FIAT CHRYSLER AUTOMOBILES

Comments of FCA US LLC Regarding Initial Decision
Docket No. NHTSA-2023-0038

Pursuant to 49 U.S.C. § 30118(a) and 49 C.F.R. § 554.10, FCA US LLC ("FCA US") makes the following submission in response to the 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 (the "Initial Decision") published by the National Highway Traffic Safety Administration ("NHTSA") in the above-captioned docket on or about September 7, 2023.

The safety and security of those who drive and ride in FCA US vehicles is of utmost importance. FCA US has a dedicated team of experienced investigators whose primary role is to perform a comprehensive review of numerous data sources in an effort to proactively identify potential defects that might pose an unreasonable risk to motor vehicle safety. FCA US' Technical Safety and Regulatory Compliance organization executes this activity as part of its well-established, end-to-end safety process that defines key stakeholders, process steps, and decision mechanisms to identify and react to potential issues. FCA US initiated and continues to help facilitate industry sharing through multi-OEM industry summits to document and share best practices related to safety recalls.

FCA US has employed this rigorous process in the analysis of the subject components and defect proposed in the Initial Decision. Following this review, as explained below, FCA US has concluded that NHTSA has not met its burden to establish the existence of a defect or that any such defect poses an unreasonable risk to motor vehicle safety.

Accordingly, FCA US requests that NHTSA decline to issue a Final Decision finding a safety-related defect in the subject inflators and close Investigation EA16-003. Were any Final Decision to adopt the reasoning and conclusions set forth in the Initial Decision, it would be arbitrary, capricious and contrary to law.

I. The Single Rupture In A FCA US Vehicle Is Unique, Isolated And Unrelated To Any Defect Theory Advanced In The Initial Decision.

Based on its investigation to date, the Initial Decision identifies what NHTSA apparently believes is the "likely" cause of inflator ruptures. Initial Decision, 88 F.R. 62140, 62144 (Sept. 8, 2023). The Agency explains that the subject ARC inflators were constructed using a friction welding process that "in some circumstances, produced excess weld slag, which, if loose, will be propelled toward the inflator exit orifice during an air bag deployment." *Id*. Following this, NHTSA's theory proceeds on a trail of further conditions which, if all are true, could result in inflator rupture. The weld slag,

> if larger than the 5-millimeter diameter of the exit orifice of the inflator center support, can become lodged in that exit orifice and block the air flow required to fill the air bag cushion. The inability of the air to exit the inflator due to the

> blocked exit orifice can lead to over pressurization of the air bag inflator. The over pressurization can lead to a rupture of the air bag inflator.

Id. But, after eight years of investigation, NHTSA's description of the orifice diameter, and other fundamental aspects of the subject inflators, is oversimplified, and therefore inaccurate. As noted in the technical comments provided by safety professionals from FCA US and other manufacturers, the orifice diameters in the various configurations of ARC inflators at issue in the Initial Decision can range from 4.3mm to 5.8mm. Joint Comments of Safety Professionals at 3.[1] This variation is material, particularly given the nature of NHTSA's defect theory premised on orifice blockage but is completely ignored in the Initial Decision.

Moreover, there has never been a rupture in an FCA US vehicle consistent with NHTSA's "likely" defect theory. FCA US is responsible for over 4.9 million vehicles in Model Years 2000 through 2018 equipped with frontal driver and passenger air bag inflators manufactured by ARC Automotive Inc. ("ARC") that are included in NHTSA's Initial Decision population. In this population, FCA US is aware of just a single rupture stemming from a 2009 incident involving a 2002 MY Chrysler Town and Country minivan. In the 14 years following that event, there have been no further incidents in an FCA US vehicle.

