Public Comment Submitted by Jacqueline Glassman
Initial Decision EA 16-003

December 18, 2023

Ann Carlson
Acting Administrator
National Highway Traffic Safety Administration
1200 New Jersey Avenue, SE
Washington DC 20590

Re: Public Comment Regarding NHTSA's Initial Decision EA 16-003
Regulations.gov Docket NHTSA-2023-0038

Dear Acting Administrator Carlson:

Thank you for the opportunity to comment on the agency's Initial Decision that there is a safety defect with regard to approximately 52 million ARC hybrid, toroidal inflators produced directly or indirectly by ARC between 2000 and 2018.

As background, my first interaction with motor vehicle safety was in 1973 when my father was killed in a car accident in the Metro Detroit area. Many years later, between 2002-2006, I served first as the Chief Counsel at NHTSA and then as the Acting Administrator. During my tenure, we implemented much of the TREAD Act, rebooted and reformed the CAFE program, updated the side impact standard, introduced Click It or Ticket, and managed numerous enforcement investigations. We also imposed the first civil penalty in many years at a level which, at the time, was considered substantial. Since serving at NHTSA, I've remained professionally focused on automotive regulation, including safety policy and enforcement, for many years from the perch of a law firm and more recently as the General Counsel of an autonomous driving system developer.

I am deeply committed to advancing automotive safety and the effectiveness of the enforcement program. I have spent much of my career working within the framework of the Vehicle Safety Act -- understanding its history, providing guidance to companies, building safety programs, and working through knotty issues to bring investigations to resolution. I write to offer my perspective on some of the issues arising from the Initial Decision and their implication for the current and future integrity of the program.[1]

[1] The preparation of these comments was sponsored by a grant supported by various companies whose vehicles have been equipped with the Subject ARC Inflators, or who manufactured air bag modules containing the Subject ARC Inflators, all of whom have an interest in NHTSA's final decision. The comments, however, reflect my personal views and analysis and not necessarily those of any of the sponsoring companies. In preparing these comments, I relied only on publicly available information and did not receive or have access to any confidential business information.

Introduction

This case presents an unprecedented situation. Never before has there been a potential recall involving so many vehicles -- roughly 18% of the light duty vehicle fleet -- without a clear understanding of the underlying technical problem or the full scope of the issue.[2] Nor has a recall of this magnitude been undertaken without a NHTSA-sponsored implementation plan and without the agency having considered other consequences flowing from its decision.

Core principles of NHTSA's enforcement program are the need to apply "common sense" when deciding if a safety recall is necessary and making sure that any resulting remedy campaign is adequate and appropriate.[3] The governing directive is to consider all of the implications and not blindly insist upon recalls which can result in more harm than good:

> [A] significant risk that can be remedied at a proportionate cost, and without a corresponding sacrifice of public safety in other respects, is generally to be regarded as an "unreasonable risk" which the Act mandates that the manufacturer "must rectify," but that if those conditions are not met, "even a significant risk may nevertheless be 'reasonable' as a matter of law."

Recalls are not supported when "the only 'remedies' are ineffective, prohibitively expensive, or affirmatively detrimental to public safety." *United States v. General Motors (X-Cars)*, 656 F. Supp. 1555, 1578-79 (D.D.C. 1987).

No one doubts that rupturing airbag inflators pose a severe safety risk. While the Vehicle Safety Act supports the concept of a performance-based defect under certain circumstances, that concept requires that the incidents at issue bear a meaningful relationship to each other, even if the precise engineering or technical cause is unknown. The primary risk of a performance-only based decision is that the remedy will be ineffective in reducing the safety risk and, at the same time, could introduce new safety related and other problems.

Neither in the Initial Decision nor at the Public Meeting did NHTSA discuss whether a replacement campaign is practicable, why the agency has confidence it will reduce the safety risk in the absence of a confirmed root cause, and other consequences that may flow from a final defect determination. NHTSA's reliance on the precept of a performance-based recall enhances and does not eliminate the need to consider these factors. Public safety as well as the integrity of

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[2] S&P Global puts the total light duty vehicle fleet at approximately 284 million in 2023. With 52 million inflators at issue, and assuming one inflator per vehicle, that would make 18.3% of the fleet potentially subject to a recall. *See* https://www.spglobal.com/mobility/en/research-analysis/average-age-of-light-vehicles-in-the-us-hits-record-high.html

[3] As stated by the Senate Committee Chair: "The reason the word `unreasonable' was put in there is that we hope there will be some commonsense applied to this." *United States v. General Motors Corp. ("Wheels")*, 512 F.2d 420, 435 fn. 69 (D.C. Cir. 1975).

the program itself demand that the safety and societal implications of a defect determination and recall be taken into account before any final decision is made.

Factual Background

The Initial Decision proposes to make a safety defect determination with regard to 52 million hybrid, toroidal inflators produced directly or indirectly by ARC between 2000 and 2018. These inflators have been used by various airbag module manufacturers and embedded into light duty vehicles by twelve different vehicle manufacturers. Although the agency has not made public the total number of vehicles that would potentially be involved in a campaign, press reports have indicated that a recall would involve tens of millions.

