

U.S. Department of Transportation
National Highway Traffic Safety Administration
Docket No. NHTSA-2023-0038

**Comments of
Mercedes-Benz USA, LLC
on
Initial Decision That Certain Frontal Driver and Passenger Air Bag
Inflators Manufactured by ARC Automotive Inc. and Delphi
Automotive Systems LLC Contain a Safety Defect**

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INTRODUCTION

Safety is part of Mercedes-Benz’s DNA and our core commitment to all road users. We have long been a leader in safety innovation and prioritizing motor vehicle safety. Mercedes-Benz pioneered the crumple zone, ABS anti-lock brakes, SRS, traction control and ESP stability control, as well as many other significant automotive safety advances now in widespread use. Today, we are implementing numerous new and potentially life-saving safety features. We are working hard to achieve our vision of accident-free driving, which goes beyond the international “Vision Zero” objective of zero traffic fatalities by 2050. Our goal by 2050 is zero accidents involving a Mercedes-Benz vehicle.

As part of our commitment to safety, we act voluntarily and promptly to address safety concerns we identify in vehicle equipment or components provided by our suppliers. Mercedes-Benz USA LLC (“MBUSA”) sold smart® brand vehicles in the US from 2011 to 2019¹. The airbags installed in some of those smart® cars contained inflators manufactured by ARC Automotive Inc. (“ARC”). None of those vehicles has experienced an inflator rupture.

From 2009 to 2023 in the US, there were seven ruptures of different types of inflators manufactured by ARC and installed in vehicles manufactured by other automakers. The seven ruptures resulted in injuries and one fatality. Manufacturers of the vehicles involved conducted recalls of vehicles equipped with similar inflators that they determined might pose a risk of rupture. In September 2023, based on seven ruptures in the US over the course of more than

¹ MBUSA distributed MY 2011-2019 smart® vehicles in the US. Penske Automotive Group distributed MY 2008-2010 smart® vehicles in the US.

fourteen years, NHTSA issued a decision finding that 52 million inflators manufactured by ARC and another supplier had a safety defect that required recall of every vehicle containing those inflators. ARC strongly disagrees with NHTSA’s defect determination. NHTSA has solicited comments regarding its September decision (the “Initial Decision”) to inform its Final Decision.²

As these comments explain, MBUSA believes NHTSA’s existing decision, the record evidence, and the process it has followed, are entirely insufficient to support a decision requiring one of the largest recalls in US history. NHTSA’s broad, summary decision seeks to compel the recall of smart® vehicles sold in the US that contain an ARC-manufactured inflator, despite the fact that no such smart® vehicle has ever experienced an inflator rupture. NHTSA cites no evidence to suggest that inflators in those vehicles pose a safety risk, and MBUSA is not aware of any such evidence. For a number of reasons, NHTSA’s sweeping and unprecedented defect decision does not meet minimum requirements and standards for a lawful agency decision and action. These comments demonstrate that NHTSA’s decision, particularly as it would apply to smart® cars, is arbitrary, capricious, not supported by substantial evidence, and contrary to law and due process requirements. The Agency should not finalize the decision.

SPECIFIC COMMENTS AND ARGUMENTS

I. The Initial Decision and the underlying information and analysis are insufficient to meet minimum requirements of governing law and due process, and do not support the Agency’s proposed defect determination.

The process that NHTSA has followed to date, the materials and analysis it has provided to potentially affected manufacturers, and the Agency’s explanation, analysis and rationale are

² See generally 88 Fed. Reg. 62140, “Initial Decision that Certain Frontal Driver and Passenger Air Bag Inflators Manufactured by ARC Automotive Inc. and Delphi Automotive Systems LLC Contain a Safety Defect; and Scheduling of a Public Meeting,” National Highway Traffic Safety Administration, Docket No. NHTSA-2023-0038 (Sept. 8, 2023). For convenience and to reduce potential confusion, hereinafter these comments will refer to that published NHTSA decision as the “Decision,” or as appropriate in some contexts as the “Initial Decision.”

insufficient to support a decision to order recall of approximately 52 million airbag inflators, incorporated in millions of vehicles manufactured by at least twelve different automakers over the course of nearly 20 years. NHTSA has a fundamental obligation to exercise the authority entrusted to it by Congress in a manner that meets the requirements of constitutional due process, the Administrative Procedure Act, the National Traffic and Motor Vehicle Safety Act, and Agency regulations. These obligations and requirements are essential protections and safeguards against arbitrary, unfair, or unlawful government agency actions and orders.

In the rare case such as this in which NHTSA itself makes a defect determination and orders affected vehicle manufacturers to conduct a recall, it must, at a minimum: (i) review and evaluate evidence relevant to the alleged defect; (ii) describe its factual findings and conclusions based on that evidence; (iii) provide a reasoned analysis and explanation of the connection between the Agency’s evidence-based factual findings and its defect determination; and (iv) clearly articulate the basis for its defect determination under governing law and standards. *See, e.g., Motor Vehicle Manufacturers’ Association v. State Farm Mut. Ins. Co.*, 463 U.S. 29 (1983) (landmark case rejecting NHTSA action pertaining to passive restraints); 5 USC § 706(2); 49 U.S.C. § 30118; 49 CFR § 554.³ While NHTSA is allowed some discretion in making this sort of decision, it “must cogently explain why it has exercised its discretion in a given manner.” *State Farm*, 463 U.S. at 48; *see Crooks v. Mabus*, 845 F.3d 412, 423 (D.C. Cir. 2016) (“[An]

³ In a court challenge to a final defect decision, NHTSA would be required to prove by a preponderance of the evidence in a *de novo* proceeding that the subject inflators contain a defect that poses an unreasonable risk to safety. *See e.g., United States v. General Motors Corp.*, 518 F.2d 420, 438 (D.C. Cir. 1975) (“*Wheels*”). Even under a less-demanding arbitrary and capricious standard, the Agency is obligated to provide a reasonable, cogent, and complete explanation for its decision and actions under governing law and standards, supported by meaningful findings of fact and conclusions that are tied to substantial evidence in the record. *See, e.g., State Farm*, 463 U.S. at 48 (summarizing minimum requirements); *Town of Barnstable*, 740 F.3d 681 (D.C. Cir. 2014). These comments demonstrate that the Initial Decision and existing record do not satisfy even the less-demanding requirements for non-arbitrary agency action supported by substantial evidence and due process, and could not survive arbitrary, capricious or abuse of discretion review.

informal adjudication[] ... must be supported by substantial evidence—otherwise it would be arbitrary and capricious.”); *see also Town of Barnstable, Mass. v. F.A.A.*, 740 F.3d 681 (D.C. Cir. 2014).

