Total Recall: Internal Documents Detail Takata’s Broken Safety Culture and the Need for a More Effective Recall Process

ADDENDUM

to

Danger Behind the Wheel: The Takata Airbag Crisis and How to Fix Our Broken Auto Recall Process
June 22, 2015

OFFICE OF OVERSIGHT AND INVESTIGATIONS
MINORITY STAFF REPORT

FEBRUARY 23, 2016
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Exhibits

Exhibit A: August 23, 2004 Email Thread with Subject: “PSPI-6C”

Exhibit B: January 6, 2005 Memorandum From Bob Schubert to Al Bernat Re: “Data Integrity and the PSDI5 Inflator”

Exhibit C: October 18 -19, 2006 Email Thread with Subject: “DCX Ballistic LAT.ppt”

Exhibit D: “Takata SDI-X 1.7 Base Failure Hydro-burst”

Exhibit E: “Summary”
I. Overview

In June 2015, Ranking Member Bill Nelson of the Senate Committee on Commerce, Science, and Transportation (Commerce Committee or Committee) released a report detailing the findings of the Committee minority staff’s investigation into the Takata airbag recalls.1 The report highlighted a number of serious safety and quality lapses that occurred years before vehicles were first recalled.

Since the Committee minority staff’s report, the Takata airbag recalls have expanded, developing into an even bigger safety crisis. According to the National Highway Traffic Safety Administration (NHTSA), as of February 11, 2016, more than 29 million inflators, approximately 23 million vehicles, and fourteen automakers were impacted. The rupturing inflators have caused at least ten deaths, including nine in the U.S., and more than 100 injuries worldwide.2 On November 3, 2015, NHTSA issued a Consent Order to Takata intended to reduce the risk of inflator ruptures by ordering the phase-out of the use of certain ammonium nitrate-based inflators and a Coordinated Remedy Order requiring automakers to prioritize recall repairs.3

In addition, the Commerce Committee has continued its investigation, reviewing documents and meeting with government regulators, representatives of Takata, and affected automakers. Emails and documents reviewed by Committee minority staff reveal a culture within Takata that, at a minimum, did not prioritize the safety of its products – and perhaps operated with an utter disregard for safety. Numerous internal documents and emails reference the widespread manipulation of inflator testing results by Takata employees. In a meeting with Committee staff, Takata representatives stated that the most serious data manipulation occurred in 2000; however, emails and documents reviewed by Committee minority staff demonstrate that these data integrity issues continued even in the years after the airbag recalls began, when fatalities had been linked to rupturing airbags. Takata representatives contend that there is no link between the instances of data manipulation and the defects that are the subject of recalls.

The following additional documents uncover instances of data manipulation and illustrate the alarming extent to which Takata lacked a culture that prioritized the safety of its products.

II. Internal Takata Documents Reveal Instances of Safety Testing Data Manipulation and a Broken Safety Culture

In 2004, an engineering manager at Takata’s Armada, Michigan Plant wrote regarding a specific model of inflator, “IF we continue to humor them by sending them DV/ PV [Design Validation/Process Validation] data so they can ‘selectively modify’ however they see fit, the

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2 E.g., Takata Air-Bag Recall Expanded as 10th Death Reported, Bloomberg Business (Jan. 22, 2016).
data reported to our Asian Customers will always be suspect compared with what we will have on file here. How do we make this stop?" Takata representatives stated to the Committee that they could not substantiate this allegation and found no evidence that manipulation of data related to this particular inflator actually occurred.

In a 2005 memorandum to Al Bernat, group vice president of engineering and quality assurance, from Bob Schubert, an airbag production engineer, titled “Data Integrity and the PSDI5 Inflator,” Bob Schubert raised serious concerns regarding the manipulation of testing data, writing, “it has come to my attention that the integrity of validation reports coming from that organization [inflator engineering] is in serious question. The key issue is that the data obtained by ASL-IO [Automotive Systems Laboratory-Inflator Organization] is not being accurately reported to the end customer.”

