



August 25, 2017

VIA EMAIL

Stephen Ridella
Director, Office of Defects Investigation Enforcement
National Highway Traffic Safety Administration
1200 New Jersey Ave, SE, Room W46-409
Washington, DC 20590

USG4655
NHTSA-2015-0055

Kerry Kolodziej, Esq.
Acting Assistant Chief Counsel for Litigation & Enforcement
National Highway Traffic Safety Administration
1200 New Jersey Ave, SE, Room W46-409
Washington, DC 20590

Re: General Motors LLC's Request to Extend Certain Sufficient Supply and Launch Deadlines under Paragraph 39 of the Third Amendment to the Coordinated Remedy Order

Dear Stephen and Kerry:

This letter requests, pursuant to paragraph 39 of the Third Amendment to the Coordinated Remedy Order (the “ACRO”), that NHTSA extend the Sufficient Supply and Launch Deadlines for the GMT900 vehicles (the “GMT900 Vehicles”) covered by GM’s pending inconsequentiality petitions.¹ Nothing in this request is intended to supersede or prejudice any of the positions taken, arguments made, or evidence presented in the administrative record of the pending petitions.

Since approximately May 2016, GM has been working on redesigned replacement inflators to be ready in the event that the inflators in the GMT900 Vehicles must be replaced. The inflator that GM selected—the TRW PPI3 inflator—is propelled by guanidine nitrate (“GuNI”), which has different ballistic performance characteristics than the Takata nondesiccated phase-stabilized ammonium nitrate (“PSAN”) used in the inflators in the GMT900 Vehicles.

These differences, GM and TRW discovered during the validation process, created several challenging engineering problems that had to be resolved before the PPI3 inflator could be used as a replacement inflator in the GMT900 Vehicles. While PSAN-propelled inflators tend to deploy similarly at both ambient at hot temperatures, GuNI-propelled inflators do not. During testing, GM found that, while the GuNI-propelled PPI3 inflator could be tuned to perform similarly to the Takata PSAN inflators in the GMT900 Vehicles when deployed at ambient temperatures, the same PPI3 inflator produced higher initial pressures when deployed at hotter temperatures.

¹ See November 15, 2016 Petition for Inconsequentiality and Request for Deferral of Determination Regarding Certain GMT900 Vehicles Equipped with Takata “SPI YP” and “PSPI-L YD” Passenger Inflators; and January 11, 2017 Petition for Inconsequentiality and Request for Deferral of Determination Regarding Certain GMT900 Vehicles Equipped with Takata “SPI YP” and “PSPI-L YD” Passenger Inflators Subject to January 2017 Takata Equipment DIR Filings.

This irregularity meant that a PPI3 inflator that properly inflated the airbag cushion during a deployment at normal temperatures might, in a deployment at a hotter temperature, overinflate or even rupture the cushion, potentially reducing the occupant protection provided by the airbag during a crash. To attempt to develop a PPI3 inflator that would deploy properly in the GMT900 Vehicles in all expected field temperatures, GM and TRW tested different PPI3 inflator variants, which have different pressure outputs, and adjusted the amount of delay between the deployment of the inflator's first and second stages. GM and TRW found that, by using a mid-output PPI3 variant with a 12-millisecond delay between the first and second stages, the inflator produced the appropriate amount of pressure during both ambient- and hot-deployment tests.

This change, however, introduced a new challenge: the sensing and diagnostic modules, or SDMs, in the GMT900 Vehicles are not currently calibrated to delay the deployment of the second stage in the passenger-airbag inflator by 12 milliseconds. Introducing this delay into the system would therefore require modifications to the SDM—modifications that, depending on the age and crash history of the vehicle, could include the replacement of the SDM itself. Asking dealers to perform an extremely complex repair procedure on critical vehicle safety components in millions of customer vehicles was not an acceptable solution. GM and TRW explored numerous potential modifications to the inflator—including using different PPI3 variants with different propellant loads and burn rates—that would avoid the need to recalibrate the SDM. Only this month, in August 2017, did GM and TRW finally discover an engineering solution.

Other unforeseen difficulties have added to the potential for validation delays. The TRW PPI3 inflator, for example, is smaller in diameter than the Takata inflators that it would replace. When GM and TRW created an adapter that permitted the PPI3 inflator to sit snugly in the original inflator module, the adapter itself caused gas to vent outside of the airbag cushion. GM and TRW had to design and tune the adapter to achieve the proper deployment performance.

Throughout this process, GM has kept NHTSA fully apprised of these challenges and its progress towards successfully validating a replacement inflator module. On May 9, 2017, GM updated NHTSA on the status of the validation process, and informed NHTSA that this process “will not be complete by June 30,” GM’s original estimated completion date. On June 21, 2017, GM informed NHTSA that it would take an estimated two to three months “minimum” to validate a replacement inflator that would provide adequate occupant protection without potentially compromising the airbag integrity during certain deployments or requiring additional, extremely complex changes to the SDM. On July 20, 2017, GM again informed NHTSA that it was two to three months away from validating a replacement inflator, and summarized the current status of its validation efforts.²

As summarized in the attached **Exhibit B**, the GMT900 Vehicles are currently classified in Priority Groups 6, 7, and 8. On August 18, 2017, GM completed the validation of a replacement inflator for potential use in the 2007-2008 GMT900 Vehicles, and is currently working with TRW to validate this inflator for use in all GMT900 Vehicles. Barring unforeseen validation or supply setbacks, GM currently believes that it will have sufficient supplies of replacement inflators to

² In support of this extension request, GM relies on and incorporates by reference the facts in its monthly recall-remedy update presentations to NHTSA.

launch a remedy campaign on the GMT900 Vehicles in Priority Group 6, if necessary, on or before March 31, 2018.