This 2009 rupture was analyzed by ARC, which determined that it involved a "unique root cause" not found in the other ruptures referenced in the Initial Decision. Letter from Steve Gold, ARC to Stephen A. Ridella (May 11, 2023) at p. 14. Specifically, ARC explained that "[t]he root cause of the inflator rupture in the 2002 MY Chrysler Town & Country minivan was concluded to be a manufacturing anomaly that resulted in foreign material in the inflator center support." *Id.* Specifically, the foreign material was likely a piece of what is known as the "flash dam pin," a piece of the equipment used by ARC during the manufacturing process of certain types of airbag inflators, including the inflator used in the 2002 MY Town & Country. As ARC explained:

> For the CADH [Compact Advanced Driver Hybrid Inflator] design, the center support is friction welded to the upper pressure-vessel. During this welding process, a pin is inserted into the top of the center support so that the flash created during the welding process forms in a shape and pattern that does not restrict or block the exit orifice. After the welding operation is complete, the pin (referred to as the flash-dam pin) is removed from the top of the center support of the recently welded piece and then inserted into the next unit on the manufacturing line that will go through this friction weld process.

Id. Following inspection of the ARC inflator, it was concluded that a piece of metal, most likely

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[1] FCA US joined in the Joint Comments of Safety Professionals from Autoliv, FCA US, Ford, General Motors, Hyundai, Kia, Maserati NA, Tesla, Toyota, and Volkswagen Group of America Relating to NHTSA's 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. That document is referred to herein as the "Joint Comments of Safety Professionals."

the flash dam pin, or a fragment of it, had been responsible for the rupture:

> An inspection of the exit orifice of the inflator indicated that a piece of metal had been lodged near the exit orifice, likely causing the inflator to rupture. **The metal piece appeared to be a foreign material and likely the flash-dam pin. The material was not "weld slag." None of the other field ruptures ARC has inspected had a similar object lodged near the exit orifice.**

Id. at 14-15 (emphasis added) (internal citations omitted). Though the fragments of the center support ultimately came into NHTSA's possession several years after the rupture event, FCA US understands that NHTSA lost track of the flash dam pin fragment before it could be tested to confirm its composition.

In short, the 2002 Town & Country rupture event has no relation to any defect theory that NHTSA ever has advanced in connection with its investigation in this matter. That theory is premised on NHTSA's hypothesis that existing, loose weld slag located within the center support could be drawn towards the exit orifice during deployment and could become lodged in the exit orifice if it is larger than the orifice diameter. 88 F.R. at 62144. But that is not consistent with the facts surrounding the 2002 MY Town & Country event, which resulted from a manufacturing anomaly in which the flash dam pin, which is inserted externally into the inflator center support, became lodged. Thus, the 2002 MY Town and Country event is an isolated occurrence and should be excluded from NHTSA's analysis in the context of EA16-003.

The 2002 MY Town & Country rupture is significant for a second reason: it was one of the two incidents at the center of a 2016 field collection activity in which FCA US and other manufacturers, in consultation with NHTSA and ARC, tested ARC inflators from salvaged model year 2002-2005 MY vehicles. At the insistence of NHTSA's statisticians, over 900 inflators were collected as part of this activity so that manufacturers could establish 99% reliability, at a 99% confidence level, in the results. None of the inflators deployed and examined under this testing protocol ruptured.

II. The Initial Decision's Conclusions Are Contrary To Law.

NHTSA has the burden of proof on two distinct elements in a mandatory recall order. "In addition to proving the existence of a vehicle defect under the [Safety] Act, the government must also prove that any resulting performance failure relates to motor vehicle safety, that is, it presents an unreasonable risk of accidents or injuries." *U.S. v. General Motors* ("*X-Cars*"), 656 F. Supp. 1555, 1578 (D.D.C. 1987). The Initial Decision fails to meet this burden on either count.

A. NHTSA Has Not Established The Existence Of A Defect.

To meet its requirement of establishing the existence of a defect, NHTSA must demonstrate "significant number of failures" of the component in question. *U.S. v. General Motors* ("*Wheels*"), 518 F.2d 420, 438 (D.C. Cir. 1975). According to *Wheels*, this means that the government must show "a non-de minimus number of failures." *Id.* at 438 n.84. What constitutes "significant" or

"non-de minimis" depends on the circumstances of each case, but the "[r]elevant 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." *Id.* To constitute a defect, these failures must be "systematic and is prevalent in a particular class of cars," and "may be identified by an unusually high rate of failures in actual operation or by tests showing that failure is likely under normally encountered circumstances." *U.S. v. General Motors Corp.* ("*Pitman Arms*"), 561 F.2d 923, 929 (D.C. Cir. 1975).