Schubert continued the memo by detailing eight specific changes made to original validation reports. “These are not trivial changes in that data clearly in violation of the customer spec is altered to meet the customer spec,” Schubert wrote, adding, “[t]he data presented by IO to the customer is a clear misrepresentation of the facts.” These misrepresentations included tests being reported as compliant when they were not and the total elimination of testing data from reports. At times, even when the data was within the customer specifications, it was changed or deleted “without explanation.”

The focus of this memo, the PSDI-5 inflator, was the subject of a recall in May 2015 and in January 2016, impacting, in total, more than 4 million inflators. Takata maintains that the examples of data manipulation highlighted by Schubert in his memo are not directly related to airbag inflator ruptures or the PSDI-5 inflators currently recalled. However, this manipulation, at a minimum, clearly illustrates a culture at Takata that failed to prioritize safety.

In 2006, an engineering manager sent an email to a fellow engineering manager and directors in his inflator engineering group in which he explained, “PV [Process Validation] Reports were cherry picked and [    ] was schmoozed to accept certain deviations. [    ] and [    ] intimidated the shit out of [    ] to ‘create’ these wonderful fictitious PV reports [. . .]. It is yet another mess-o-shit we will be handed with no real fix possible. The plant should have been

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4 Takata Response to Senate Commerce Committee (Nov. 23, 2015) (TKH-SCS&T00341066) [Exhibit A].
5 Takata Response to Senate Commerce Committee (Dec. 8, 2015) (TKH-SCS&T00341576) [Exhibit B].
6 Id.
7 Id. Additionally, former Takata employees have alleged that in 2000 and 2004 Mr. Bernat ordered the destruction of airbag parts that had failed performance tests. See Takata Discarded Evidence of Airbag Ruptures as Early as 2000, New York Times (Feb. 12, 2016).
screaming bloody murder long ago.”\footnote{11 Takata Response to Senate Commerce Committee (Nov. 23, 2015) (TKH-SCS&T00341071) [Exhibit C].} Earlier in the same email chain, a quality manager in Mexico wrote, “But the more important thing is our records, if we go back to our record we will find a lot of failures and if the customer request records or make an audit we will have a lot of failures (Some times 38% at week of failures).”\footnote{12 \textit{Id.}} According to Takata, these allegations were not based on first-hand knowledge of the alleged data manipulation and are overblown.

However, documents and emails provided to Committee minority staff show that Takata continued to manipulate and alter testing data in 2010, even after recalls in 2008 and 2009 and two fatalities in 2009 linked to rupturing inflators. A presentation on an experimental inflator, SDI-X 1.7, documented the deficiencies in this inflator, which included “significantly variable hydro-burst, significantly reduced safety factor, and significant weld quality issues.”\footnote{13 Takata Response to Senate Commerce Committee (Dec. 8, 2015) (TKH-SCS&T00341492) [Exhibit D].}

The presentation continued, “TKJ [Takata Japan] was informed of these results, but altered them and reported good results to Honda. Honda now wants to implement the design……”\footnote{14 \textit{Id.}} One slide, with the heading “Reporting Fidelity,” compares the actual data and the data reported to Honda, which shows that data was omitted and values were fabricated.\footnote{15 Takata Response to Senate Commerce Committee (Dec. 8, 2015) (TKH-SCS&T00341495) [Exhibit D].}

It is disturbing that data integrity issues persisted at Takata, even after recalls and fatalities in 2008 and 2009. The last slide of the presentation acknowledges a recall, explaining, “Honda has concluded that the late design change on PSDI was a significant influence to the recall issue.”\footnote{16 Takata Response to Senate Commerce Committee (Dec. 8, 2015) (TKH-SCS&T00341499) [Exhibit D].} Takata informed the Committee that this experimental inflator design never went into production.