GM requests that NHTSA extend the Sufficient Supply and Launch Deadlines under the ACRO for the GMT900 Vehicles by six months, as more fully explained in Exhibit B. GM submits that this extension is reasonable and appropriate for the following reasons:

- GM and TRW have been working diligently to prepare to replace the inflators in the GMT900 Vehicles, if ultimately required. This process has been delayed by unanticipated and only recently resolved engineering challenges. The solution that GM and TRW developed avoids unnecessary repair risk to the operation of other vehicle safety components.
- Granting GM's request will not adversely impact consumers. The facts and evidence that GM has supplied in its supplemental brief in support of the petitions establishes that the inflators in the GMT900 Vehicles are not at risk of rupture.
- Delaying the launch of the GMT900 Vehicles will permit the further prioritization of limited production and supply resources to other inflators in these priority groups that, to date, have not been as rigorously tested as the inflators in the GMT900 Vehicles.

Please contact me if you have any questions.

Sincerely,



Jeffrey M. Boyer
Vice President, Global Vehicle Safety
General Motors LLC

cc: Elizabeth Mykytiuk, Esq.

EXHIBIT A

**UNITED STATES DEPARTMENT OF TRANSPORTATION
NATIONAL HIGHWAY TRAFFIC SAFETY ADMINISTRATION**

In re:

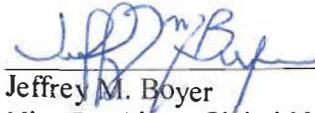
Docket No. NHTSA-2015-0055
Coordinated Remedy Program Proceeding

**DECLARATION OF JEFFREY M. BOYER IN SUPPORT OF GENERAL MOTORS
LLC'S REQUEST TO MODIFY CERTAIN SUFFICIENT SUPPLY AND REMEDY
LAUNCH DEADLINES UNDER PARAGRAPH 39 OF THE THIRD AMENDMENT TO
THE COORDINATED REMEDY ORDER**

Jeffrey M. Boyer, pursuant to 28 U.S.C. § 1746, hereby declares as follows:

1. I am the Vice President of Global Vehicle Safety for General Motors LLC (“GM”), and I am authorized to submit this Declaration on GM’s behalf.
2. I submit this Declaration under paragraph 39 of the Third Amendment to the Coordinated Remedy Order in the above-captioned proceeding and in support of GM’s Request to Extend Certain Sufficient Supply and Launch Deadlines under Paragraph 39 of the Third Amendment to the Coordinated Remedy Order (the “**Request**”).
3. GM will promptly supplement the Request if GM becomes aware of any information that contradicts the statements in the Request, and will continue to keep NHTSA informed on the status of its efforts to validate and, if necessary, produce the necessary quantities of a replacement inflator module for the GMT900 Vehicles.
4. The contents of the Request are complete and accurate to the best of my knowledge, information, and belief.

I declare under penalty of perjury that the foregoing is true and correct. Executed on
August 25, 2017.

A handwritten signature in blue ink, appearing to read "Jeffrey M. Boyer", is written over a horizontal line.

Jeffrey M. Boyer
Vice President, Global Vehicle Safety
General Motors LLC

EXHIBIT B

EXHIBIT B
Summary of Requested Relief

<u>Zone</u>	<u>NHTSA No.</u>	<u>MY</u>	<u>Models</u>	<u>Priority Group</u>	<u>Current ACRO Launch Deadline</u>	<u>Requested ACRO Launch Deadline</u>
Zone A	16V381	2007-2011	<u>Cadillac</u> : Escalade, Escalade ESV, Escalade EXT <u>Chevrolet</u> : Avalanche, Silverado 1500, Suburban, Tahoe, <u>GMC</u> : Sierra 1500, Yukon, Yukon XL	6	9/30/2017	3/31/2018
		2009-2011	<u>Chevrolet</u> : Silverado 2500/3500 Sierra 2500/3500			
Zone B	16V383	2007-2008	<u>Cadillac</u> : Escalade, Escalade ESV, Escalade EXT <u>Chevrolet</u> : Avalanche, Silverado 1500, Suburban, Tahoe <u>GMC</u> : Sierra 1500, Yukon, Yukon XL	6	9/30/2017	3/31/2018
Zone A	17V010	2012	<u>Cadillac</u> : Escalade, Escalade ESV, Escalade EXT <u>Chevrolet</u> : Avalanche, Silverado 1500, Silverado 2500/3500, Suburban, Tahoe <u>GMC</u> : Sierra 1500, Sierra 2500/3500, Yukon, Yukon XL	7	12/31/2017	6/30/2018
Zone B	17V019	2009	<u>Cadillac</u> : Escalade, Escalade ESV, Escalade EXT <u>Chevrolet</u> : Avalanche, Silverado 1500, Silverado 2500/3500, Suburban, Tahoe <u>GMC</u> : Sierra 1500, Sierra 2500/3500, Yukon, Yukon XL	8	3/31/2018	9/30/2018
Zone C	17V021	2007-2008	<u>Cadillac</u> : Escalade, Escalade ESV, Escalade EXT <u>Chevrolet</u> : Avalanche, Silverado 1500, Suburban, Tahoe <u>GMC</u> : Sierra 1500, Yukon, Yukon XL	8	3/31/2018	9/30/2018