None of these indicia are met here. Though the case law provides that what constitutes a "significant" number of failures "must be answered in terms of the facts and circumstances of each particular case," *Wheels,* 518 F.2d at 438 n.84, there can be no doubt that the single FCA US rupture at issue in this investigation does not rise to that level. As discussed above, there are no subject inflator failures in any FCA US vehicle consistent with the defect theory that NHTSA promotes in the Initial Decision. NHTSA pursuing a mandatory recall order in this scenario would be tantamount to mandating a zero-failure standard. But that is not, and has never been the law, and application of that standard now would be an arbitrary departure from decades of precedent. The law is well-settled that "manufacturers are not required to design vehicles or components that never fail." *Id.* at 436. In words that could have been written about this matter, *Pitman Arms* instructs:

> Out of any manufacturing process, some products are bound to be "lemons." These failures may be due to flaws in the design, **construction (including occasional human error on the production line)** or inspection process. **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.

561 F.2d at 929. (emphasis added). The 2002 MY Chrysler Town & Country rupture was the result of a one-time manufacturing anomaly in which a piece of metal - a flash-dam pin that is part of the manufacturing process - was lodged in the exit orifice. NHTSA has provided no evidence of any similar failure mode in any other vehicle, manufactured by FCA US or any other manufacturer, and FCA US knows of no other examples. This is the very definition of an "isolated" failure, and it is infrequent enough that it could not even be considered "occasional." In over 23 years, encompassing nearly 673.6 billion miles of on-road experience for FCA US vehicles and many times more than that across all manufacturers, it is the only rupture resulting from an unforeseeable breakage of a supplier's manufacturing machinery.

Recognizing that these facts fall well short of the "unusually high rate of failures" referenced in the precedent, NHTSA attempts to overcome the small number of ruptures in this case through a variety of means. First, NHTSA attempts to aggregate every failure of an ARC

subject inflator without establishing any baseline commonality among the subject population other than the fact that the inflators were manufactured by ARC, or by Delphi using ARC's design. But there is no indication that treating all inflators commonly, as NHTSA does, has any basis in data or engineering principles. As described in more detail in the Joint Comments of Safety Professionals, there are approximately 40 design and configuration differences among the ARC inflators each manufacturer has used during this period. Joint Comments of Safety Professionals at 8. The materials provided in the NHTSA Confidential File contain no indication that NHTSA has accounted for any of these differences, or even attempted to.[2] *Id*. at 8-9 ("[T]here are many configurations for which no field incidents or incidents during design/component testing have occurred, and it is not apparent from the Confidential File whether NHTSA undertook any analyses to investigate whether any of these design configuration differences are relevant for the safety defect that NHTSA alleges."). Indeed, the Confidential File is perhaps most notable for its absence of original work conducted by the Agency. This is in stark contrast, for example, to the 2001 Report and Initial Decision NHTSA issued in the Firestone Wilderness AT Tire investigation, which summarized the agency's analysis:

> ODI's investigation included, with respect to both Firestone tires and peer tires, thorough analyses of available data regarding the performance of tires in the field; shearography analysis to evaluate crack initiation and growth patterns and their severity in tires obtained from areas of the country where most of the failures have occurred; and observations, physical measurements, and chemical analyses.

Engineering Analysis Report and Initial Decision, EA00-023 (Oct. 2001) at iii. It appears from FCA US's review that the NHTSA Confidential File in this matter contains none of this sort of analytical content, or anything even close to it, from NHTSA. This would be a startling omission in a recall of any size, but the absence of any engineering analysis in the context of a recall that would impact tens of millions of vehicles, or approximately 15% of the current on-road fleet in the United States, is inexplicable.