Furthermore, documents reviewed by Committee minority staff reveal that a director within Takata’s global inflator/propellant organization raised ethical concerns to a senior vice president, who, according to the director’s notes, failed to address the concerns. More than four years after the first recall of Takata airbags, the director was asked in March 2013 to present information to an automaker about the range of vehicles affected by a recall. In his personal notes, which Committee minority staff reviewed, the director wrote, “I told the group that it seemed clear to me that the information used to set the range of the recall was, in one case, technically unsupportable, and in the other case, a likely misrepresentation of the production records.”\footnote{17 Takata Response to Senate Commerce Committee (Nov. 23, 2015) (TKH-SCS&T00341394) [Exhibit E].} Later in his notes, he explained, “The basis for limiting the 2002 recall population is false. It is a blatant misrepresentation of the production records”\footnote{18 Takata Response to Senate Commerce Committee (Nov. 23, 2015) (TKH-SCS&T00341400) [Exhibit E].} and “will either generate
unnecessary recall population or fail to recall product that is suspect,” which he deemed a potential “violation of our moral obligation to protect the public.”\textsuperscript{19}

According to the director’s notes, he raised all these concerns with Takata’s senior vice president of quality assurance and refused to sit in any meeting in which the basis of the recall boundary would be discussed.\textsuperscript{20} In response, his senior colleague conveyed that someone else would be going in his place to present the basis for the recall to the automaker, but he did not indicate that anything would be done to correct the issues that had been raised.\textsuperscript{21} The engineer also felt required to report his concerns to the VP of Human Resources in accordance with the Corporate Governance document.\textsuperscript{22}

III. Conclusion

Committee minority staff believe that the emails and other documents referenced above represent, at the very least, a failure by Takata to ensure the integrity of its testing of inflators or to respond appropriately to ethical concerns raised to senior Takata personnel. These apparent testing manipulations and the failure by Takata to address them raise concerns about the safety of all ammonium nitrate-based Takata airbag inflators. Accordingly, Committee minority staff recommend the following steps be taken to further protect consumers impacted by potentially defective Takata airbag inflators.

IV. Minority Staff Recommendations

A. Phase Out All Takata Ammonium Nitrate-Based Inflator Production As Soon As Possible

• Under the Consent Order, Takata is permitted to continue to manufacture and sell, under existing contracts, non-desiccated ammonium nitrate-based inflators through the end of 2018. Additionally, Takata is permitted to continue to manufacture and sell, under existing contracts, desiccated ammonium nitrate-based inflators indefinitely.\textsuperscript{23}
• To protect the public from an unreasonable risk to safety, Committee minority staff believe that NHTSA should immediately exercise its authority under the Consent Order and Coordinated Remedy to accelerate the phase-out schedule for non-desiccated ammonium nitrate-based inflators and to create a phase-out schedule for desiccated ammonium nitrate-based inflators.

\textsuperscript{19} Takata Response to Senate Commerce Committee (Nov. 23, 2015) (TKH-SCS&T00341404) [Exhibit E].
\textsuperscript{20} Takata Response to Senate Commerce Committee (Nov. 23, 2015) (TKH-SCS&T00341405) [Exhibit E].
\textsuperscript{21} Takata Response to Senate Commerce Committee (Nov. 23, 2015) (TKH-SCS&T00341407) [Exhibit E].
\textsuperscript{22} Takata Response to Senate Commerce Committee (Nov. 23, 2015) (TKH-SCS&T00341409) [Exhibit E].
B. NHTSA Must Take All Appropriate Action to Accelerate Production of Non-Ammonium Nitrate-Based Replacement Inflators

- A reported shortage of replacement parts has led to substantial delays in the availability of replacement parts for many consumers seeking to fix recalled vehicles.\(^2\)
- Committee minority staff recommend that NHTSA use all existing authority to maximize the expedited production of non-ammonium nitrate-based inflators.

C. NHTSA Must More Effectively Manage the Recall Process to Avoid Consumer Confusion

- While NHTSA has issued a Consent Order and Coordinated Remedy Order in an effort to provide a “global” fix to the Takata airbag crisis, failures by NHTSA and the automakers to effectively coordinate when additional recalls are announced are causing substantial consumer confusion.\(^2\)
- Committee minority staff believe that NHTSA, in coordination with the Takata independent monitor, should more effectively manage the announcement of recalls and recall remedies.