Executive agencies are responsible for implementing federal laws. They are delegated authority and discretion to do so in large part because they are assumed to have expertise in their assigned areas and are obligated to exercise that expertise to make informed judgments and take reasonable actions based on methodical review of evidence sufficient to support such actions. Currently, the role and legality of those assumptions, and the advisability of continuing to empower agencies with broad discretion, are facing scrutiny and skepticism in the courts and in Congress. *See, e.g., Loper Bright Enterprises v. Raimondo*, cert. granted, No. 22-451 (May 2023) (considering whether to overrule *Chevron* deference to agencies); *Securities and Exchange Commission v. Jarkesy*, cert. granted, No. 22-859 (June 2023); *West Virginia v. Environmental Protection Agency*, 597 U.S. ____ (2022). At a minimum, it is incumbent on federal agencies to exercise the authority and discretion granted to them by applying their expertise to develop and explain well-reasoned decisions that are grounded in the evidence and properly apply governing law, standards, and precedents.

Importantly, the Agency’s responsibility and obligations extend beyond conducting a careful review and making a reasoned decision and order in accordance with the above-described minimum requirements. NHTSA must also (i) document that decision in the form of a written record and evidence that supports and explains the Agency’s findings, decision, and action in accordance with applicable law, standards, and procedures; and (ii) make that entire documented decision and all of the information on which it is based available for review, evaluation, and comment by affected parties. *See* 49 U.S.C. § 30118; 49 CFR § 554.9 -554.11; *see generally*

State Farm Mut. Ins. Co., 463 U.S. 29; *Royal Brush Manufacturing, Inc. v. US*, No. 22-1226 (Fed. Cir. 2023). A complete agency record is necessary to afford affected parties a meaningful and timely opportunity to review the agency’s analysis, reasoning, and the full bases for its proposed decision; to evaluate its sufficiency and inform the agency of material deficiencies; and to allow the agency to address those deficiencies before issuing any final decision. These are fundamentally important due process protections and essential safeguards against arbitrary agency actions and decisions. *See Burlington Truck Lines, Inc. v. United States*, 371 U.S. 156, 167 (1962) (rejecting agency action for lack of specific findings and analysis sufficient to justify or explain the agency’s decision and exercise of discretion).

As demonstrated in these comments, the evidence, analysis, and reasoning provided by NHTSA—including in the Confidential File, the Decision, and the public meeting—fail, in multiple independent ways, to meet the irreducible minimum requirements described above and are insufficient to support a broad defect determination that would require the recall of approximately 52 million vehicles.⁴ As with any piece of equipment or component, it may be theoretically possible that some of the 52 million inflators that have not been recalled already might contain a defect that poses an unreasonable risk to safety that could be properly identified and defined by an appropriate, documented investigation and analysis of relevant evidence supporting specific Agency findings, explanations, and reasonable conclusions as required by

⁴ The Decision estimates there are approximately 52 million inflators that would be subject to this recall, revised downward from NHTSA’s estimate of 67 million in its recall demand letter. The decision makes no attempt to estimate the number of vehicles that must be recalled in order to address the population of subject inflators, and gives no indication as to whether there may be more than one such inflator in the same vehicle. The decision’s broad, general, and indefinite description of the inflators within its scope (“hybrid toroidal inflators manufactured by ARC and Delphi for use in driver and passenger air bag modules, and subsequently incorporated into passenger vehicles”) further obscures the number of vehicles that may be affected and leaves open the possibility that the size of the recall population could be larger than NHTSA’s evolving estimate. These comments will use 52 million as a proxy for the number of vehicles that would be subject to recall under the Decision.

law.⁵ But such evidence-based analysis, findings, explanations, and conclusions are conspicuously absent from the Initial Decision. *See, e.g.*, Decision, 88 Fed. Reg. 62140. The agency record made available for review, NHTSA’s superficial and materially incomplete analysis of the evidence, and its unsupported and largely unexplained findings and conclusions, fall well short of the minimum necessary to support an agency safety defect determination. Moreover, the record is wholly inadequate to support an undifferentiated order to recall approximately 52 million vehicles containing different models of inflators with different designs, manufactured by different companies in multiple different facilities over eighteen years.

More specifically with respect to vehicles sold by MBUSA, there has been no reported inflator rupture in any smart® vehicle with an airbag containing a toroidal inflator manufactured by ARC.⁶ In 2016, at NHTSA’s request, MBUSA provided a list of smart® vehicles it had sold in the US that contained ARC-manufactured inflators that were the subject of an agency inquiry. That was the only involvement MBUSA had in what it has now learned was an ongoing eight-year Agency investigation, until NHTSA contacted MBUSA in the summer of 2023 as part of the Agency’s preparation to issue the Decision (after it had issued a recall demand letter to ARC). The Agency apparently requested and received substantial additional information from other OEMs and consulted with them during the course of the investigation (including convening a “collaboration team” consisting of several OEMs and ARC that apparently conducted investigations and provided the results and other information to the Agency, starting in 2017).

⁵ With respect to smart® vehicles, there is no evidence whatsoever suggesting that the specific inflators equipped in those vehicles pose a safety risk. No smart® car has experienced an inflator rupture, and there is no evidence that the inflators equipped in smart® vehicles pose a risk to motor vehicle safety.

⁶ Vehicles sold by MBUSA that may contain “subject inflators” manufactured by ARC are limited to “smart®” brand vehicles sold from 2008 to 2016. No other vehicles MBUSA sold were equipped with airbags that used the subject ARC inflators.