Even assuming that NHTSA could aggregate all ruptures as if they were sufficiently similar, and involved common failure modes, the resulting failure rates derived from NHTSA's calculations still are exceedingly low. At its most favorable, NHTSA's theory involves seven ruptures among a population of 2.6 million deployments. FCA US does not concede that either figure is appropriate. As discussed above, NHTSA's tally of seven ruptures includes the 2002 MY Town & Country incident, but that incident has nothing to do with weld slag blockage of the

[2] On or about August 24, 2023, NHTSA provided FCA US and other motor vehicle and motor vehicle equipment manufacturers access to hundreds of gigabytes of files accumulated during the course of its investigation, encompassing hundreds of thousands of files. FCA US refers to these materials collectively as the "Confidential File." However, the great bulk of this material consisted of submissions by the various manufacturers in response to the many NHTSA Information Requests issued over this investigation's eight-year history. Though, given the volume of material provided, FCA US has not been able to complete an exhaustive review of all this material, its review to date has uncovered very little by way of analytical synthesis of the information the Agency received.

inflator exit orifice. NHTSA also includes among the seven ruptures an incident involving a 2010 Chevrolet Malibu, even though that event involved a different failure mode that NHTSA knows to be inconsistent with its defect theory. NHTSA offers no justification behind its continued attempt to support its defect theory with unrelated field ruptures.

Similarly, NHTSA's use of an estimated number of deployments as a denominator for an incident rate calculation is a departure from its traditional use of the total vehicle population. *See* 49 C.F.R. § 573.6(c)(3) (requiring manufacturers to provide in defect information reports "[t]he total number of vehicles or items of equipment potentially containing the defect or noncompliance"); *see also id.* § 573.7(b)(3) (requiring manufacturers to provide in quarterly reports "[t]he number of vehicles or items of equipment involved in the notification campaign"). But leaving these calculation irregularities aside, NHTSA's resulting failure rate (i.e., seven ruptures / 2.6 million deployments) would be 0.000269%—a small fraction of one percent. Under no circumstances could this be considered the "unusually high rate of failures" that *Pitman Arms* instructs would be evidence of a "systematic and prevalent" defect. 561 F.2d at 929.

NHTSA also tries to sidestep the obviously low failure rates in this case by reasoning that, because "[a] failure of an air bag inflator has far more serious safety consequences than that of most other vehicle equipment," "fewer failures are necessary to exceed the de minimis threshold." 88 F.R. at 62145. *Pitman Arms* is again instructive on this point. As it notes, requiring manufacturers to address "occasional or isolated" failures through a recall under the Safety Act would entail a "total elimination or risk" that is beyond the contemplation of Congress - even where the failure "may be in a vital component and result in a safety risk." 561 F.2d at 929.

NHTSA attempts to support the Initial Decision's conclusions by reference to a supposed "widespread acceptance in the industry that rupturing air bag inflators are safety defects requiring a recall." 88 F.R. at 62142. The comments submitted by FCA US and those that FCA US expects to see from other manufacturers in response to the Initial Decision do not reflect any such "widespread acceptance." Rather, it is FCA US's position that the industry continues to rely on well-established principles in determining the existence of safety defects—principles set forth in *Wheels, Pitman Arms,* and other key precedents, but which are notably absent from this record. The various airbag-related recalls cited in the Initial Decision, *id.* at 62142 n.4, underscore this key point. Those recalls, including an FCA US recall involving side curtain air bag inflators, were premised on failures with understood and accepted root causes implicating a safety risk that would continue to increase over time.[3] *Id.* (see, for example, Recall 21E–080, involving "risk of rupture due to moisture corrosion"; Recall 21V-766, involving "susceptibility to rupture due to excess moisture and propellant degradation"). Those recalls stand in stark contrast to the analysis in the Initial Decision, in which NHTSA argues that it "believes," based on disputed evidence, that it has

[3] The Initial Description lists the FCA US recall as Recall 21E-740. Based on FCA US' review of NHTSA's records, NHTSA never designated any recall under that number. NHTSA appears to be referring to Recall 21E-074.

determined a "likely" cause. 88 F.R. at 62144.[4]

As discussed above, the key cases construing the Safety Act point to the "failure rates of comparable components" as a relevant factor in considering whether there are a "significant" number of failures. *Wheels*, 518 F.2d at 438 n.84. On this point, too, it appears that NHTSA's analysis falls short. NHTSA cannot simply ignore data that it knows, or at least should know, have been deemed to be relevant as a matter of law. But the Confidential File NHTSA made available to FCA US and other manufacturers provides no indication that NHTSA attempted to derive failure rates in airbag inflators manufactured by ARC's competitors. And there is no doubt that NHTSA has the data to be able to do so. In 2015, as part of the Preliminary Evaluation investigation into ARC inflator ruptures and the pending investigation into Takata inflators, NHTSA issued Standing General Orders ("SGO") 2015-02 and 2015-02A, which required both vehicle and inflator manufacturers to report information related to every alleged inflator rupture in the field. The SGO reporting obligations encompassed any airbag inflator, regardless of the manufacturer.