\(^2\) *See German Makers Recall 2.3 Million U.S. Vehicles for Takata Bags*, Bloomberg (Feb. 10, 2016); *Latest Airbag Advice Confuses Drivers*, NBC4 Southern California (Feb. 16, 2016).
Hate to pile more crap on your plate, but [redacted] and I agreed to forward this to you. The scenario below speaks to how the data package shown to the Asian Customer may or may not reflect final reports here.

Not exactly sure how to stop this flow of data unless we flat out tell them NO. Then, I would assume, Mr. [redacted] would be asked to get involved.

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IF we continue to humor them by sending them DV/PV data so they can “selectively modify” however they see fit, the data reported to our Asian Customers will always be suspect compared with what we will have on file here. How do we make this stop?

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Gentlemen,

I just had an interesting conversation with [redacted] a few minutes ago concerning PSPI-5C data.

As you may already know, [redacted] previously sent out the remaining parts from the aborted DV attempted under [redacted]. 60 of these parts went through the [redacted] Thermal Shock requirements and are being tested in the shop right now. This data is supposed to be back-up data to show [redacted], on August 25th, while we get the actual DV running.

Mr. [redacted] has strongly asked me put all of the data in the [redacted] summary format (typically for DV and PV reports as I understand). He also asked me for a cover sheet. I could not tell if this was his dry humor or his arrogance, but you all can see where it’s going.

As data comes in I have been asked to forward it to [redacted], [redacted] and [redacted]. I will also keep everyone else in the loop. By the way, some of the data looks good other parts not so good.

[redacted]
Memorandum

To: Al Bernat
From: Bob Schubert
Date: January 6, 2005
Re: Data Integrity and the PSDIS Inflator

INTRODUCTION

In the course of my normal duties involving the inflator engineering organization, it has come to my attention that the integrity of validation reports coming from that organization is in serious question. The key issue is that the data obtained by ASL-IO is not being accurately reported to the end customer.

To support this contention, I offer the following documentary evidence. Appendix A contains a copy of the PV report written by the engineers at ASL. Appendix B contains that same report, re-written for transmission to the end customer.

This second report was portrayed as a "translation" for the Japanese customer, but in fact, the only page with Japanese characters on it is the cover page. The balance of the report is in English. In the following paragraphs, I will detail the changes made to the original report. These are not trivial changes in that data clearly in violation of the customer spec is altered to meet the customer spec.

DATA REVIEW

In the upcoming pages, I will detail each instance of data alteration. For convenience, I've labeled each item with a number designator, and tabbed the report with the same number. Item 1 will be numbered 1A for the ASL US report, and 1B for the Japan report. In some cases, there will not be a corresponding "B" tab, since some data was eliminated from the Japan report.