The proposed recall is premised on the relatively rare (albeit severely dangerous and at times fatal) occurrence of ruptures during otherwise legitimate deployment events. NHTSA points to seven ruptures in the United States and two ruptures outside the United States during the 14-year period between 2009 and 2023, although the agency's Initial Decision is premised on the U.S. incidents.[4]

The Search for a Root Cause

NHTSA's Office of Defects Investigation (ODI) first learned of a rupturing ARC inflator in 2014, at roughly the same time focus on Takata inflators had also intensified. The ARC rupture reported at that time had occurred five years earlier, in 2009. Upon reviewing the facts, ODI initially concluded that "the 2009 incident was a single isolated event." NHTSA learned of the second rupture in June 2015. At that juncture, ODI opened a Preliminary Evaluation (PE) to collect relevant information and to investigate whether "there is a common root cause in these incidents." ODI noted that the root cause of the second rupture was then unknown.[5]

Shortly thereafter, the agency embarked on a field recovery effort to collect inflators from salvage yards and to have them tested for the propensity to rupture. The agency also, in 2016, learned of a third, and this time fatal, rupture in Canada. ODI upgraded the investigation to an Engineering Analysis (EA), to gather more data and to support the field recovery program "in support of root cause analysis."[6]

The three inflator incidents did not have much in common. They involved different vehicles (Town & Country, Optima, Elantra), different model years (2002, 2004, 2009), and different airbag module manufacturers (Key Safety Systems, Delphi, Mobis). The first two inflators were

[4] Pointing to the seven domestic ruptures and a total number of 2.6 million deployment events, NHTSA has calculated an occurrence rate of 0.000003. The agency's statistical analysis also predicts that one out of every 370,000 deployments would result in a rupture.

[5] *See* Preliminary Evaluation Opening Resume (PE15-027) dated 7/13/2015.

[6] *See* Engineering Analysis Opening Resume (EA16-003) dated 8/4/2016.

manufactured in Tennessee and the third in China, and one was a dual stage inflator and the other two were singe stage inflators. Although 918 inflators were recovered from the field -- meeting NHTSA's statistical requirements -- none ruptured during testing. Accordingly, no common root cause conclusion was made.

After the completion of the field recovery project, ARC decided -- starting in January 2018 -- to implement a production improvement in its inflator manufacturing plants. The improvement involved using a borescope to inspect each inflator at the end of production to confirm the absence of any weld slag, or welding debris left inside the inflator. NHTSA now points to weld slag as a "likely" root cause, with that modifier evidencing some hesitation on the part of the agency in putting forward the supposition.

Periodic ruptures have occurred since that time. Two ruptures took place in 2017 -- one in the U.S. and one in Turkey. These ruptures involved different vehicles and vehicle manufacturers and different airbag module manufacturers; the inflators were built in China and Tennessee, and one was dual stage and one single stage. Three more ruptures took place in 2021 -- two involving MY 2015 Traverse vehicles and one a MY 2016 A3. The A3 airbag module was built by a different manufacturer than the others and all were dual stage inflators. All three inflators were produced in Mexico. Finally, in March 2023, a rupture occurred in a MY 2016 Traverse, with a dual stage inflator built in Mexico.

After the last rupture, NHTSA began action towards this proceeding. The agency sent a Recall Request Letter, to which ARC responded. ARC pointed out that its technical analysis affirmatively ruled out weld slag as the root cause of at least two of the rupture events. NHTSA does not refute ARC's conclusion in its Initial Decision. Nor does the agency explain why ODI has now embraced weld slag as a "likely" root cause but did not do so when the production improvement was made back in 2018. ODI did not seek a recall at that time, nor does it report having challenged the scope of the various production lot or production-based recalls that have been implemented since that time. Instead, NHTSA's response is that a root cause determination is not a necessary prerequisite to making a safety defect determination.

There is still no consensus or confirmed conclusion establishing a root cause common to the ruptures listed by NHTSA in the Initial Decision.

NHTSA's Initial Decision

When NHTSA makes an initial decision of a safety related defect, the agency is directed to provide notification to the manufacturer and to "include the information on which the decision is based." *49 U.S.C. § 30118(a)*. NHTSA made clear when implementing that direction that its Initial Decisions would be "communicated to the manufacturer in a letter which makes available *all* information on which the decision is based." *49 CFR Part 554.10(b)(emphasis added).*

NHTSA released its Initial Decision on September 5, 2023. While the agency may have shared specific confidential information with ARC and other companies, per NHTSA's regulation, the

Initial Decision constitutes the full and complete accounting of the agency's reasoning and analysis and of the facts on which the agency relied. The Initial Decision is about 20 pages in its pre-publication form. It summarizes the incidents on which NHTSA based its initial determination and the agency's thoughts on root cause (both presenting a theory and denying any need to do so). It concludes that the agency believes the number of ruptures is "significant" and warrants an initial decision.

As the agency is aware, there are few exemplars of previous Initial Decisions. The Firestone tire investigation is the most relatable example in terms of the complexity and the scope of the problem. The Initial Decision in that matter was about 85 pages long. It included rate and peer review comparison, consideration of root cause analyses prepared by or for manufacturers, and a detailed description of the agency's independent engineering investigation. It also included a lengthy refutation of various points that were in dispute, including setting out the engineering principles upon which the agency's conclusions were based. That Initial Decision included 17 Findings, acknowledging both those factors that leaned in favor of a safety defect determination and those that leaned against it.[7]

The significance of having robust technical analysis as part of the defect investigation and decision-making process is also evident in ODI's Closing Reports. In my experience, when ODI makes a decision about an investigation, the investigating engineer puts significant thought into drafting the Closing Report. Each Closing Report must be reviewed by the Division Chief and approved by the Office Director. The Chief Counsel's Office may be consulted as needed.

Many Closing Reports, particularly when they are closed at the Preliminary Evaluation stage for lack of a defect trend, tend to present a brief summary of ODI's inquiries and the manufacturer's responses. Although ODI might close an investigation for lack of a defect trend, it typically reserves the right to continue to explore the issue should the underlying facts change.

