
12/17/1998				Attorney-Client Privilege/Work-Product	E-mail re Town Car Fires	TI NHTSA PRIV 050-051
12/18/1998				Attorney-Client Privilege	E-mail re Usage Matrix	TI NHTSA PRIV 052-053
12/21/1998				Attorney-Client Privilege/Work-Product	E-mail re meetings with Ford	TI NHTSA PRIV 054-055
12/21/1998				Attorney-Client Privilege/Work-Product	E-mail re meetings with Ford	TI NHTSA PRIV 056-057
01/05/1999				Attorney-Client Privilege/Work-Product	E-mail re Preparation for Visit	TI NHTSA PRIV 058
01/18/1999				Attorney-Client Privilege/Work-Product	Handwritten notes re: Porter's communication	TI NHTSA PRIV 059-060
01/18/1999				Attorney-Client Privilege/Work-	E-mail re Lincoln Town	TI NHTSA PRIV 061-069

	[redacted]	Product	Car Brake Switch	
01/18/1999		Attorney-Client Privilege/Work-Product	E-mail re Lincoln Town Car Brake Switch	TI NHTSA PRIV 070
01/18/1999		Attorney-Client Privilege/Work-Product	E-mail re Lincoln Town Car	TI NHTSA PRIV 071
01/19/1999		Attorney-Client Privilege/Work-Product	E-mail re Potential Liability	TI NHTSA PRIV 072-073
01/19/1999		Attorney-Client Privilege/Work-Product	E-mail re Potential Liability	TI NHTSA PRIV 074
01/19/1999		Attorney-Client Privilege/Work-Product	E-mail String re Potential Liability	TI NHTSA PRIV 075-076
01/28/1999		Attorney-Client Privilege/Work-Product	E-mail re Service Bulletin	TI NHTSA PRIV 077-106
01/28/1999		Attorney-Client Privilege/Work-Product	E-mail re Previous Investigations	TI NHTSA PRIV 107-109
01/29/1999		Attorney-Client Privilege/Work-Product	E-mail re [redacted]	TI NHTSA PRIV 110-115
01/29/1999		Attorney-Client Privilege/Work-Product	E-mail re Lincoln Town Car [redacted]	TI NHTSA PRIV 116
02/01/1999		Attorney-Client Privilege/Work-Product	Note re 77PS switch	TI NHTSA PRIV 117-118
02/01/1999		Attorney-Client Privilege/Work-Product	E-mail re Ford Expert	TI NHTSA PRIV 119-130
02/02/1999		Attorney-Client Privilege/Work-	E-mail re [redacted]	TI NHTSA PRIV 131

	[redacted]	Product		
02/04/1999		Attorney-Client Privilege/Work-Product	E-mail re Ford situation	TI NHTSA PRIV 132
02/04/1999		Attorney-Client Privilege/Work-Product	E-mail re summary of NHTSA file	TI NHTSA PRIV 133-135
02/04/1999		Attorney-Client Privilege/Work-Product	Memo re NHTSA PE98-055	TI NHTSA PRIV 136-139
02/10/1999		Attorney-Client Privilege/Work-Product	E-mail re 77PS Support Focus	TI NHTSA PRIV 140-142
02/11/1999		Attorney-Client Privilege/Work-Product	E-mail re TI Letter	TI NHTSA PRIV 143-145
02/17/1999		Attorney-Client Privilege/Work-Product	E-mail re communications with Ford	TI NHTSA PRIV 146-147
03/03/1999		Attorney-Client Privilege	E-mail re Ford P/S Transitions of Current Interest	TI NHTSA PRIV 148-155
03/04/1999		Attorney-Client Privilege/Work-Product	E-mail re Transitions of current interest	TI NHTSA PRIV 156-161
03/19/1999		Attorney-Client Privilege/Work-Product	E-mail re Ford [redacted]	TI NHTSA PRIV 162-164
03/19/1999		Attorney-Client Privilege/Work-Product	E-mail re [redacted]	TI NHTSA PRIV 165-167
04/21/1999		Attorney-Client Privilege/Work-Product	E-mail re Ford Safety Recall	TI NHTSA PRIV 168-169
05/19/1999		Attorney-Client Privilege/Work-Product	E-mail re Ford recall	TI NHTSA PRIV 170-175
05/19/1999		Attorney-Client Privilege/Work-	E-mail string re Ford	TI NHTSA PRIV 176-177

	[redacted]			Product	Announcement	
05/19/1999				Attorney-Client Privilege/Work-Product	E-mail re Ford recall	TI NHTSA PRIV 178-181
05/19/1999				Attorney-Client Privilege/Work-Product	E-mail re Ford Announcement	TI NHTSA PRIV 182-189
05/19/1999				Attorney-Client Privilege/Work-Product	E-mail string re Ford recall	TI NHTSA PRIV 190
05/19/1999				Attorney-Client Privilege/Work-Product	E-mail string re Ford recall	TI NHTSA PRIV 191
05/19/1999				Attorney-Client Privilege/Work-Product	E-mail string re Ford recall	TI NHTSA PRIV 192
05/19/1999				Attorney-Client Privilege/Work-Product	E-mail re Ford Announcement	TI NHTSA PRIV 193-194
05/19/1999				Attorney-Client Privilege/Work-Product	E-mail re Ford recall	TI NHTSA PRIV 195-197
05/19/1999				Attorney-Client Privilege/Work-Product	E-mail re Ford recalls	TI NHTSA PRIV 198-201
05/19/1999				Attorney-Client Privilege/Work-Product	E-mail re Ford recall	TI NHTSA PRIV 202-205
05/19/1999				Attorney-Client Privilege/Work-Product	E-mail string re Ford recall	TI NHTSA PRIV 206-207
05/20/1999				Attorney-Client Privilege/Work-Product	E-mail re March 19, 1999	TI NHTSA PRIV 208-211
05/20/1999				Attorney-Client Privilege/Work-Product	E-mail re Ford recall	TI NHTSA PRIV 212-230

	[redacted]			Product		
07/17/2001				Attorney-Mediation Privilege/Work-Product	Ltr re settlement	TI NHTSA PRIV 317-318
07/18/2001				Attorney-Mediation Privilege/Work-Product	Ltr re settlement	TI NHTSA PRIV 319-331
08/03/2001				Mediation Privilege/Work-Product	Ltr re Confidential settlement proposal	TI NHTSA PRIV 332
10/17/2001				Attorney-Client Privilege/Work-Product	Chart re Redundant Speed Control Deactivation Switch	TI NHTSA PRIV 333