SUMMARY

The data presented by IO to the customer is a clear misrepresentation of the facts.
- The effluents are reported as compliant when they are not.
- The particulates are reported as compliant when they are not.
- The safety factor is reported as higher than measured, and is not representative of the actual safety factor since the max pressure condition (~10 ms delay) is not reported.
- 73 tests are eliminated from the US report without explanation.
<table>
<thead>
<tr>
<th>Tab No.</th>
<th>US report</th>
<th>Japan report</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 (A only)</td>
<td>The US report states: Baseline Group 2 did not pass the particulate specification. All effluent tests did not pass one or more of the ... specification values.</td>
<td>No mention of a failure to meet spec.</td>
</tr>
<tr>
<td>2</td>
<td>Against a specification value of 1000 mg, the following particulate measurements reported for six tests:</td>
<td>No data reported for any of the tests noted in the US report. Data added to the following tests:</td>
</tr>
<tr>
<td>Test #</td>
<td>Value</td>
<td>Judgment</td>
</tr>
<tr>
<td>--------</td>
<td>-------</td>
<td>---------</td>
</tr>
<tr>
<td>99121</td>
<td>1478 mg</td>
<td>FAIL</td>
</tr>
<tr>
<td>99122</td>
<td>1609 mg</td>
<td>FAIL</td>
</tr>
<tr>
<td>99123</td>
<td>1201 mg</td>
<td>FAIL</td>
</tr>
<tr>
<td>99115</td>
<td>1237 mg</td>
<td>FAIL</td>
</tr>
<tr>
<td>99116</td>
<td>1073 mg</td>
<td>FAIL</td>
</tr>
<tr>
<td>99117</td>
<td>1729 mg</td>
<td>FAIL</td>
</tr>
<tr>
<td>3</td>
<td>No particulate data reported for tests 99148, 99149, or 99150.</td>
<td>Particulate data reported as follows:</td>
</tr>
<tr>
<td>Test #</td>
<td>Value</td>
<td>Judgment</td>
</tr>
<tr>
<td>--------</td>
<td>-------</td>
<td>---------</td>
</tr>
<tr>
<td>99148</td>
<td>841 mg</td>
<td>PASS</td>
</tr>
<tr>
<td>99149</td>
<td>547 mg</td>
<td>PASS</td>
</tr>
<tr>
<td>99150</td>
<td>562 mg</td>
<td>PASS</td>
</tr>
<tr>
<td>4</td>
<td>Regarding effluents gases, the following values were obtained for the noted tests:</td>
<td>The Japan report contains the following data. There is no note as to whether it is GasTec or FTIR data.</td>
</tr>
<tr>
<td>Via GasTec tubes</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test</td>
<td>CO</td>
<td>NO2</td>
</tr>
<tr>
<td>------</td>
<td>----</td>
<td>-----</td>
</tr>
<tr>
<td>99154</td>
<td>190</td>
<td>.25</td>
</tr>
<tr>
<td>99155</td>
<td>220</td>
<td>.25</td>
</tr>
<tr>
<td>99156</td>
<td>220</td>
<td>.25</td>
</tr>
<tr>
<td>99157</td>
<td>230</td>
<td>1.0</td>
</tr>
<tr>
<td>99158</td>
<td>230</td>
<td>.5</td>
</tr>
<tr>
<td>99159</td>
<td>210</td>
<td>.75</td>
</tr>
<tr>
<td>Via FTIR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Test</td>
<td>CO</td>
<td>NO2</td>
</tr>
<tr>
<td>------</td>
<td>----</td>
<td>-----</td>
</tr>
<tr>
<td>99154</td>
<td>220.2</td>
<td>0.06</td>
</tr>
<tr>
<td>99155</td>
<td>229.4</td>
<td>0.05</td>
</tr>
<tr>
<td>99156</td>
<td>196.6</td>
<td>0.20</td>
</tr>
<tr>
<td>99157</td>
<td>220.6</td>
<td>0.43</td>
</tr>
<tr>
<td>99158</td>
<td>230.4</td>
<td>0.40</td>
</tr>
<tr>
<td>99159</td>
<td>231.4</td>
<td>0.31</td>
</tr>
</tbody>
</table>
The Japan report includes no more effluent evaluations.

<table>
<thead>
<tr>
<th>Note: Both the US and Japan data in this report has been sorted in descending order of magnitude.</th>
</tr>
</thead>
<tbody>
<tr>
<td>US</td>
</tr>
<tr>
<td>60.25</td>
</tr>
<tr>
<td>59.04</td>
</tr>
<tr>
<td>58.72</td>
</tr>
<tr>
<td>58.63</td>
</tr>
<tr>
<td>58.17</td>
</tr>
<tr>
<td>56.99</td>
</tr>
<tr>
<td>55.62</td>
</tr>
<tr>
<td>54.99</td>
</tr>
<tr>
<td>54.12</td>
</tr>
<tr>
<td>54.07</td>
</tr>
<tr>
<td>53.91</td>
</tr>
<tr>
<td>53.29</td>
</tr>
<tr>
<td>52.83</td>
</tr>
<tr>
<td>52.54</td>
</tr>
<tr>
<td>52.30</td>
</tr>
<tr>
<td>51.93</td>
</tr>
<tr>
<td>51.60</td>
</tr>
<tr>
<td>51.16</td>
</tr>
<tr>
<td>50.97</td>
</tr>
<tr>
<td>average</td>
</tr>
<tr>
<td>49.27</td>
</tr>
<tr>
<td>std dev</td>
</tr>
<tr>
<td>63.99</td>
</tr>
<tr>
<td>+3 sigma</td>
</tr>
<tr>
<td>Burst Pressure</td>
</tr>
<tr>
<td>Safety Factor</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

In both the US and Japan reports, the data meets the Customer requirement for safety factor. The Japan data is altered to meet a 1.5 factor of safety required by other customers, not the customer for whom the report was written.