However, it did not provide any notice to MBUSA or afford it any opportunity to participate in the investigation, provide evidence, analysis, or other input, or discuss how the Agency's hypotheses or analyses might apply in the context of the application of specific models of ARC inflators and their integration into airbag modules installed in certain smart® brand vehicles.

MBUSA first learned of NHTSA's sweeping defect determination, and the fact that certain smart® brand vehicles might be subject to recall as a result, after the conclusion of NHTSA's investigation, when the Agency's recall demand letter to ARC became public in May 2023. MBUSA thus had no opportunity to offer substantive input to the agency investigations or to provide evidence or analysis, *before* NHTSA had completed its inquiry, made its findings and conclusions, and issued its defect determination and Decision in September 2023.

II. The Decision does not satisfy minimum requirements for a NHTSA Safety Defect Determination.

As illustrated in this section, NHTSA has not provided, in its Decision, the Public Meeting or elsewhere in the record: (i) a reasonable and meaningful explanation of its review and evaluation of the evidence developed over the course of its eight-year investigation; (ii) particularized findings of facts sufficient to support the Decision; (iii) explanation of how the evidence it reviewed is connected to and supports its findings and conclusions; or (iv) an adequate rationale for its generalized determination that a broad population of inflators with varying attributes, functionality, and specifications are all defective and must be recalled. *See generally State Farm*, 463 U.S. 29 and other authority cited above. NHTSA's defect determination, process, and the record also fail to satisfy other legal, due process, and evidentiary requirements for lawful agency action and decisions, as discussed in other sections of these comments.

The Decision notes that the Agency is not required to conclusively identify the root cause of a failure in order to find a safety defect and order a recall. But NHTSA is obliged to do more to support such a consequential decision than merely observe that there have been failures and declare that other equipment performing a similar function poses an unreasonable risk to safety. *See* Decision at 62145 (concluding “[t]he fact that the subject population has experienced seven confirmed ruptures, no matter the root cause, warrants . . . determination of a safety defect.”).⁷ If there exists a reasonable and legally adequate basis for the Agency’s extraordinary and conclusory safety defect determination, it is not contained in the Decision. As further illustrated below, the Decision does not adequately explain its defect ruling or offer sufficient supporting evidence and analysis to satisfy the minimum requirements for a finding that 52 million “subject inflators” pose an unreasonable risk to motor vehicle safety.

NHTSA offers no meaningful explanation of how it determined or identified the allegedly defective population or its scope. There is no discussion or explanation of how, if at all, the Agency tailored the recall population to fit the defect (which itself is undefined) or associated safety risk. Available evidence gleaned from the record indicates that the approximately 52 million inflators subject to the blanket defect determination are far from uniform. Rather, their attributes vary in a number of potentially material respects, including:

- Different models, designs, and functionality (e.g., one-stage vs two-stage, original equipment vs replacement parts);

⁷ Despite disclaiming any need for a root cause determination, the Decision in fact relies almost exclusively on a hypothesized cause (excess weld slag generated in friction welding) to define the population it declares to be defective. *See* Decision at 62143-62145. Other than the general shape of the inflators and the company that manufactured the majority of them (ARC), the only common attribute of the 52 million inflators described in the Decision is the use of friction welding in their manufacturing process. Therefore, contrary to the Decision’s summary dismissal of evidence that ruptures were not caused by weld slag, NHTSA’s causation theory is in fact central to the Decision and its scope. As discussed further below, the Decision does not provide analysis, explanation, or evidence sufficient to support its defect population determination, rendering the blanket defect declaration arbitrary, capricious, and unsupported by substantial evidence.

- Different physical specifications (including different exit orifice dimensions);
- Different deployment methodologies (e.g., peak pressures, mass flow, and pressure curve slopes);
- Incorporated into airbag modules made by four different tier one airbag manufacturers;
- Manufactured in multiple different factories in at least three countries;
- Manufactured on different lines in different shifts and different lots;
- Manufactured using different manufacturing equipment and methodologies (e.g., hydraulic vs servo control systems and horizontal vs vertical weld orientation);
- Manufactured over the course of 18 years;
- May have used different propellants;
- Manufactured by two unrelated companies (ARC and Delphi);
- Used in airbag modules installed in vehicles manufactured by 12 different automakers.

The Decision does not discuss these and other differences, let alone analyze or explain how they affect a determination of whether any particular type or group of inflators contains a safety defect.

Although the decision does not clearly identify the common factors or attributes NHTSA believes may support an umbrella defect finding covering 52 million inflators, the Decision appears to implicitly suggest three candidates: (i) the Agency categorizes all as “hybrid, toroidal inflators”; (ii) the inflators use “friction welding” in the manufacturing process; and (iii) the inflators were manufactured by ARC or by Delphi under license from ARC. However, the Agency does not analyze or explain why or how it found that all inflators sharing those three attributes pose an unreasonable risk to safety compelling a recall, or whether (and why) it views one or more of those three factors as determinative.

It is not sufficient to define a defective population based solely on some attribute held in common with equipment that failed and caused injury or harm. Thus, for example, while the rupture of an individual inflator is “evidence of failure in the performance” (Decision at 62145) of that specific inflator,⁸ the fact that it was manufactured using friction welding does not alone support a conclusion that all inflators that were manufactured using friction welding contain a safety defect and must be recalled.⁹ Rather, there must be some reasonable and explained connection between the failure and the equipment population identified as posing an unreasonable risk of such failure.

Conversely, the Agency also does not analyze or explain why this particular population of inflators is defective while others sharing common characteristics are not. For example, if other inflators that use friction welding do not pose a risk to safety, what is it that distinguishes this population? Similarly, what in particular distinguishes the identified defective population from other hybrid inflators, or other toroidal or similarly shaped inflators? Does the identity of the manufacturer play a material role in defining the defective population? If so, why are other inflators manufactured by ARC not deemed defective? What evidence supports any of such determinations, conclusions, or the population NHTSA has defined as defective? None of these questions is even mentioned, let alone discussed or analyzed.