However, more troubling is NHTSA's refusal to allow FCA US and other manufacturers to perform a calculation of comparable failure rates themselves. After determining that the Investigative File did not include SGO reports *other than those involving ARC inflators*, the industry requested that NHTSA supplement the Confidential File with SGO reports involving other manufacturers' inflators. NHTSA declined, claiming that the Confidential File already included the SGO reports that were "relevant" to the investigation. Letter from Tanya Topka, Acting Director, NHTSA Office of Defects Investigation to Erika Jones (Sep. 29, 2023) at 2 ("The responses to these SGOs related to this investigation were included in the investigative file."). In other words, NHTSA's position is that, somehow, only some of the reports submitted by manufacturers in response to an SGO issued in this very investigation are actually relevant. Contrary to the direction in *Wheels*, NHTSA appears to have taken the position that records of ruptures in other manufacturers' inflators are irrelevant. NHTSA's deliberate disregard of the precedent affirming the relevance of comparable failure rates is improper, and its transparent effort to impede the industry's ability to calculate those rates for itself is improper.

B. The Initial Decision Fails To Assess Whether Any Risk Posed By The Failures Is Unreasonable.

Even if NHTSA had adequately established the existence of a defect - and it has not, as

[4] FCA US notes that NHTSA has closed investigations into other alleged airbag-related malfunctions with failure rates that exceed the failure calculated by NHTSA in this matter. *See, e.g.*, PE15-001 (closed investigation involving "delayed and/or partial deployment of the driver's frontal air bags in crashes"; 5 alleged failures in 195,218 vehicles); PE19-006 (closed investigation involving inadvertent deployment of side curtain airbags; 11 complaints in 104,360 vehicle population). In PE19-006, NHTSA noted 11 inadvertent deployment incidents within the identified population of 104,360 vehicles, which would lead to a failure rate of 0.01%. NHTSA noted that "[i]n Incident frequency does not meet values warranting recall action, but rather align closely with baseline frequency of general inadvertent deployments which are known to occur in rare driving conditions." NHTSA clearly appreciated the utility of peer review in that airbag-related investigation, and its refusal to consider a similar analysis in this investigation, implicating a recall population over 500 times in size, is inexplicable.

discussed above - it must also establish that the defect is "'related to motor vehicle safety,' i.e., involves an unreasonable risk of accidents occurring as a result of the design, construction, or performance of motor vehicles…." *Pitman Arms*, 561 F.2d at 926. But the Initial Decision contains no analysis of this important required showing. It relies instead on conclusory claims that simply assume that the airbag ruptures pose an unreasonable risk. That is not enough.

Introduction of the concept of "unreasonable risk" in this required showing reflects Congress' deliberate intention to introduce a "commonsense balancing of safety benefits and economic cost." *Wheels*, 518 F.2d at 435; *Pitman Arms*, 561 F.2d at 928 ("The key concept in the statutory scheme is that of 'unreasonable risk of accidents.' … [T]his concept is to be applied in a 'commonsense' manner, balancing safety benefits against economic costs."). Accordingly,

> 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, 656 F. Supp. at 1578 (emphasis added). The consequences contemplated by *X-Cars* are particularly attenuated in a recall of this magnitude, which, if the reasoning of the Initial Decision were to be adopted into a Final Decision, would implicate over 15% of the U.S. fleet. The Initial Decision fails to account for any of these consequences, and thus does not comply with the mandatory requirements set forth in *Wheels* and *X-Car*. NHTSA's failure to include these essential analytical elements is improper and is reason alone for NHTSA not to proceed to a Final Decision in this matter.