When a defect investigation is closed due to the implementation of a field campaign, the ODI Closing Report will typically add more technical information. An investigation may be closed as a result of a service campaign or warranty extension. In these circumstances, ODI will usually set forth the issues that have led it and the manufacturer to conclude that a campaign other than a safety recall is appropriate. When an investigation is closed with a safety recall, the Closing Report will typically explain the facts leading to the recall.

There have been many instances over the years where ODI has issued Closing Reports at the end of especially lengthy, disputed, or controversial investigations. In such cases, ODI will frequently set forth its analysis, mostly technical but sometimes also its legal analysis, describing the investigation in detail and the factual reasoning behind the decision. These Closing Reports

[7] *See Engineering Analysis Report and Initial Decision Regarding EA00-023: Firestone Wilderness AT Tires* (October 2001)(https://icsw.nhtsa.gov/nhtsa/announce/press/firestone/firestonesummary.html).

represent a base level of transparency and Good Government, which are core values for ODI and NHTSA.[8]

Finally, ODI generally will conduct analysis of how the occurrence rate compares with similar products, whether from within the same company or that of competitors. In this case, NHTSA has been collecting information from manufacturers relating to all airbag inflator ruptures under various Standing General Orders, but the Initial Decision makes no mention of how the experience of ARC's inflators compares with that of other inflators. That information may support or may not support the preliminary conclusion, but the failure to mention basic information available to the agency lends to an aura of the technical analysis being incomplete.

NHTSA may believe that it has satisfied applicable requirements by publishing in its Initial Decision a summary of its investigation and a statement of its conclusions. The agency's past practice establishes that a more detailed and careful analysis -- in line with the prior Firestone Initial Decision and the type of technical analysis usually provided in ODI Closing Reports -- is needed to be consistent with precedent, the text and spirit of the statute and regulation, and the agency's core values.

The Legal Construct

NHTSA's enforcement authority derives from the Vehicle Safety Act. Its key enforcement-related provisions provide that NHTSA has the authority to compel information from companies, that manufacturers have an obligation to inform NHTSA and consumers when either they or NHTSA have determined that a safety related defect exists, and that the manufacturer must remedy the defect free of charge.[9] *49 U.S.C. §§ 30166, 30118-30120.*

Manufacturers are required to remedy "defects" posing "an unreasonable risk to safety." The Safety Act provides little guidance on what constitutes such a defect. A "defect" is defined simply as "any defect in performance, construction, a component, or material of a motor vehicle or motor vehicle equipment." *49 U.S.C. § 30102(a)(3*). And "motor vehicle safety" is vaguely defined as "the performance of a motor vehicle or motor vehicle equipment in a way that protects the public against unreasonable risk of accidents occurring because of the design, construction, or performance of a motor vehicle, and against unreasonable risk of death or injury in an accident." *49 U.S.C. § 30102(a)(9).*

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[8] A few examples over time include the Closing Reports for PE16-007 (INCLA-PE16007-7876.PDF); EA11-001(https://static.nhtsa.gov/odi/inv/2011/INCR-EA11001-50409.pdf); EA06-018 (INCLA-PE16007-7876.PDF); and EA06-004 (INCLA-PE16007-7876.PDF). Another example is the Recall Request Letter for EA09-003 (https://static.nhtsa.gov/odi/inv/2009/INRM-EA09003-40600P.pdf).

[9] Although there is no time limitation on when notice of a safety related defect must be made to vehicle owners, the obligation to provide a free remedy does not apply to vehicles that were bought by the first purchaser more than 15 calendar years before a recall order is issued or the manufacturer submits a Part 573 report. *49 U.S.C. § 30120(g).* In this case, assuming NHTSA were to issue a Final Determination of a Defect in 2024, a fifteen year look back would be as of Calendar Year 2009.

The contours of how the statutory concept of a safety related defect applies in the real world was outlined in a series of lawsuits from the early years of the enforcement program.[10] These cases were litigated decades ago, but the basic principles set forth have been embedded and institutionalized into ODI process.[11]

The principles from the early cases remain as legally vibrant today as they were when they were first articulated. They have formed the foundation for what has been a largely cooperative investigative process involving both agency and company engineers. This approach has allowed data and engineering to form the foundation for most decisions. Adjudication may be more common in other regulatory regimes. For motor vehicle safety, resort to litigation has generally been avoided in part because it may delay a negotiated field action.[12]

Litigation in the space has been rare, and when it occurs, the impact lasts for many years. There may be merit to seeking judicial clarification in the face of new technology or new business models posing novel questions as to the application of laws written long ago. To the extent, however, that the agency may seek refuge in the courts, or resort to litigation in lieu of a comprehensive technical evaluation, this may not only result in a ruling unfavorable to the agency, but also encourage future litigation when there are disagreements over either the facts or the law. The result as a whole and over time may actually detract from the agency's ability to achieve resolution of safety investigations, lead to more uncertainty, and increase tensions and could undermine the mostly cooperative investigative process.