There is no apparent pattern among the seven ruptures reported over the course of fourteen years, from the NHTSA-identified population of 52 million inflators manufactured over 18 years. And the Decision identifies no such pattern or commonality to support a finding that

⁸ Performance failure of an inflator (including a rupture) does not necessarily prove that inflator had a design, manufacturing or other defect at the time of sale to a consumer, as it is possible that an intervening factor, such as improper maintenance or repair, caused the failure.

⁹ Nor, as the Decision appears to acknowledge, does the rupture of such an inflator show that the rupture was caused by the friction welding process. This would be a *post hoc ergo propter hac* logical fallacy.

the population of inflators it defines pose a common, systematic risk to vehicle safety. *See United States v. General Motors Corp.* 561 F.2d 923, 929 (D.C. Cir. 1977) (J. Leventhal, dissenting in part) (isolated or occasional equipment failure that is not systematic or prevalent in particular class of cars does not constitute a “defect related to motor vehicle safety”). Nor does the Agency’s decision compare the rate of failure of the 52 million “subject inflators” with the failure rate of other inflators or comparable components. *See id.*; *cf. Wheels*, 518 F2d at 426.

The Decision provides no reasoned explanation or support for a conclusion that the particular model and design of inflators used in airbags that were installed in some smart® vehicles pose an unreasonable to safety. MBUSA is not aware of a single rupture of a subject inflator installed in a smart® vehicle. Nor does NHTSA cite to any evidence or explanation to support a determination that the population of ARC-manufactured inflators installed in airbag modules in smart® vehicles poses a greater risk of rupture than any other population of inflators installed in hundreds of millions of vehicles sold in the US over the last 35 years.

III. The Decision does not provide analysis or explanation sufficient to support its defect determination.

The Decision provides little meaningful analysis or explanation of the basis for its safety defect conclusion or its scope, beyond a few conclusory assertions. The Decision flatly declares that the “fact that the subject population has experienced seven confirmed ruptures . . . warrants the initial determination of a safety defect” that would require the recall of approximately 52 million vehicles. Decision at 62145. However, the Decision offers no explanation or support for its definition of the “subject population” in the first instance. And the next paragraph of the Decision acknowledges that, following the cited ruptures, manufacturers have recalled vehicles containing the potentially defective inflators. The Decision further acknowledges that those existing recalls cover approximately one million vehicles. *See* Decision at 62143, n. 11-12.

The Decision also does not connect its expansive defect determination to any other evidence in the voluminous record it compiled over an 8-year investigation. If, as the Decision indicates, the occurrence of seven ruptures is alone sufficient to support the recall of an estimated 52 million vehicles, then the extensive evidentiary record the Agency compiled over its multi-year investigation would be superfluous.

Similarly, beyond its *ipse dixit* declaration, the Decision does not offer a reasoned explanation or support for its conclusion that seven ruptures of tens of millions of inflators manufactured over a period of more than eighteen years is significant in the context of the size of the population the Agency has declared defective. As the Decision acknowledges, it is long-established that a safety defect determination requires a *significant* number of failures – NHTSA may not ground a safety defect decision on a number of failures that are, in context, *de minimis*. Decision at 62145; *see Wheels*, 518 F.2d at 426, 438.

Here, the Decision offers little explanation or support for its conclusion that seven failures of an estimated 52 million inflators is significant and not *de minimis*. It notes that the safety consequences of an inflator failure can be severe, and asserts the potential consequence justifies a lower threshold for a finding of a significant number of failures. But the Agency does not even articulate—let alone apply—an objective metric for making the required significance determination. The Decision does not identify or explain any significance threshold, how it was determined, or how it was applied.

Surprisingly, the Decision does not mention consideration of a standard tool the Agency uses to determine whether particular failures may rise to the level of significance—a methodical comparison of the probability of failure versus the potential consequences of such failure. NHTSA has developed and refined a matrix for analyzing safety risks, plotting the frequency (or

probability) of failure against the severity of the consequence of such failure.¹⁰ In this case, however, the Decision does not mention any such analysis, or provide any other meaningful assessment to support its defect conclusion or the required finding of significant, “non-*de minimis* number of failures.” See Decision at 62145.

The history of this proceeding and NHTSA’s abrupt and broad safety defect decision after an eight-year investigation suggests that its significance determination was arbitrary, unreasonable, and not grounded in any objective standard or analysis. The Decision indicates that there were six ruptures from 2009 through 2021, or an average of roughly one every two years. After the sixth rupture, NHTSA did not find a defect or demand a recall. In 2023, there was a seventh rupture, and the Agency issued a recall demand. Thus, NHTSA apparently concluded that six ruptures in 12 years was *de minimis* and not significant, but then found that seven ruptures in 14 years (involving the same inflator population) was not only significant but compelled one of the largest recalls in US history. The Decision offers no explanation of how or on what basis it determined that six ruptures were not significant, but one additional rupture cleared that threshold. Given that the difference in failure frequency between 6 in 52 million (.0000000115) and 7 in 52 million (.0000000135) is negligible, the Agency’s unexplained and unsupported significance threshold is arbitrary and fails to meet its obligations under applicable law. See, e.g., *State Farm*, 463 U.S. 29; *Wheels*, 518 F.2d at 438; 49 U.S.C. § 30118.

The Decision would eliminate the requirement of a significant number of failures.

The Decision asserts that the potentially severe consequences of an inflator rupture mean that “fewer failures are necessary to exceed the *de minimis* threshold.” As discussed, however, it

¹⁰ See, e.g., DOT HS 812 984, “NHTSA Risk Based Processes for Safety Defect Analysis and Management of Recalls” at 7-11 (Nov. 2020).

provides no analysis of frequency of failure versus severity of its consequences, nor any further explanation of how NHTSA determined that seven ruptures are significant or otherwise sufficient to support a safety defect conclusion and recall order. A determination of an extremely low frequency of failure alone — which neither relies on nor even discusses the evidence, such as the huge volume of data and information collected by NHTSA in its investigation — is not sufficient to meet NHTSA’s burden of proof explained in *Wheels* (including demonstrating a non-*de minimis* number of failures). The limitless approach applied in the Decision, without more, would effectively eliminate the requirement of a *significant* number of failures and allow the agency to order a recall based on a *single* failure, without regard to its probability. Apart from this particular case, the precedent set for the future would be limitless and untenable — any equipment failure could justify recall of an unlimited number of vehicles containing an item of equipment the Agency declares to be similar.¹¹ There would be no such thing as a *de minimis* number of failures because the simplistic approach NHTSA used here would always result in a non-zero risk of future failure. As the D.C. Circuit and other courts have consistently held, this is not the law — the Motor Vehicle Safety Act requires more to support a NHTSA safety defect decision.

