Comments of the

Motor & Equipment Manufacturers Association

to the

National Highway Traffic Safety Administration

on the

Notice of Proposed Rulemaking on Event Data Recorders

Docket No. NHTSA–2022–0021

August 22, 2022

The Motor & Equipment Manufacturers Association (MEMA) represents more than 900 companies in the automotive and commercial vehicle supplier industry—the nation's largest sector of manufacturing jobs, employing more than 907,000 workers in all 50 states.

Vehicle suppliers conceive, design, and manufacture the original equipment systems and technologies that make up two-thirds of the value in every vehicle. Our member companies also supply the aftermarket with the parts that keep millions of vehicles on the road, fueling international commerce and meeting society's need for transportation. Across the entire range of new vehicle innovation—from automated to zero-emissions technologies—vehicle suppliers help increase vehicle safety and efficiency and reduce emissions. Suppliers are justifiably proud of the work they do every day to provide vehicle technology that protects all road users.

MEMA submits these comments in response to the Notice of Proposed Rulemaking (NPRM) released by the National Highway Traffic Safety Administration (NHTSA) to amend Part 563—Event Data Recorders[1] (EDR) by extending the recording period for time data metrics from five seconds of pre-crash data at a frequency of 2 Hz to 20 seconds of pre-crash data at a frequency of 10 Hz.

NHTSA recognizes the current regulation "does not mandate that vehicles have EDRs, but is instead an 'if equipped' standard that applies only to light vehicles required to have frontal air bags that a manufacturer chooses to voluntarily equip with EDRs."[2] Today, approximately 98 percent of new vehicles are equipped with EDRs. The EDR is central to capturing key data when airbags are deployed in the event of a crash.

NHTSA characterized the proposed revisions in its NPRM as "minor technical amendments."[3] MEMA disagrees with this assessment and is concerned that the agency has not fully recognized the development changes and cost implications of the NPRM, which ultimately could lead to some

[1] 49 CFR, Ch. 5, part 563 sets forth requirements for data elements, data capture and format, data retrieval, and data crash survivability for EDRs.
[2] 87 Fed. Reg. at 37290
[3] 87 Fed. Reg. at 37297

vehicles not being equipped with EDRs. This is especially the case since the most efficient and cost-effective manner to comply is to remove the EDR functionality. Therefore, MEMA urges the agency to work on harmonized standard for EDRs through the work of UNECE World Forum for Harmonization of Vehicle Regulations (WP.29). At a minimum, NHTSA should not alter the five second requirement for existing vehicle platforms and provide additional lead time to make any transition on future vehicle platforms.

NHTSA FAILED TO ACCURATELY ASSESS THE COST AND BENEFIT OF THE PROPOSAL

EDRs provide important information when a vehicle's airbags are deployed. While the proposal extends the time and amount of data required to be recorded on the EDR, NHTSA failed to demonstrate a benefit that would be accrued. It appears that the agency believes that this proposal would assist in crash causation analysis. However, more data does not necessarily correlate to a better understanding of crash causation. As the agency is aware, other factors are critical to crash causation analysis and that data is not captured by the EDR. This misplaced objective could ultimately limit the use of an EDR on some vehicles.

To reach their assumptions, the agency relies heavily on research provided by the Virginia Tech Transportation Institute (VTTI). MEMA does not believe that the VTTI research provides sufficient data from the current fleet to justify the proposed increase in the pre-crash recording period and recording frequency. Furthermore, MEMA supports the work of the SAE International EDR Committee and urges the agency to review that Committee's findings before moving forward.

NHTSA UNDERESTIMATED THE RESOURCES NECESSARY MAKE THE PROPOSED CHANGES

NHTSA did not fully explore what modifications will be necessary within the system to make the proposed changes. The memory capacity of the EDR module is used for other critical functions. Additional memory is rarely available within existing systems, and NHTSA did not adequately consider in its analysis what changes will be necessary to deploy the additional memory capacity.

When a vehicle's power supply is cut off during crash events, the EDR module operates by its own internal power supply stored as an energy reserve. Due to the proposed revised recording period and frequency, the time to write EDR data to nonvolatile memory will be longer since the recorded data volume will increase more than twice as much as in the current Part 563. In turn a larger and/or multiple capacitors may be necessary to supply power for a longer period. This will create more repercussions in terms of complexity. The increased size of the capacitor could then impact the electronic board layout and the housing, thus requiring a different mounting space of the component within the vehicle.

In the NPRM, NHTSA depicts this transition as only requiring changes to the software. This is not accurate. The incremental cost and impact would be significant since the proposal will likely necessitate a hardware update to provide more memory. The EDR electronic control unit (ECU) will need to be re-validated, thus taking many months depending on the magnitude of the necessary changes. The vehicle manufacturer may require crash testing to verify that the mechanical transfer function was not affected by the hardware changes.

In addition, NHTSA has failed to take into consideration the critical process to finalize and validate any software changes to a vehicle platform. Software for a new vehicle normally needs to be completed 18 months before start of production. Suppliers also require 18 months to deliver a validated update to vehicle manufacturers and an additional 18 months to test and certify the new

system. Just based on validation time alone, the agency's proposed one-year lead time is impractical and insufficient.

The proposal may also require enlargement to the flash memory. The flash memory is used for not only EDR data recording, but also many other applications. If it is necessary to enlarge the flash memory, significant new costs will be required at a time when semiconductors are scarce world-wide, and the vehicle industry is struggling to maintain production given the global shortage. These alterations cause the industry serious concerns that the cost will impact development and deployment of other life-saving technologies.

NHTSA dismisses the cost impact arguing that vehicle manufacturers could reduce the number of data elements to be recorded. This analysis begs the question of the purpose of this proposal if a known alternative is to record less data.

Finally, MEMA is unaware of any other countries that require 20 seconds of reporting data from the EDR. The WP.29 has established the EDR/DSSAD Informal Working Group (IWG) charged with the development of internationally harmonized performance requirements for EDR functions. This work is ongoing, and the NHTSA proposal, if finalized, would force a U.S.-specific standard.

Congress has specifically recognized the need and benefit of international cooperation on vehicle regulations. Specifically, the recent infrastructure legislation calls on the Transportation Secretary to "cooperate … with respect to global harmonization of vehicle regulations …"[4] Alignment with U.S. global counterparts can help reduce overall cost and burden on industry, regulators, and, ultimately, the consumer. MEMA continues to encourage the agency to work within the WP.29 process to develop appropriate harmonized standards. With the continued work by WP.29 on the EDR, the U.S. would be best served by focusing efforts on the IWG.

AT A MINIMUM, MEMA URGES NHTSA TO EXEMPT THE CURRENT FLEET FROM THE PROPOSAL AND PROVIDE ADDITIONAL LEAD TIME

Given the substantial costs and burden associated with this proposal and the lack of established safety benefits, MEMA believes that there is a real potential for vehicle manufacturers to elect to discontinue the voluntary installation of EDRs vehicles. MEMA believes that a careful cost-benefit analysis demonstrates that the agency must reconsider this proposal and focus on a harmonized international standard.

At a minimum MEMA urges the agency to:

- Exempt vehicle platforms coming to the end of their production lifetime ending within 1-2 years of implementation; and
- Provide four-year lead time for new makes and models.

The safety of the American public must be the primary goal of any changes to the EDR standards. Ultimately, MEMA believes that NHTSA should review the SAE EDR Committee's report before moving forward and continue to work with WP.29 to create a harmonized global standard that would benefit all parties.

[4] Public Law No: 117-58, Title IV, Subtitle B, Sec. 24211

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