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[10] These lawsuits arose during a dynamic period of debate within the federal judiciary, and particularly the D.C. Circuit, over the role of the Courts in reviewing agency rulemakings and decisions. Judge Leventhal, who authored many of the pivotal NHTSA related enforcement decisions, was an advocate for the "hard look" approach through which federal judges would ensure that agency decisions were well-founded in scientific and technical analysis. His decisions in this area were infused with instructions to the agency on how to apply the statutory directives in the real world. While other judges focused more on process, Judge Leventhal's approach ultimately prevailed. *See, e.g.,* Patricia M. Wald, *"Thirty Years of Administrative Law in the D.C. Circuit"* (https://www.dcbar.org/for-lawyers/communities/join-a-community/administrative-law-and-agency-practice/harold-leventhal-talk-thirty-years-of-administrati); Ronald J. Krotoszynski Jr.,*"History Belongs to the Winners: The Bazelon-Leventhal Debate and the Continuing Relevance of the Process/Substance Dichotomy in Judicial Review of Agency Action Administrative Law Discussion Forum,*" 58 Admin. L. Rev. 995 (2006) (https://scholarship.law.ua.edu/fac_articles/222).

[11] NHTSA has come to refer to these principles in application as a Risk-Based Program. NHTSA described the program in detail in a 2020 publication entitled *Risk Based Processes for Safety Defect Analysis and Management of Recalls,*" DOT HS 812 984 (November 2020). The agency describes the full course of a safety defect investigation and recall, including how it uses information and data to identify potential defect trends and its set of risk matrices to weigh the frequency of occurrence against the severity of the harm and other factors such as detectability.

[12] It has been long established that NHTSA can resolve an investigation before making a final determination with an action short of a formal safety recall and/or with a remedy different than those listed in the statute. *See Center for Auto Safety v. Lewis*, 685 F.2d 656 (D.C. Cir. 1982).

A Significant Number of Failures

A major issue in this case is whether the number of ruptures that have occurred over time should appropriately be construed as being a "significant" number for purposes of a safety defect decision. Focusing on the ruptures occurring within the United States, NHTSA states that "the fact that the subject population has experienced seven confirmed ruptures, no matter the root cause, warrants the initial determination of a safety defect."[13]

The Initial Decision overstates the precept that a root cause conclusion is not a prerequisite for a safety defect determination. In practice, when a defect is identified that clearly applies to a particular group of vehicles or equipment, neither the company nor the agency waits for the consequence of that defect to manifest before making a safety defect determination. Similarly, when a serious problem manifests early in the life of a vehicle or equipment, such as sudden and unexpected loss of steering or braking, appropriate action is taken without waiting for additional experiences in the field. A safety defect determination can be made before the underlying root cause is confirmed and a remedy is found.

The complication arises when there is a large population of vehicles that have operated over a lengthy period, and it is not clear whether a particular problem is unique to an individual vehicle or item of equipment or is instead representative of a more wide-spread technical concern. In these cases, the courts have made clear that the performance failure must manifest in a "significant" number of vehicles or result in a "significant" number of related failures, to support the inference that the failure applies to a broader population.

The key is that any failures must be shown to be related, which essentially means that they occur under a common set of circumstances or derive from a common source. If the failures occur in a small number of cases, but it is clear they have a common root cause, even if the engineering analysis is lacking or incomplete, a safety defect determination potentially can be made based on that commonality. But if the failures do not appear to be related or to have a common root cause, then there is no basis for concluding that the failures reflect a group-wide defect (rather than

[13] The agency's final determination will be reviewed *de novo* in the District Court, "with the burden of proof on the Government to establish the existence of a safety-related defect." *Wheels at 426; See also Pitman Arms at 926, 934*. Because the District Court will review the evidence *de novo*, the agency need not complete the process of making an administrative defect determination and instead can proceed to court to try to enjoin a company's refusal to make its own safety defect determination. *See United States v. General Motors Corp. (X-Cars)*, 574 F. Supp. 1047 (D.D.C. 1983), and referred to by the D.C. Circuit at 841 F.2d 400, 403 (D.C. Cir. 1987).

That NHTSA has embraced that its decisions are subject to *de novo* review is evident from its Consumer Information material, where NHTSA describes that the manufacturer can challenge a final agency determination or NHTSA can go to court to compel a manufacturer to make a safety defect determination, and "once the case is in court, the burden of proof lies with the agency. In other words, the agency's evidence that a defect exists and that it is safety related must be sufficient in the opinion of the court to outweigh the evidence to the contrary presented by the manufacturer." *Motor Vehicle Safety Defects and Recalls: What Every Vehicle Owner Should Know,*" DOT HS808 795 (Revised August 2017), p. 10.

being separate, individual, and unrelated). Random and isolated failures that do not relate to each other do not support a large-scale recall to replace equipment that may or may not be defective.

The fundamental distinction between a "significant" number of failures and occasional or random occurrences derives from the early case law. In the first case construing the enforcement provisions of the Vehicle Safety Act, the D.C. Circuit made clear that the remedy of a recall is not intended for individual vehicle failures, but for those that have occurred within a "significant" number of vehicles or items of equipment:

> We use the term "significant" to indicate that there must be a non- *de minimus* number of failures. The question whether a "significant" number of failures have taken place must be answered in terms of the facts and circumstances of each particular case. Relevant considerations include the failure rate of the component in question, failure rates of comparable components, and the importance of the component to the safe operation of the vehicle. The number of failures need not be and normally will not be a substantial percentage of the total number of components produced.

Wheels at 438 fn. 84.

In referring to a "non *de minimis*" number of failures the Court does not suggest that the term is simply interchangeable with the number of failures, but rather that it was intended to add meaning to the analysis. In addition to there being a sufficient number of failures to suggest a common defect, the circumstances under which those failures occur and/or the cause of the failures must relate to each other. Otherwise, the failures would not reflect a common problem, but instead just individual and distinct occurrences inappropriate for a "class-wide" recall.