¹¹Without a limiting principle, this approach would eliminate the minimum requirement of a significant, non-*de minimis* number of failures to establish a defect. The only authority the Decision cites to support of such an approach is *United States v. Gen. Motors Corp.*, 565 F.2d 754 (D.C. Cir. 1977) (“*Carburetors*”); see Decision at 62145. That reliance is misplaced. In *Carburetors*, there was no dispute that the item of motor vehicle equipment was defective—the manufacturer conceded the carburetors were defective. *Carburetors*, 565 F.2d at 756. Thus, NHTSA was not required to prove the vehicles equipped with the subject carburetors contained a defect. Here, ARC and other parties contest NHTSA’s defect finding and the Agency is required to show a significant number of failures in order to make a lawful defect determination. Also unlike here, *Carburetors* involved “no dispute that at least some such hazards . . . can definitely be expected to occur in the future.” Decision at 62145 (quoting *Carburetors*). The case makes clear that even where a defect is proven, a *definite* expectation of future “hazards” is required to establish an unreasonable risk to safety required to support a NHTSA recall decision. With respect to the specific facts, the number of failures at issue in *Carburetors* was also starkly different. In that case, there had been “at least” 665 reported failures and associated engine fires. *Id.* (government contended there were at least 947 reported failures and 958 fires). The number of failures was two orders of magnitude greater than the inflator failures reported here.

IV. The nature of the record, lack of connection to the Agency's findings and defect determination, and short comment period preclude meaningful review and analysis.

The nature of the evidentiary record NHTSA supplied precludes fair and meaningful review in the time allowed and has denied interested parties a fair and reasonable opportunity to evaluate and comment on that record before a final decision. The potentially relevant information the Agency made available for review by OEMs and suppliers is a huge, confused, and largely unexplained mass of computer files, data, and other information apparently received from or developed by various sources. The information is presented in various formats, applications, file types, and data structures. It spans approximately 22 years and took NHTSA eight years to compile and analyze. Other than high-level folder labels that in some instances may suggest the source of the files they contain, there is no useful guide to finding or identifying either the evidence that the Agency may have relied upon to make its broad defect determination, or evidence that might weigh against such a determination or its scope.

The sheer size of the record alone (more than 600 gigabytes of compressed data, exceeding what most office computers can handle, and requiring several days just to download) has made it virtually impossible for a party to conduct a complete and meaningful analysis in the very limited time NHTSA has allowed. The limited review of the enormous record that MBUSA was able to conduct in the time allowed found neither a meaningful Agency analysis of the record evidence nor an explanation of how the Agency used that evidence to support the defect determination, nor any basis to find or identify—let alone evaluate—any such analysis. While NHTSA took more than eight years to review that information and make a defect decision, the Agency allowed affected parties approximately 100 days for review between the Decision and the final deadline for comments regarding the recall decision.

In addition, much of the voluminous information was provided in confused and undifferentiated masses of files with no indication of their subject or any organizing principle. For example, Folder 4 alone contains over 82,000 unindexed files scattered across more than 120 sub-folders. If each file were reviewed for just one minute, it would require more than 57 days of reviewing the files 24 hours per day — longer than the period the Decision originally allowed for review and comment¹² — simply to review this single folder.

Further compounding the difficulty of reviewing and understanding the record, the tens of thousands of files in Folders 1, 3, and 4 use ambiguous labels and naming conventions. File names in those folders begin with the same single prefix, followed by a sequence of seven numbers that appear to denote only the order of the file in the sequence. There are no further indexes or references substantively identifying what the files contain. Files within those folders are stored in subgroups of 500 with names like “IMAGES” or “NATIVE” that do not identify their subject or any substantive organization or content. Many files are not searchable, which further impeded efficient review, requiring substantial time and resources to categorize those documents for review.

Significantly, the most confused, undifferentiated, and unexplained masses of data, images, and other files appear to be compilations of information collected from ARC, the manufacturer of the inflators that NHTSA has preliminarily found to be defective. Much of that information is not in English. The entire focus and purpose of NHTSA’s investigation and this proceeding are to determine whether some or all of those inflators contain a safety defect.

¹² At the parties’ request, NHTSA later extended the comment period on the initial record to 90 days. It still would take a reviewer nearly two-thirds of those 90 days just to review the files in this single folder. On the day before that deadline, NHTSA issued an order extending the comment deadline for an additional two weeks, to allow the parties to review additional data and information the agency added to the record the following week.

Therefore, the data and information provided by manufacturer ARC, and NHTSA's analysis of that information, are likely to be the most important evidence in this proceeding. Without explanation or meaningful organization, however, the bulk of that evidence was nearly indecipherable.

Considering the complexity of the subject and variables involved, the disorder of the record, and the sweeping breadth of the defect determination and affected vehicle population, the parties should be afforded far more time to conduct a meaningful review and evaluation of the Confidential File that the Agency relies upon (without specific references). Such review of the huge and disorganized record was manifestly not feasible in the short period NHTSA allowed for affected parties to comment.

Potentially as important as the inscrutability of the Confidential File is what appears to be missing. *See, e.g.*, Letter from Mayer Brown LLP to NHTSA, dated November 21, 2023 ("Docket NHTSA-2023-0038; Request to Supplement Investigative File") (describing some of the information that appears to be missing from the record). To cite one example, NHTSA's hypothesized probability of future ruptures of "subject inflators" is central to the Agency's safety defect determination. However, prior to the public meeting NHTSA convened a month *after* issuing the Decision, there was no data or information in the record explaining or documenting how NHTSA developed that forecast, nor any supporting analysis.