The max pressure was evaluated at simultaneous conditions, when the true max probably occurs at a delay of around 8-10 ms.

The US test matrix shows 265 tests.

Ballistic data is reported for test number 99112.

The Japan test matrix shows 192 tests.

Ballistic data is eliminated for test number 99112. Noted as NA on the test summary. This test is a high-flyer on ballistics, but meets the reported spec.
I have asked for all of the DV (if any) and FV Reports.

One root cause of the challenges is the fact that we signed up to meet USCAR gates with an inflator that is not capable. FV Reports were cherry picked and was schmoozed to accept certain deviations. and intimidate the shit out of to "create" these wonderful fictitious FV reports. The "integral flange" on these parts also contributes to variability.

It is yet another mess-o-shit we will be handed with no real fix possible. The plant should have been screaming bloody murder long ago.

When we launched these programs in LaGrange we were on the phone with multiple times each week because he could not meet gates. That's how far back this story goes.

Looking at charts, it appears there may be some process and some testing challenges as well- percentages are all over the place.

Let's talk.

-----Original Message-----
From: Sent: Wednesday, October 18, 2006 11:04 PM
Cc: Subject: Re: DCX Ballistic LAT.ppt
Subject: FW:DCX Ballistic LAT.ppt

this problem is happening since these two programs started (More that 2 Years ago)
(These two programs started at ), see bellow information regarding the extra cost that this represent only for Ballistic Re-Test and we are not considering additional costs like (Logistics, Procedures, Over time, Storage, etc...)

But the more important thing is our records, if we go back to our record we will find a lot of failures and if the customer request records or make an audit we will have a lot of failures (Some times 38% at week of failures)

Let us know if you need any additional information
U.S. Senate Commerce Committee

Note: This information is from January '06 to October '06

Regards

BALLISTIC LAT FAULTS (JAN-OCT 06)

PRODUCT
CODE
Total (pieces)
total cost (dollars)
From: [Redacted]
Sent: Wednesday, October 18, 2006 10:33 AM
To: [Redacted]
Cc: [Redacted]
Subject: RE: DCX Ballistic LAT.ppt

Since when do we have this issue?
How much money does this represent?

From: [Redacted]
Sent: Wednesday, October 18, 2006 2:32 AM
To: [Redacted]
Cc: [Redacted]
Subject: FW: DCX Ballistic LAT.ppt

FYI,

We are having a lot of Ballistics failures especially at PSDI-4 [Redacted]

We really need your support on this from the design side we are Re Testing a lot of times.

Note: PSPI [Redacted] is about same failure rate

Regards
Honda now wants to implement the design...

reported good results to Honda.

TKH was informed of these results, but altered them and

significant weld quality issues.

hydro-burst, significantly reduced safety factor, and

The results of the evaluation showed a significant variable

material and a notched body bore seal.

TKH has evaluated a modified design, using stronger cap

design to force the failure mode to the base side.

TKH has been asked to implement a modified SDI-X 1.7

Issue

TKH-A10

TAKATA
Proposed Notch Configuration

**TAKATA**

<table>
<thead>
<tr>
<th>Notch Configuration</th>
<th>TKH-AIO</th>
</tr>
</thead>
<tbody>
<tr>
<td>JFE-980 cap (new cap material) with a notch to be used in conjunction with a new corner radius</td>
<td></td>
</tr>
</tbody>
</table>

The following issues have been identified:

1. TKH has informed TKH that Honda has already accepted the proposed design. TKH is being asked to implement.
2. TKH data provides a lower standard deviation resulting in a higher safety factor.
3. TKH did not provide the supporting TKH data.
4. TKH data was not denominated by TKH number or test numbers for their data set.
5. TKH data sets are sorted from low to high to illustrate the differences in the data sets.
6. The information between TKH and TKH data is not consistent.
7. TKH data sets were conducted to evaluate design changes to shift the failure mode from the Hydra-burst test series TKH.
not reported by TKJ
Burst Failure at 68.4 MPa that was
Test number 005 had a low hydro-