Judge Leventhal explained this concept further in *Pitman Arms*:

> When the defects are occasional or isolated, the risk associated with them is part of the ordinary danger of operating an automobile; minimizing them is one aspect of the quality of a manufacturer's product which consumers choose to pay for. Total elimination of this risk would require a standard of design, construction, and testing that would produce a purchase price so prohibitive that it cannot be taken as the contemplation of Congress. And that obtains even though such a defect may be in a vital component and result in a safety risk.
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> However, the matter stands quite differently where it appears that the defect is systematic and is prevalent in a particular class of cars. Such a defect may be identified by an unusually high rate of failures in actual operation or by tests showing the failure is likely under normally encountered circumstances.

United States v. General Motors Corp. (*Pitman Arms*), 561 F.2d 923, 929 (D.C. Cir. 1977).[14]

A "significant" or "non *de minimis*" number of failures, in other words, implies that there is a systemic trend. When it is clear that the cause of the failure is embedded in a "class" of vehicles or items of equipment, and the consequence is clearly safety related, there is a systemic defect intended to be covered by the Vehicle Safety Act. But when the failures are distinct occurrences without a common cause, they may instead represent distinct and isolated occurrences. As the number of occurrences grows, the potential for there being a commonality between them also grows. This further suggests that when the number of incidents within a large population is extremely rare, the incidents are likely to represent occasional and random issues not, standing alone, calling for the collective action of a safety recall.

NHTSA has suggested a slightly different take on the relationship between root cause and performance defects. According to a 2016 agency publication, the agency need only review performance when the root cause is unknown. When there is sufficient technical and engineering analysis to support a safety defect determination, resorting to performance experience in the field is unnecessary.[15] Under those circumstances, a determination can be made regardless of whether the safety risk has already manifested in the field.

ODI and the industry have long recognized both the importance of understanding the root cause of an issue and the need to take action to protect safety when appropriate and feasible to do so, even when the root cause remains under investigation. ODI made clear in its PE and EA Opening Resumes that root cause analysis was a critical element of the investigation. For its part, General Motors initiated two production lot recalls (21V782 and 22V246) in response to ruptures involving a certain inflator variant. These recalls would replace approximately 3239 inflators made within those production lots. After the 2023 rupture, GM engaged an outside expert engineering firm to assist with its root cause investigation and expanded the recalls "out of an abundance of caution" to include all inflators of the same variant. The expanded recall will replace almost one million inflators, despite the fact that the root cause has not yet been determined and "GM is continuing its investigation into this incident." *See Part 573 Defect Information Report 23V334.*

Understanding the root cause of a problem may not necessarily be a prerequisite to understanding that there is a safety related defect. The failures giving rise to a "significant" or "non *de minimis*" number of failures, however, requires that there be some meaningful

[14] By the time of the *X-Cars* Circuit Court decision, the Court made repeated references to the notion of a "class-wide" defect. *See United States v. General Motors Corp. (X-Cars)*, 841 F.2d 400, 401, 406. 407, 413, 417 (D.C. Cir. 1988).

[15] *See NHTSA's Enforcement Guidance Bulletin 2016-02: Safety Related Defects and Automated Safety Technologies* 81 Fed. Reg. 65705, 65708 (Sept. 23, 2016): "The Agency relies on the performance record of a vehicle or component in making a defect determination where the engineering or root cause of a failure is unknown. . . . Where, however, the engineering or root cause is known, the Agency need not proceed with analyzing the performance record."

relationship in order to infer that the underlying problem infects is a "class-wide" problem. As experienced in this matter, when the concern can be practicably addressed, industry can step up even without a confirmed root cause. But a confirmed root cause is imperative when the recall itself may not only be infeasible, but may not appropriately redress the safety risk and may in fact introduce new safety risks and lead to other ill-advised consequences.

Societal "Cost" Analysis

Another critical concern with the Initial Decision is that the agency did not discuss – and seemingly did not consider – the additional consequences a safety defect determination and resulting recall can and would likely impose. Doing so is not only required by the governing case law, but also needed to ensure that the agency's decision is in fact in the best interest of motor vehicle safety.

That this deliberation is necessary was first recognized in *Wheels*, where the D.C. Circuit noted the legislative history calling for "a 'commonsense' balancing of safety benefits and economic cost." *Wheels at 435*. Cost/benefit analysis in other contexts, such as rulemaking, involves a more straightforward consideration of the financial cost of a mandate versus the benefits to be derived.[16] In the enforcement context, however, the "cost" side of the equation involves a thoughtful analysis of the severity, detectability and frequency of the risk, the availability of an effective remedy, the level of certainty that the remedy will reduce the risk, and other factors.[17]

While the D.C. Circuit in *Wheels* was writing on a largely blank canvas, the District Court in *X-Cars* was able to consider the "common sense" balancing with the agency and the industry having had more experience with the enforcement program. The Court explained:

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[16] NHTSA safety rulemaking has typically involved looking at the Cost of a new mandate Per Equivalent Life Saved and comparing that number to the prevailing Statistical Value of a Life as set forth by the Department of Transportation. Special circumstances might also be applied, such as that the rule is intended to protect children, and therefore higher costs might be considered warranted. Rulemaking deemed "economically significant," which applies to most NHTSA rulemaking, is also subject to White House review under Executive Order 12866. The D.C. Circuit concluded in *Wheels* that Congress intended there to be some balancing of benefits and risk/cost in both the NHTSA safety rulemaking and enforcement programs.