III. NHTSA's References To The Takata Recall Are Inappropriate.

The Initial Decision reveals that NHTSA treats the Takata recall as a rubric to inform its decision-making in this investigation. Specifically, NHTSA attempts to buttress its conclusions in the Initial Decision by arguing that "NHTSA's recall request letter to Takata identified six inflator ruptures, one less than identified here," 88 F.R. at 62145 n.4, as if, in the case of inflator ruptures, six became the magic number to justify ordering a recall in all investigations.

But NHTSA's reasoning is based on an inaccurate understanding of its own knowledge during the course of the Takata investigation and a mischaracterization of the nature of the defect at issue in that Recall. As a preliminary matter, NHTSA records in FCA US' possession, but subject to the September 2015 Protective Order in the Takata Investigation (EA15-001), establish conclusively that the Agency was aware of more than six ruptures at the time it issued the Takata recall request letter. Indeed, those records indicate that NHTSA had been notified of at least 18 ruptures by November 26, 2014, the date of the Takata recall request letter. And by May 2015, when FCA US submitted its Defect Information Report determining that certain vehicles with Takata airbag inflators were defective, NHTSA was aware of as many as 94 ruptures.

Furthermore, the Takata recall cannot be used to justify a recall of ARC inflators because the two investigations involve two very different factual predicates. In Paragraph 9 of the Third Amendment to the Coordinated Remedy Order, NHTSA states in part:

> Based upon the agency's review of the work done by the research organizations, it concluded that the likely root cause of the rupturing of most non-desiccated frontal Takata air bag inflators is a function of time, temperature cycling, and environmental moisture….Other factors may influence the relative risk of inflator rupture, but the overarching root cause of the ruptures consists of the three identified factors.

This passage illustrates that NHTSA's priorities in the Takata Recall were not guided by an arbitrary number of field ruptures that served as a threshold after which a recall became necessary. Instead, in contrast to the Initial Decision, NHTSA's analysis was premised on a coherent defect theory based on an identified and understood root cause. A key component of the root cause for the Takata defect is time. Simply put, risk in the Takata context increases with time. There is no indication that time or any environmental factors contribute to an increased risk of rupture in the subject inflators at issue in the Initial Decision. This is and was a key factor driving the Takata recall and is not present here. Indeed, NHTSA has made very clear its conclusion that the risk in the ARC context will remain flat on an indefinite basis.

IV. NHTSA's Statistical Analysis Is Incomplete.

Even a cursory review of the limited work performed by NHTSA's statistician, Dr. Donna Glassbrenner, makes clear that her analysis failed to account for a number of factors that render her work, at best, incomplete. As discussed above, the subject inflators used by the manufacturers have a number of distinguishing physical and configuration characteristics that differentiated each from the others. *See* Joint Comments of Safety Professionals at 3-8. Dr. Glassbrenner appears to simply assume, without any basis, that none of these differences are significant in assessing a rupture rate uniformly across the entire subject inflator population. Additionally, Dr. Glassbrenner appears to disregard the fact that the subject inflators were manufactured by two companies, in at least four facilities in four countries, and on multiple production lines, with differing processes, tooling, and employees. Nor did Dr. Glassbrenner attempt to account for the fact that several manufacturers already have conducted lot-based recalls that cover approximately one million of the subject inflators. By excluding any reference to those lot-based recalls, Dr. Glassbrenner further appears to assume that they have no effect on the resulting risk profile of the remaining inflator population. Because the manufacturers that have implemented those recalls have addressed any safety risk associated with those populations, including those inflators in any forward-looking rupture rate is improper.