Problem with the hydro-burst fitting
Several times prior to failure due to a
Test number 001 had to be pressurized

TKH-A10 TAKATA
<table>
<thead>
<tr>
<th>Sigma 6σ</th>
<th>Std. Dev.</th>
<th>Mean</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>76.7</td>
<td>1.04</td>
<td>79.8</td>
<td>79.8</td>
</tr>
<tr>
<td>65.9</td>
<td>4.61</td>
<td>83.9</td>
<td>83.9</td>
</tr>
<tr>
<td>Data not reported</td>
<td>81.4</td>
<td>80.8</td>
<td>80.4</td>
</tr>
<tr>
<td>Data not reported</td>
<td>80.4</td>
<td>80.4</td>
<td>80.4</td>
</tr>
<tr>
<td>Data not reported</td>
<td>79.8</td>
<td>79.8</td>
<td>79.8</td>
</tr>
<tr>
<td>Data not reported</td>
<td>79.8</td>
<td>79.8</td>
<td>79.8</td>
</tr>
<tr>
<td>Data not reported</td>
<td>78.4</td>
<td>78.2</td>
<td>78.4</td>
</tr>
</tbody>
</table>

**Reporting Fidelity**

TAKATA

TKH-A10
Effect of Altered Data

For the SDI-X 1.7, the following calculations are made:

- Altered Hydroburst:
  - Mean - 79.8 MPa, \( \sigma = 1.04 \), +3.0 = 76.7
  - TRUE Hydroburst:
    - Mean - 79.7 MPa, \( \sigma = 4.6 \), +3.0 = 65.9
  - Operating Pressure:
    - Mean - 40.8 MPa, \( \sigma = 0.71 \), +3.0 = 43.0

\( +3.0 \) Altered Honda SF
\( +3.0 \) TRUE SF
\( +3.0 \) TRUE SF
be robustly welded.

The new material can
need to determine if

More evaluations

of quality welds.

resulted in very poor

Mondova have

issues. Tests at

significant welding

proposed is causing

New cap material

Cap Material Issues

TKH-A10 TAKATA
Proceed. TKJ stated that the modification would not work. TKJ informed TKJ that they must proceed with the design in spite of the fact TKJ presented their fabricated data to Honda, who accepted the design change.

Honda SF overstated (311 reported vs. 8.3 actual). SF overstated (1.83 reported vs. 1.53 actual) by 77%.

TKH modified the TKH data, eliminating low and high results and substituting values closer to the mean, thus significantly reducing the standard deviation (lower TKH modulus). The conclusions were that we could not support the change.

TKH has performed testing on the design (new cap material and new body boro mode).

Honda has requested a late design change that represents a significant modification to the injector structure and materials in order to alter the failure.

Conclusion

TKH-A10
Recurrent prevention has failed.

design.

The design has already approved.

Therefore, per TKJ, we must proceed since Honda has already a high likelihood of failure. There is no DOT BAM on this design. There is no data to support this.

TKJ reported the fabricated data to HG1, who accepted the data to support the change has been fabricated by TKJ.

This is a late change pushed by TKJ.

Role in new launch to prevent late changes.

Takata has committed that TKJ would take a more active was significant influence to the recall issue.

Honda has concluded that the late design change on RSDI.

Link to Recurrent Prevention

TKH-A10
Summary
the recall. Discuss how their products might be affected by customers—specifically, materials as a basis for presentations to other.

On that same day, I was asked to use these recall for the passenger side product.

This is a copy of the materials presented to Corporation, Quality Department initial report (SPL/PSP1/PSP1), March 11, 2013, Takata

On March 12, 2013, I received a “draft” report

Timeline and Important Facts
with customers when these materials were discussed.

presentation in hand, nor would I sit in any meeting
not participate in creating any materials based on the
conscous about the material I would have required true, that I would
records. In this meeting I expressed that if my initial
other case, a likely misrepresentation of the production
was, in one case, technically unsupportable, and in the
that the information used to set the range of the recall
specifically, I told the group that it seemed clear to me.