NHTSA offered an explanation of how it developed its probability forecast for the first time in a pre-recorded oral statement of a NHTSA official (Dr. Glassbrenner) during the post-Decision public meeting. The introduction of new evidence a month after NHTSA issued the Decision and was required to "make[] available all information on which the decision is based" (49 CFR 554.10) is itself problematic and procedurally irregular. The purpose of the public

meeting is to provide “manufacturers and interested persons” to “present information, views, and arguments respecting the decision.” 49 CFR 554.10(c)(4); Decision at 62146. Neither NHTSA regulations nor the Decision’s announcement of the public hearing provide that the Agency may use the public meeting to add new information on which the decision is based or to provide explanations and information the Decision and existing record failed to provide.

The belated statement announced NHTSA’s projected “rate of inflator ruptures,” briefly described the approach used to arrive at that rate, and referenced some data sources used to generate underlying assumptions. Dr. Glassbrenner did not explain the data sources she mentioned, or how she used them to develop her assumptions. Meeting Transcript at 55-56. Nor did she provide an estimated number of future ruptures. Instead, Glassbrenner concluded that “it is reasonable to assume that ruptures will continue to occur.” Mtg. Tr. at 59. The statement was otherwise unsupported.

Thus, following the conclusion of the public meeting, the entire quantitative risk analysis NHTSA had offered in support of its unprecedented defect determination consisted of one footnoted paragraph in the Decision, and a short oral summary of its general approach played during the public meeting.¹³ That record was devoid of written documentation of the approach, its rationale and validity, explanation of the data used, how it was used, and why, underlying assumptions and reasoning, supporting calculations or workpapers, statistical analysis, and other

¹³ Importantly, the Decision’s flawed and inadequately supported forecast of future inflator failures (discussed in Sections IV and V of these comments) is only one necessary element of the risk analysis needed to establish and support a conclusion that the number of failures is *significant*. See, e.g., *Wheels*. Even if NHTSA’s statement at the public meeting and its subsequent supplementation of the record were adequate to meet its burden to explain and support a reasonable forecast of the likelihood of future inflator failures over the next quarter century—as this discussion demonstrates, they are not—the Decision contains no support or explanation of the Agency’s conclusion that its assumed rate of such failures is *significant* and not *de minimis*, as required by law. See Section III above. The Decision cites to no such significance analysis or explanation in the record, and MBUSA found none in the limited time allowed for review.

evidence and information necessary to allow the parties to evaluate NHTSA's analysis and methodology, the underlying data and calculations, and whether they support the findings and conclusions of the Decision.

Parties advised NHTSA of this and other deficiencies in the record, and requested that NHTSA complete the record by providing any additional evidence or information it relied upon to support its analysis, findings, conclusions and defect determinations. In response, NHTSA provided some limited additional information. With respect to the future rupture forecast, the Agency provided a spreadsheet ostensibly generated by Dr. Glassbrenner to count the number of "subject inflators" and conduct arithmetic applying her assumptions and estimates. The Agency allowed two additional weeks for parties to review and evaluate the new information.

V. The Agency's risk assessment—and ultimately the entire defect Decision—rests on simplistic arithmetic applied to disparate data sources to generate a rough probability estimate, without adequate explanation, factual findings, or analysis, and unsupported by substantial evidence in the record.

Even after NHTSA supplemented the record in December, the Decision and the record are inadequate to meet the minimum legal requirements for a NHTSA defect decision and recall order under the Motor Vehicle Safety Act, the Administrative Procedure Act, due process, and applicable regulations and precedents. *See, e.g., State Farm*, 463 U.S.29; 5 USC § 706(2); 49 U.S.C. § 30118; 49 CFR § 554.

As courts have explained, the basis for an agency action must be clearly disclosed in, and supported by, the record and "the agency must make plain its course of inquiry, its analysis and its reasoning." *E.g., American Petroleum Inst. v. EPA*, 540 F.2d 1023, 1029 (10th Cir.1976); *see State Farm*, 463 U.S. at 43 ("the agency must examine the relevant data and articulate a satisfactory explanation for its action including a rational connection between the facts found and the choice made"). Moreover, "[i]n adjudicative administrative proceedings, due process

includes the right to know what evidence is being used against one.” *Royal Brush Manufacturing*, No. 22-1226 (Fed. Cir. 2023); *see Greene v. McElroy*, 360 U.S. 474, 496 (1959).

As a matter of administrative law and due process, NHTSA is obliged to provide a complete description and explanation of its findings and conclusions in the Decision. This includes all evidence it relied upon to support its analysis and decision. If NHTSA still has not provided all such information and evidence, it is obliged to make the missing information available and allow interested parties a full and fair opportunity to evaluate and comment on that information, before it issues a Final Decision. Assuming that NHTSA has provided all such information, the Decision and record are inadequate to meet the minimum requirements of governing law, for the following additional reasons.

The Future Rupture Estimate is Simplistic, Relies on Dubious and Unexplained Assumptions, and Mismatched Data, and Lacks Meaningful Analysis or Rigor.

Prior to NHTSA’s December addition to the record, the entire quantitative risk analysis NHTSA relied upon to support its sweeping and unprecedented defect determination consisted of one paragraph and a footnote in the Decision, and a statement at the public meeting describing the approach the Agency used to estimate the number and probability of future inflator ruptures. Noting the lack of any evidence in the record documenting, explaining, or supporting the forecast and approach announced at the meeting, interested parties requested that NHTSA provide any such evidence or analysis it relied upon for its estimate. On December 1, 2023, NHTSA agreed to supplement the record and provide a short extension of the comment deadline to allow parties to review and comment on the new evidence. The following week, NHTSA provided a spreadsheet showing some of the information it used to estimate potential future ruptures. That spreadsheet does not address the manifest flaws and omissions in the approach described at the

hearing, and provides no further substantive support, justification, analysis, or explanation of that approach and its failure rate prognostication. At the far end of one tab of the spreadsheet, NHTSA provided for the first time what appears to be its forecast of the number of inflator failures that might occur over the next 32 years: fewer than three.¹⁴