[17] In routine operation, this happens in various ways. Conversations between ODI and particular companies occur daily, and many of those involve matters that fall short of needing a safety recall. ODI collects information on non-recall campaigns being voluntarily conducted by companies, mostly to ensure that if they do address a safety risk they are conducted as safety recall campaigns. Individual investigations may result in a safety recall, but they might also as appropriate result in a service campaign to remedy defects not rising to a safety related level. These are sometimes done on a fix-as-needed basis, sometimes done routinely when vehicles are brought in for service, or sometimes done through customer notification campaigns. At times, ODI and the manufacturer may agree that a particular issue can be reasonably and effectively addressed through an extended warranty. And increasingly, the ability to conduct Over the Air updates (or, as the software-defined vehicle continues to develop, through updates in the "back end" or in the Cloud) without any need for a consumer to bring their vehicle to a service facility. The common element is a good faith determination of whether a safety recall is necessary, or whether the defect does not pose an unreasonable safety risk and there are other means through which the defect can be effectively addressed.

> Re-examination of the *Wheels* decision, and a review of subsequent decisions in analogous contexts under other federal safety legislation, however, persuade the Court that *Wheels* and *Pitman Arms* should not be read today as establishing a rigid rule turning entirely upon a diminution of control in the abstract. The unreasonableness of any risk to safety must be assessed relatively in at least three dimensions: (1) the severity of the harm it threatens; (2) the frequency with which that harm occurs in the threatened population relative to its incidence in the general population; and (3) the economic, social, and safety consequences of reducing the risk to a so-called "reasonable" level.

X-Cars Dist. Ct. at 1578.

The third element is a critical and necessary one for the effective application of the Vehicle Safety Act and the integrity of the enforcement program over time. It has, in fact, been embedded into ODI's usual process. But in cases such as this one -- posing the potential for an unprecedented recall based on a set of rare, and seemingly random, incidents with no root cause understanding as to why they have occurred -- explicit deliberation of the third dimension not only represents Good Government but is also mandated by the governing law.

Recall Considerations

A final decision that there is a safety defect is not merely an administrative act. It has substantial real-world implications. It announces to the public that they and their families face a safety risk when going about their daily lives -- driving to school, work, prayer and social activities. And it forces manufacturers to take actions to try to implement a recall, regardless of whether those actions are practicable or in the best interest of public safety. Because the companies in that situation have only the recourse of judicial review, and no other recourse if ordered to recall, it is incumbent on NHTSA to consider the implications before making a safety defect determination.

<u>The Effectiveness of the Recall Campaign</u>

The purpose of a recall or field campaign is to provide an effective remedy for a safety related defect or other product-related problem. Without a clear understanding of the root cause, it is conceivable -- and even likely -- that a campaign to install replacement airbag modules or inflators will not reduce the risk of additional inflator ruptures in the future.

One of the NHTSA officials observed at the Public Meeting that -- at least as to that date -- no rupture has occurred in an inflator built after the implementation of the borescope inspection in January 2018. It must be noted, however, that most of the nine ruptures described in the Initial Decision occurred after 5-7 years of the vehicles being in service, as measured by their model year designation and the reported date of the rupture.[18] NHTSA, moreover, has tied the risk of rupture to the risk of there being a deployment event rather than to the vehicle's time in service.

[18] One occurred within about 2 years, one within about 5 years, three within about 6 years, three within about 7 years, and one within about 10 years.

ARC has noted that weld slag has been ruled out as a root cause for at least two of the ruptures, rendering it unreliable as a foundation for concluding that future ruptures may be avoided.

The lack of a consensus or confirmed root cause distinguishes this matter from the Takata investigation and recall. In Takata, engineering work led to a consensus root cause, which in turn supported the development of a risk-based Coordinated Remedy Plan. The Takata recall could be staged over time (since there was a time element to the root cause), by location (since there was a location element to the root cause), and the public could rely to some extent on "like for like" inflators as replacement parts (since the vehicles were expected to be retired from the fleet before the safety risk was to arise and pending any longer term replacements).[19]

When determining whether ordering a recall is appropriate, uncertainty over the effectiveness of the recall must be weighed against the potential to cause new safety risks and the possible financial hardships a recall might impose on vehicle owners and consumers. The economic factors are less significant when there is a severe safety defect in a clearly defined population of vehicles and there is a known remedy and campaign plan. But these factors take on particular relevance and significance when, as here, there is considerable doubt whether a recall remedy plan will in fact reduce the safety risk.

The Potential Lack of Replacement Parts

Both within the Initial Decision and at the Public Meeting, NHTSA appears to assume that the act of determining there is a safety related defect will necessarily lead the vehicle manufacturers to conduct a recall. What is absent from the record is any consideration of how NHTSA believes the recall parts will be supplied and the recall implemented, particularly in the absence of any analytically sound way to stage the recall over time and/or locations.[20]

Assuming ARC could financially support servicing the recall, it is reasonable to assume that its global production capacity is sufficient to meet production needs on an ongoing rolling basis, but not that it has sufficient production capacity to fulfill replacing almost twenty years' worth of past production. In the Takata recall, for example, it was estimated at one point that more than 70% of the Takata replacement kits used parts from its competitors.[21] Were ARC to cease to exist without a successor corporation, the supply of available replacement parts could actually diminish.

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[19] Recalls, of course, only reduce the safety risk to the extent the public responds to the remedy campaign. According to NHTSA's Takata webpage, there are still millions of in-use vehicles yet to be repaired.

[20] While other jurisdictions reviewing this matter independently may decide a recall is not warranted, to the extent that some follow NHTSA's lead, the manufacturers would need also to accommodate those markets in any recall.