Grave concern over the contents of the presentation
and expressed. In this meeting I expressed

On Monday, March 18, 2013, I met with

Timeline, continued
the assumptions in the definition of the range.

By Friday, March 22, I completed a review of

affected range.

This draft outline included items defining the

create.

planned customer materials we were to

from

On Tuesday, March 19, I received an e-mail

Timeline, continued
The following pages detail my concerns.
The production records, and in the other, a clear misrepresentation of what was, in one case, technologically unsupported.
The group that I told that I had completed my analysis of the draft customer materials. I told the group that I attended a meeting with [redacted] and [redacted],

Timeline, continued
materials. Customers need to be consistent with the initial subsequent materials created and presented to other undisclosed in any investigation by NHTSA. As such, all already occurred with the materials in question, so it is based on knowledge and belief, the presentation has

- Allowing extra exposure to moisture, could have improperly stored propellant over the weekend, resulting in a full-time propellant handler because the operators
  - 2) Product produced after initiator-line shutdowns prior to the
  - 1) Product produced when it can not be guaranteed that the
    influence the range of product to be recalled.

The materials presented to indicate two facts that

Basis for the Recall Range
Conclusions

Conclusion One

- Degradation in the field.
- Function: presence or absence is unrelated to any density function.
- Therefore, by the evidence in hand, it is clear that the auto-rect.
- within the original tolerance band for weight.
- Suggestors demonstrate low density where all the waters measure
- examined by the author are low weight. To the contrary, there are full
- low density fields return waters that are
- also be low weight.

- Almost none of the low density parts from the field would
- as such, if it were the cause, all low density parts from the field would
- low weight = low force = low density.
- Either high or high weight.
- The auto-rect function, in the simplest terms, rectifies waters that are
- or non-use of the auto-rect function on the press is false.
- The basis for assuming that the range of recall is defined by the use
Concilation Two
[REDACTED]
Theories

Effect of Relying on the Presented
that evening.

Informed me that he would discuss the situation with a, specifically declined to participate in that exercise.

I progressed on creating a presentation to

As the purpose of the meeting was to discuss the boundary was discussed.

Customer meeting where the basis of the recall presentation provided by TKJ and would not sit in any presentation creating any materials based on the terms that, based on the concerns outlined, I would.

During the March 25 meeting, I told [ ] in no uncertain

Timeline, continued
The response is below:

inquiring about his conversation with

On the morning of March 26, I sent a note

Timeline, continued
Timeline, continued

• Based on the contents of the e-mail from [redacted], it is clear that he discussed my specific concerns – “he understands all the points...chief issue is the definition of the boundary”

• The response was that I would not be going to [redacted] – not that the issues would be corrected.
U.S. Senate Commerce Committee Exhibit E

Confidential - Contains Proprietary Information

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[Cover page with redacted content]

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[Remaining text after redaction]

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[Contact information]

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[Redacted text]

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Timeline, continued
report this to the VP of Human Resources. Per the Corporate Governance document, I am required to propose range of field action is therefore unacceptably misguided and therefore, the facts are misrepresented and therefore, the theories presented therein violate the above requirement. In my view, the materials presented to and the Company’s operations come into contact with the Company’s suppliers, and others who honest dealings with customers, suppliers, and others who Company’s reputation for integrity by engaging in fair and personal responsibility of cultivating and maintaining the Standards of Business Conduct starts: Each employee has a Section B of the Corporate Integrity section of the protect the broad interests of the company. Specifically, we are obligated by our Standards of Business Conduct to

Bottom Line
He said that he remembered it differently.

create and give the presentation.

ethical concern, but to find someone else to
presentation, his solution was not to address the
confronted with the information in this

I told him that I did, for the reason that when

He asked me if I had a problem with it.

boss in the newly-created Product Safety Group.

meeting, he informed me that he would be my

This morning, I met with

Follow-up 7/31/14