The spreadsheet provides very little additional explanation, analysis, or support for the Agency's approach and probability estimate. Instead, it simply shows some of the arithmetic it used to follow the approach described at the public meeting and adds a copy of the output of a fuel economy attrition model. Based on all of the relevant evidence and explanations NHTSA has provided, the Agency's linchpin probability forecast relies on: (i) simplistic arithmetic using (ii) disparate data sources of questionable relevance and compatibility to create an airbag deployment rate *assumption* that it then used as the basis for an (iii) estimated *historical* failure rate, which it then (iv) applied without further adjustment or explanation, to hypothesize a rate and number of *future* inflator failures. As described in the public meeting, the approach merely divides the number of confirmed inflator ruptures (7) by NHTSA's estimate of the total deployments of the subject inflators from 2000 through mid-2023 (estimating that denominator at approximately 2,600,000 using the unexplained data combinations and process described in the preceding sentence) to determine an estimated historical rupture rate. NHTSA thus estimated the historical rupture rate was $7 \div 2,600,000$, or 0.00027%. The spreadsheet shows the application of that assumed historical rupture rate to the Agency's assumed number of future airbag deployments to generate a forecast of potential future ruptures.

¹⁴ The spreadsheet indicates that application of NHTSA's posited historical failure rate to the estimate of future airbag deployments would generate a NHTSA estimate of three ruptures through the end of 2056. Even using NHTSA's flawed and inadequately explained approach, however, it appears from the spreadsheet that a more accurate estimate would be fewer than 3 ruptures (closer to 2.7%), but the spreadsheet rounded up to get to a total of 3.

Significantly, the spreadsheet disclosed for the first time NHTSA's own forecast of the total number of inflator ruptures that will occur from now until 2056: Three.¹⁵ This estimate is conspicuously absent from the Decision, and the public hearing. Now that the number has been revealed, what remains entirely absent is any meaningful explanation of how NHTSA determined that number of failures is *significant*, as required by binding precedents. Again, other than arbitrary fiat, what is the reasonable and supported basis for a declaration that the number of failures the Agency projects is significant and non-de minimis? The Decision and the record offer *no* explanation, let alone the cogent explanation that is required. *See State Farm*, 463 U.S. at 48. Without such an explanation and supporting analysis, the Decision is arbitrary, capricious, and contrary to law. That failure alone should preclude finalizing the Decision.

Unexplained and unsupported assumptions, data uses, calculations, and projections

Neither the Decision nor the record adequately explains the reason or justification for measuring the risk of future failures by comparing the reported ruptures (which have already resulted in recalls of affected vehicles and equipment) against a rough assumed estimate of the number of deployments (2.6 million) without consideration of the number of inflators equipped in vehicles sold in the US (estimated at 52 million), or previous recalls. For example, NHTSA's risk analysis appears to make no adjustment for the reduced probability of rupture based on the fact that specific types of inflators that actually ruptured have already been recalled as a result. Nor does it explain why the appropriate denominator of its calculation of the likelihood of a rupture of subject inflators is an estimate of the number of deployments. For example, should the probability of harm caused by failure of a particular piece of equipment be measured

¹⁵ Even using NHTSA's flawed and inadequately explained approach, it appears from the spreadsheet that a more precise estimate would be less than 3 ruptures (closer to 2.7%), but the spreadsheet rounded up to reach a total of 3.

exclusively by the probability of such failure in the event of a collision of a certain severity or should it take into account the fact that the overwhelming majority of that equipment is never subject to such a collision? Further, the Decision fails to explain or support its critical assumption that the estimated historical rate of ruptures per deployment will continue in the future, an extrapolation it relies upon to support its broad defect determination.

Even if NHTSA had shown that a reasonable, reliable, and supported estimate of the number of deployments of airbags using the subject inflators is an appropriate denominator for determining the risk of rupture, it has not adequately explained how it derived that estimate or shown that it is reasonable or reliable. The Decision states that NHTSA derived the denominator in its rupture rate formula using the total population of vehicles equipped with the subject inflators, adjusted using *light trucks* data to estimate the likelihood that a vehicle would have experienced a frontal airbag deployment, and a fuel economy model output for assumed vehicle attrition. The Decision briefly notes that its estimate relies on three assumptions, but provides no explanation of how it arrived at those assumptions or why they might be valid or accurate for this purpose.

The first and perhaps most critical assumption is that annually 0.4% of “vehicles with subject inflators . . . experience a frontal impact with a delta-V of 15 mph or more.” *Decision* at 62145 n.16. The only explanation of that assumption is a statement that it was based on data regarding light trucks gathered from four data sources: the 2015 Fatality Analysis Reporting System, 2015 Crashworthiness Data System, 2015 General Estimates System, and 2016 S&P Global Mobility’s light truck registration data.¹⁶ But beyond reciting the names of four data sets,

¹⁶ The Decision also provides no explanation or support for the assumption that a static snapshot of annual data from two isolated years (3 sources in 2015 and one in 2016) is sufficient to support reasonable and accurate prediction of failures from now through 2056.

the Agency provides no explanation of why those data sources are relevant and appropriate, how it used and combined those sources, whether those data sets are compatible, or even how those combined data support the estimates it used as inputs to its 0.4% assumption.

For example, the spreadsheet posits an estimate that 1.7% of light trucks are involved in a frontal crash annually and states that it “calculated” that estimate from three data sources. However, it does not include those calculations and provides no explanation of how it used data from those sources to develop that calculation and estimate. The validity and accuracy of that estimate is significant, because NHTSA then multiplied that percentage by a separate assumption that 25 percent of “towed light trucks” were involved in a collision with a delta-V of 15 mph or more, in order to arrive at its assumption that 0.4% ($= 1.7\% \times 25\%$) of light trucks have a frontal crash that results in an airbag deployment. If the 1.7% estimate is inaccurate, it could mean the 0.4% deployment assumption, which is the foundation for the Decision’s airbag deployment assumption and ultimately its forecast of the rate and number of future ruptures, is also inaccurate.