[21] *See* https://www.consumerreports.org/cars/car-recalls-defects/takata-airbag-recall-everything-you-need-to-know-a1060713669/ ("Takata has said that it is now using competitors' products in half the inflator-replacement kits it is churning out, and expects that number to reach more than 70 percent").

Were this matter to result in a recall, other airbag and inflator manufacturers may be able to assist in supplying some replacement parts, but it remains unlikely that there is sufficient unused production capacity to service both the entire recall and ongoing vehicle production. Were NHTSA to insist that production be diverted to supporting the recall alone, the deleterious impact on the U.S. and global economies would likely be profound. Production of new vehicles might have to come to a stop until a sufficient supply of replacement inflators and/or modules was produced and then a new buildup of inventory for new production was amassed.

These are potentially dire consequences given the underlying circumstances. Before the agency makes any final determination likely to bring the automotive market to a halt based on a performance defect theory arising from a rare set of severe incidents, the agency must ensure that there is a robust basis for the recall (i.e., that there is a common root cause to the underlying defect), that the performance of the ARC inflators compares unfavorably to the experience of other inflators, and that imposing a recall will not introduce new safety risks to the field or lead to other undue consequences.

The Potential for Introducing New Safety Risks

A recall of the magnitude suggested by the Initial Decision introduces at least two potential new safety risks. First is the possibility of introducing more production-based defects into the fleet than currently exists. And second is the risk associated with the repair procedure itself.

One theory as to why there has been a very small number of seemingly unrelated ruptures over an extensive product population is that they have each resulted from particular production anomalies. This theory has supported the production-based recalls that have been conducted to date. It also suggests, however, that if there is a colossal effort quickly to build up inventory for an enormous recall, any shortcomings in production quality infecting the product would likely be exacerbated. This may be particularly true if the suppliers need to build new factories -- most likely overseas -- to support the recall. There may in fact be even less oversight over that production, with the potential for more anomalies to be introduced into the fleet. This is precisely the type of risk that should be taken into account, particularly when the underlying failure rate is so remote.

The second safety risk is similar. It is the risk associated with repairing such a large number of vehicles and doing so with an extremely complicated repair procedure. The complexity of the replacing airbag modules or inflators -- and passenger side modules in particular -- was evident in the Takata recall. As one example, the repair procedure was over 20 pages long, special mounting brackets were required, and numerous warnings and instructions were given to avoid injury, activating or damaging the airbag unit or installing it in a way that could render it ineffective. For instance:

> Warning: If an airbag system is not handled using proper procedures and methods, it may be activated accidentally during work resulting in a life-threatening serious accident. If the service procedure is not performed correctly, the system may fail to activate when

> needed. Be sure to perform the proper work safely and according to the instructions provided below:
>
> 1. Eliminate Static Electricity. Before start of work, touch a metallic portion of the vehicle with a bare hand to discharge static electricity charged on your body.
>
> 2. DO NOT Measure Resistance. DO NOT measure resistance of airbag components. Measuring the current of a circuit tester may cause accidental activation.
>
> 3. Handle the airbag properly. If an inflator is dropped, replace it with a NEW inflator.
>
> 4. DO NOT allow foreign objects near the airbag. Collect and account for all removed nuts/bolts to prevent them from landing in the airbag assembly. Any foreign objects in the airbag assembly may cause damage or injury if the airbag is activated.
>
> 5. Wear protective equipment. Always wear appropriate protective equipment when working on the airbag.

See https://static.nhtsa.gov/odi/rcl/2021/RCSB-21V050-0257.pdf.

The Takata recall procedure itself may have engendered further repairs and further field issues, and that experience should be taken into account before any recall decision is made. But even were the overall benefits of the Takata recall to override the additional risks imposed through it, the balance of the known and certain safety risk -- supported by a solid root cause determination and managed through a carefully constructed and deployed Coordinated Remedy Plan -- is different than the balance associated with a safety risk that is supported only by a calculation based on the statistical risk of an airbag deployment and for which there is no identified way to manage the implementation to maintain oversight and control.

In the face of these uncertainties, the agency should consider that the recall could be "affirmatively detrimental to public safety" before imposing it on American consumers.

Disparate Financial Impact

The statute offers three remedy options once a safety defect determination has been made: (1) repairing the vehicle (including replacing the defective part); (2) replacing the vehicle with an identical or reasonably equivalent vehicle; or (3) refunding the purchase price less a reasonable allowance for depreciation. *49 U.S.C. § 30120(a)(1)(A).*

The default remedy campaign, and that assumed to be the default in this case, would be to provide replacement airbag modules or inflators. There have been, however, campaigns that have instead resorted to the third remedy option provided for in the Vehicle Safety Act -- namely, refunding the purchase price less a reasonable allowance for depreciation. *49 U.S.C. §*

30120(a)(1)(A). Although use of this option is rare, a methodology for how to value the vehicles was employed as part of the recent diesel-related actions.

A repurchase option could potentially arise were manufacturers to find that replacement parts are simply not available.[22] The result of using this recall option would be an unfair impact on those vehicle owners least able to weather some financial hardship. The reason is that the value of older vehicles would be less and, in many cases, may be insufficient to cover any outstanding loan balances. Many owners may decline a refund offer from the manufacturer, especially when they learn that the safety risk is in fact extremely remote. Even those inclined to accept the offer might think differently if they cannot replace their vehicle with a loan at an interest rate comparable to what they had before. As a result, those unable to afford accepting a replacement may be most inclined to accept the safety risk and decline a remedy offer or to face not having available transportation for their daily lives.