But that is not all. Based on NHTSA's claims concerning the past ruptures of ARC inflators, the Initial Decision incorporates a representation of the "rupture risk of the subject inflators is . . . 7 out of 2.6 million" or 0.000269% 88 F.R. at 62145. At the October 5, 2023, Public Meeting, Dr. Glassbrenner elaborated on this important estimate. Building on a cursory explanation in the Initial Decision, *id.* at 62145 n.16, Dr. Glassbrenner explained that NHTSA's

assumed "rupture risk" was actually derived from an estimated number of US crashes requiring frontal airbag deployment, and that estimate was the product of a series of assumptions applied to various source data including: NHTSA's 2015 FARS (Fatality Analysis Reporting System); NHTSA's 2015 GES (General Estimates System); S&P Global Mobility's 2016 data on light truck registrations; and NHTSA's 2015 CDS (Crashworthiness Data System). Transcript of October 5, 2023 Public Meeting (Tr.) at 56:2-7. In fact, as Dr. Glassbrenner explained, NHTSA actually requested this information from the manufacturers but, unsatisfied with their responses, instead decided to calculate its own deployment rate. Tr. at 54:14-55:2. Having calculated this rupture rate based on past ruptures, NHTSA simply assumed that ruptures would continue at the same rate in this aging population of vehicles in the future.

While the Initial Decision provides a description of the NHTSA's estimation of the "rupture risk," it abruptly ends its analysis without making any effort to quantify any number of future ruptures that it expects to occur as an outgrowth of that risk. Likewise, Dr. Glassbrenner's public meeting explanation of her analysis stopped short of quantifying a number of future ruptures. But, tellingly, NHTSA's recent production of an electronic file containing Dr. Glassbrenner's calculations reveals that NHTSA in fact *did calculate* an estimated number of ruptures, and that calculation resulted in an estimate of three total future ruptures over the next 32 years. However, for unexplained reasons, Dr. Glassbrenner rounded the rupture rate up from 0.000269 to 0.0003. This rounding overstates the number of future ruptures at three instead of 2.6 future ruptures.

FCA US replicated NHTSA's analysis and determined that its population will likely see less than one additional rupture over the next three decades. FCA US' calculations supporting this conclusion proceeded as follows. First, FCA US calculated the estimated number of vehicles remaining on the road each calendar year for each model year until all vehicles would be estimated to be off the road using the same "2016 Corporate Average Fuel Economy attrition Model" on which Dr. Glassbrenner relied. FCA US then calculated the estimated number of deployments for all of its vehicles containing the subject inflators on the road each year.[5] To do this, FCA US utilized NHTSA's stated estimate that 0.4% of vehicles on the road had a crash which required frontal airbag deployment. Using NHTSA's annual airbag deployment rate of 0.4%, indicates that FCA US vehicles with subject inflators are likely to experience 149,046 crashes which result in frontal airbag deployment. This is approximately 40% of the 370,000 deployments that NHTSA predicts will result in one inflator rupture.

Having replicated NHTSA's calculations, it became clear that Dr. Glassbrenner omitted at

[5] FCA US does not agree that the appropriate denominator for calculating a rupture rate is the estimated number of airbag deployments (2,600,000), rather than the total number of subject inflators, which would be consistent with NHTSA's historic approach. However, solely for the purpose of providing its comments on NHTSA's analysis, FCA US has utilized the same base assumptions relied by Dr. Glassbrenner.

least one critical factor from her analysis. Specifically, NHTSA's future rupture estimates proceed from an assumption that 0.4% of vehicle crashes involve deploying frontal airbags, and that this rate remains constant as vehicles age. In other words, NHTSA assumes that it can validly apply this retrospective rate to vehicle crashes in the future. But accepted mathematical modeling incorporating NHTSA's own data indicates this is not the case. As vehicles age, there is a reduction in Vehicle Miles Traveled ("VMT"). And the fewer miles a vehicle travels, the lower the exposure to potential crashes requiring airbag deployment. This correlation is supported by the NHTSA's Fatality and Injury Reporting System Tool, when looking at NHTSA Motor Vehicle Crash Data Querying and Reporting for All Vehicles Involved in Motor Vehicle Crashes Years: 2007-2021 which incorporates sources: Fatality Analysis Reporting System (FARS): 2007-2020 Final File and 2021 Annual Report File (ARF); National Automotive Sampling System General Estimates System (NASS-GES): 2007-2015; Crash Report Sampling System (CRSS): 2016-2021).