Compounding the uncertainty and potential inaccuracy of that assumption is the lack of explanation of the use of the light *trucks* data to develop an assumption regarding rate of airbag deployments that is then applied to passenger cars. More specifically, smart® vehicles are *not* light trucks. NHTSA provides no explanation of how data pertaining to assumed deployments in trucks provides a reasonable estimate of deployments in smart® cars, whose size and uses are much different from trucks. Further, nothing in the Decision or record explains why data regarding reported change in velocity of a subset of trucks that happen to have been *towed* should be relied upon to supply a general assumption regarding the rate of airbag deployments in all vehicles.

The second and third assumptions the Decision relies upon are stated in a footnote without any support or further explanation. The second assumption, that all of the inflators deploy at “about” a change in velocity of 15 mph, “regardless of other conditions,” is neither explained nor supported. Experience shows that airbags do not always deploy when a vehicle experiences a 15 mph change in velocity. Further, the assumption that a passenger airbag will deploy when the passenger seat is unoccupied is directly contrary to advanced airbag requirements in effect since 2006. More generally, neither the Decision nor the record provides any explanation or support for the assumption that driver side and passenger side airbags deploy at the same rate. In fact, this is quite unlikely, and the contrary assumption further undermines the Decision’s deployment assumption.

The third assumption, that all vehicles with subject inflators (produced from 2000 through 2018) remain on the road in accordance with the *average* attrition rate assumed by a 2016 model used for fuel economy standards is simply asserted, without explanation, support, or analysis. Decision at 62145 n. 16. Entirely lacking is any explanation of why the application of an average attrition assumption to all vehicles—rather than applying a specific attrition rate for each of the numerous different vehicle models containing the subject inflators—is accurate, reasonable or appropriate. Nor is there any explanation of why a model from 2016 provides a reasonable or accurate estimate of attrition of vehicles from 2024 through 2056.¹⁷

¹⁷ The voluminous yet apparently incomplete record, combined with the Decision’s failure to connect that evidence to its findings and conclusions or explain any such connection, do not allow quantitative analysis of the compound effect of corrections of data and methodological errors and erroneous assumptions used to arrive at a forecast of three future failures. However, a very preliminary and incomplete review of the recently provided spreadsheet suggests that errors in NHTSA’s implementation of its own approach (including errors in application of attrition rates, rounding, and other calculations) resulted in a significant overestimate of future inflator ruptures. It is thus entirely possible that correction of erroneous calculations and misapplications alone would reduce the estimated number of future failures generated by NHTSA’s approach from 3 to less than one. In that event, NHTSA’s determination of a defect posing an unreasonable risk to safety would fail to meet even the incorrect and

Even if the analysis summarized by NHTSA were an appropriate method of determining the probability of a future inflator failure—which it has not demonstrated—the Agency has not met its obligation to “articulate a satisfactory explanation for its action including a rational connection between the facts found and the choices made.” *See State Farm*, 463 U.S. 29, 43 (1983). The sum total of NHTSA’s explanation of, and support for, its failure rate analysis is contained in footnote 16 of the Decision, a high-level statement during the subsequent Public Meeting, and an Excel file showing some of the Agency’s arithmetic. The record available for review does not include, *inter alia*, any written report, detailed workpapers, or other explanation or support for: (i) key elements and assumptions of its analysis; (ii) how it used and combined data from the sources mentioned in the Decision, why those sources and data it used are relevant and appropriate, and whether and how it used other data or sources; or (iv) statistical analysis and assessment of confidence and uncertainty in the approach it used to predict future failure rates. This and other underlying information, assuming they exist, are necessary to allow affected parties and the public a meaningful opportunity to evaluate a keystone of the Decision, its estimate of the number of future failures of the subject inflators.¹⁸

A footnote mentioning some data sources, a post-Decision oral summary of some of the basics of the Agency’s approach, and a spreadsheet illustrating some of its calculations are

inapplicable standard posited in the Decision—an established defect that is “definitely” expected to cause multiple hazards in the future. *See* Decision at 62145 (quoting *Carburetors*); *cf. Public Mtg. Tr.* at 59 (NHTSA official’s conclusion that “it is reasonable to assume that ruptures will continue to occur”). As previously demonstrated, *Carburetors* is inapposite, and the approach the Agency has used to estimate future inflator failures is unsupported, inadequately explained, and otherwise fundamentally flawed. This additional discussion independently illustrates that, on the existing record, even a reasonable application of (i) NHTSA’s own flawed approach and assumptions *and* (ii) the inapplicable *Carburetors* standard likely would be insufficient to support NHTSA’s broad defect determination and the recall of vehicles containing approximately 52 million inflators.

¹⁸ As discussed, the Decision itself, even as supplemented by NHTSA statements in the public meeting, does not provide an estimate of the actual number of inflator failures that might occur going forward. The Decision only uses the reported number of failures to hypothesize the historical rate of such failures. Only the belatedly supplied spreadsheet suggested (without additional explanation or discussion) a projected *number* of future failures.

entirely inadequate to meet NHTSA's responsibility and burden of explaining and supporting its failure rate determination.

Finally, as previously demonstrated, even if the Agency's failure probability estimate were adequately supported and shown to be reasonable, appropriate, accurate, and reliable, that would be insufficient to support NHTSA's defect determination. The Decision fails to adequately explain how that assumed future failure rate (0.00027%) supports a finding and conclusion that all of the subject inflators pose an unreasonable risk to safety and a defect decision requiring vehicle manufacturers to recall vehicles containing 52 million inflators.

CONCLUSION

Based on the current record, NHTSA's Decision does not satisfy the requirements of applicable law and due process. As it stands, the Decision is arbitrary, capricious, an abuse of discretion, and not supported by substantial evidence in the record. To meet its obligations under governing law, the Agency should reconsider its decision, and provide further analysis and reasoned explanation to support any defect determination and its scope. Particularly with respect to smart® vehicles, which have experienced no ruptures, the Decision and record are insufficient to support a defect determination or recall requirement or satisfy the basic requirements of due process.

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Respectfully submitted,



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