The repurchase option might also arise with regard to individual vehicles that are older and in a state of disrepair making the replacement procedure unworkable. While some of these vehicles may be beyond the 15-year free remedy period, assuming the manufacturers offer to repurchase the vehicle at its fair market value, the vehicle owner is likely to face the same problem of being forced to replace the vehicle with a more current and more expensive vehicle and to do so in an environment of higher interest rates. These issues, combined with the additional burden for these owners occurring with all recalls of finding the time away from work to obtain the remedy, may well convince these vehicle owners not to pursue the recall remedy and even to continue to ignore other recall notices into the future.

Looking Back and Looking Forward

The Vehicle Safety Act has served the interests of motor vehicle safety for many decades. NHTSA and the industry have evolved the enforcement program as technology has advanced and new circumstances have arisen. To be sure, there have been issues along the way, with criticism levied at both over the timing and thoroughness of investigations, and the imposition of both civil and criminal penalties for perceived corporate shortcomings. But overall, the Vehicle Safety Act has weathered the storms and accounted for millions of vehicles being recalled each year to remedy safety related defects and millions more serviced to address concerns not rising to a level of an unreasonable risk to safety.

Despite the overall resilience of the program, institutional changes in the automotive environment have given rise to a situation not anticipated at the time the Vehicle Safety Act was written and making this matter particularly difficult to resolve. Yet, as technology continues to progress and vehicles become increasingly "software-defined," many of the concerns raised by

[22] NHTSA's ability to enforce an Accelerated Remedy Plan is limited to either expanding the source of replacement parts and/or expanding the number of authorized repair facilities. The agency must make a finding that the acceleration of the remedy program "can be reasonably achieved" through these methods, which is unlikely if sufficient parts simply cannot be produced. *See 49 U.S.C. §30120(c)(1); 49 CFR § 573.14.*

this matter may dissipate as software can be more readily, more efficiently and more effectively improved without the need for consumers to visit any servicing centers.

A Look Back

Many of the complications involving a potential recall in this matter relate to the substantial revamping of the automotive industry over the past decades. When the Vehicle Safety Act was first enacted in the mid-1960s, and when the enforcement provisions were first amended in the mid-1970s, the industry was structured very differently.

First, the industry was composed mostly of three domestic vehicle manufacturers and a handful of imported luxury car manufacturers. Second, the supply chain feeding those manufacturers was largely vertically integrated, and those companies mostly sold to their parent company. Third, vehicle development was largely done on a model line or platform basis. Today, there are many more vehicle manufacturers with significant roles in the U.S. market and many of the major suppliers are independent companies selling the same or similar parts to various vehicle makers. A focus on parts and system commonization to gain economies of scale has additionally expanded the scope and population of product when it becomes subject to a potential recall.

Many of the definitions and provisions of the Vehicle Safety Act assumed a market environment where recall implementation would be more achievable -- smaller populations and fewer companies involved. As the market has evolved, the potential for more complex and large-scale recalls has arisen. Additional complexities stem from the potential for differing specifications or different implementation and integration into the vehicles. And recall management becomes a significant concern if different vehicle manufacturers have to vie for replacement parts.

While the agency is relying on the definitions in the Vehicle Safety Act to make a determination with regard to a supplier's product that should naturally lead vehicle manufacturers to conduct recalls, NHTSA should also consider the environment in which those definitions are now being applied. If the agency continues down this path, it is imperative to have a plan for how any such recall could feasibly be supported and conducted. In the absence of a viable plan, any safety defect determination may in fact result in more harm than good.

A Look Forward

Motor vehicles are becoming increasingly "software defined." Many of the basic driving functions are and will be controlled by software, whether embedded in the vehicles themselves or in Data Centers or in the Cloud. The software evolution is likely to change many of the core approaches to vehicle safety assurance over time. Performance issues -- whether quality, reliability or safety related -- will likely be identified more quickly, with the ability to update and improve systems efficiently and without the need for consumers to have to visit servicing centers. While there will still be mechanical and electrical issues, many other aspects of the vehicle will be able to be updated and enhanced routinely, and will not represent the kind of more static product that ODI and the industry have become accustomed to evaluating.

As the enforcement program continues into the future, it will become more necessary for NHTSA to be able to recognize environmental and institutional changes impacting how potential performance issues can be detected, evaluated and addressed, and to ensure that the enforcement program itself evolves to incorporate these benefits for the overall betterment of motor vehicle safety and American consumers.

Conclusion

I appreciate the opportunity to lend my voice to the agency's consideration.

These are indeed difficult issues, particularly in the face of a severe but rare safety risk that includes loss of life. As the agency moves forward, it is critical for NHTSA to consider the implications and consequences of any final determination -- including the practicability challenges of any replacement recall and how any such recall could legitimately be phased for implementation -- and to confirm that any recall will in fact reduce the risk of ruptures and will not introduce new risks into such a large percentage of the light duty vehicle fleet.

The purpose of this submission is to provide a perspective on the meaning behind the phrases and precepts that have long governed NHTSA's enforcement program. The core principles framed by Congress and given life by the D.C. Circuit in the early years of the program have, for the most part and despite some criticisms, worked to resolve most issues quickly and within a more cooperative investigatory environment. A core feature of that program is engaging in the type of detailed engineering and technical analysis that has been a NHTSA hallmark and maintains the integrity of the agency's programs for now and into the future.

As the industry and the agency move forward, their work and decision making should be informed by and consistent with detailed technical analysis and robust consideration of the implications of any next steps.