The same 2016 CAFE model used by Dr. Glassbrenner to account for vehicle attrition also quantifies the reduction in VMT in vehicles as they age. Dr. Glassbrenner provides no explanation to justify her decision to ignore this part of the CAFE model. FCA US used the VMT data to calculate the estimated cumulative VMT of FCA US vehicles from 2000 through 2023 as well as the estimated reduced cumulative VMT of FCA US vehicles from 2024 through 2055. In short, the application of this VMT adjustment from the CAFE model reveals that, from 2024 until these vehicles are no longer in service, they will travel only 28% of the miles traveled as those that were on the road from 2000 – 2023. NHTSA created a 0.4% retrospective rate that inherently accounts for VMT but then applied that same rate to future populations, either incorrectly assuming that VMT would be the same or simply ignoring it as a factor.

When FCA US adjusts its calculated 149,046 estimated deployments using the future VMT proportions, it concludes that FCA US vehicles that are subject to this Initial Decision and that will be on the road between 2024 and 2055 will see approximately 41,700 deployments in the future. This is 11% of NHTSA's estimate of approximately 370,000 deployments, in which NHTSA predicts only one rupture. Using this more complete method of predicting a future rate, FCA US calculates the rate of deployments in FCA US subject vehicles in the future to be 0.112%.

FCA US examined the supplemental file NHTSA provided of Dr. Glassbrenner's work. Conducting some simple analysis shows that the FCA US vehicle populations are distributed similarly across model years as the other OEMs. Employing the assumption that the VMT differential for FCA US vehicles from 2000-2023 compared to 2024-2055 is representative of the entire vehicle population with subject ARC inflators, a refined deployment rate can be calculated for subject vehicles on the road from 2024 onward. Applying this refined rate (0.112%) to NHTSA's calculations for the entire OEM population equipped with subject ARC inflators indicates that NHTSA should have estimated 274,186 future deployments therefore only 0.8226 future ruptures using NHTSA's rounded up rupture rate. This is significantly less than the three

estimated ruptures reflected in Dr. Glassbrenner's workpapers.[6]

As a matter of law, NHTSA's failure to incorporate that calculation undermines its conclusion that the alleged defect poses an unreasonable risk to motor vehicle safety. That is because the prediction of future ruptures is a necessary element of establishing unreasonable risk in the remaining population of inflators. "[W]here a defect…has been established in a motor vehicle, and where this defect results in hazards as potentially dangerous as a sudden engine fire, and where there is no dispute that at least some such hazards…can definitely be expected to occur in the future, then the defect must be viewed as one 'related to motor vehicle safety.'" *United States v. General Motors* ("*Carburetors*"), 565 F.2d 754, 758 (D.C. Cir. 1977). Here, NHTSA's deliberate decision to exclude that calculation from the Initial Decision appears to reflect NHTSA's recognition that this low estimation of future ruptures—three estimated ruptures over the next 30+ years—is an insufficient rationale on which to base a recall order that has the potential to affect tens of millions of vehicles. But whatever the rationale, under *Carburetors*, the absence of that calculation of prospective ruptures is a failure of proof that the rupturing inflators constitute an "unreasonable risk," without which NHTSA has not claimed, and cannot claim, that there is "no dispute" that "at least some" ruptures "can definitely be expected to occur in the future."

* * *

Even assuming the validity of Dr. Glassbrenner's methodology, NHTSA's estimate of three future ruptures is a drastic overstatement. Ignoring the fact that Dr. Glassbrenner rounded up, when FCA US implemented NHTSA's own data accounting for the fact that vehicles drive fewer miles as they age, Dr. Glassbrenner's model instead estimates <u>less than one future rupture</u> in the entire subject population over the next 32 years. When Dr. Glassbrenner's final number is corrected…to *less than one…*rupture over the next 30+ years, NHTSA has no basis to conclude that there will be multiple future ruptures in the subject population.

V. Conclusion

The Initial Decision does not support an Order to recall tens of millions of vehicles with ARC inflators. Based on the foregoing, FCA US respectfully requests that NHTSA decline to issue a Final Decision concluding that the subject inflators contain a defect that poses an unreasonable risk to motor vehicle safety, and that it close Investigation EA16-003.

[6] FCA US will make its workbook supporting these calculations available to the Agency upon request.