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*By regulations.gov*

National Highway Traffic Safety Administration (NHTSA)  
Docket Management Facility (M-30)  
West Building, Ground Floor, Room W12-140  
1200 New Jersey Avenue S.E.  
Washington, DC 20590

Re: General Motors (GM) – Receipt of Petition for Temporary Exemption from Various Requirements of the Federal Motor Vehicle Safety Standards (FMVSS) for an Automated Driving System (ADS)-Equipped Vehicle; Doc. No. NHTSA-2022-0067.

Ladies and Gentlemen:

The National Automobile Dealers Association (NADA) represents more than 16,000 franchised automobile and truck dealers who sell new and used motor vehicles and engage in service, repair, and parts sales. Together they employ over 1,100,000 people nationwide, yet most are small businesses as defined by the Small Business Administration.

Last July, NHTSA issued a notice on a GM petition for a two-year exemption from various FMVSS for its ADS-only operated “Cruise Origin” (Origin) vehicle.<sup>1</sup> GM specifically seeks exemption from portions of FMVSS Nos. 102 (Transmission Shift Position Sequence), 104 (Windshield Wiping and Washing Systems), 108 (Lamps, Reflective Devices, and Associated Equipment), 111 (Rear Visibility), 201 (Occupant Protection in Interior Impact), and 208 (Occupant Crash Protection).<sup>2</sup> In response, NADA offers the comments and suggestions below.

## **I. Introduction**

GM is availing itself of a process set out in the National Traffic and Motor Vehicle Safety Act (the Act) which enables manufacturers to request temporary exemptions from otherwise applicable FMVSS requirements for noncompliant vehicles they seek to manufacture for distribution and use in commerce.<sup>3</sup> Temporary exemptions, if granted, are from the Act’s general mandate that persons may not manufacture for sale, sell, offer for sale, introduce or deliver for introduction in interstate commerce, or import any new vehicles unless they comply

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<sup>1</sup> 87 Fed. Reg. 43595, *et seq.* (July 21, 2022).

<sup>2</sup> 87 Fed. Reg. at 43597. Exemptions for ADS-only operated vehicles from FMVSS requirements for steering wheels and for foot pedals for braking and accelerating are no longer necessary by virtue of a final rule entitled Occupant Protection for Vehicles with Automated Driving Systems. See 87 Fed. Reg. 18650, *et seq.* (March 30, 2022).

<sup>3</sup> 42 U.S.C. §30113(b).

with applicable FMVSS requirements.<sup>4</sup> Note that GM is not seeking application to noncompliant Origin vehicles of an alternative section of the Act designed for limited testing and evaluation.<sup>5</sup>

Any exemption granted by NHTSA for the Origin must be consistent with both the public interest<sup>6</sup> and the purposes and goals of the Act.<sup>7</sup> Thus, evaluation of GM's petition requires NHTSA to determine whether (i) the safety purpose of each FMVSS will still be met, and (ii) the Origin's ADS will operate in at least as safe a manner as a human driver operating a functionally equivalent, fully FMVSS-compliant vehicle. This latter criterion requires that the Origin's ADS to be subject to a full and rigorous safety testing, evaluation, and verification protocol.

## **II. Statutory and Regulatory Grounds for Exemption**

GM specifically seeks a limited two-year exemption pursuant to 49 U.S.C. §30113(b)(3)(B)(iv), which authorizes exemption requests premised on the assertion that an applicant is otherwise unable to sell a motor vehicle with an overall safety level or impact protection at least equal to the safety level of non-exempt vehicles. Alternatively, GM points to 49 U.S.C. §30113(b)(3)(B)(iii), which authorizes exemptions to encourage the development and field evaluation of "low-emission vehicles" without lowering the vehicle safety unreasonably. NHTSA should closely scrutinize the information supporting GM's petition on both grounds.

### **A. The GM Exemption Request Under 49 U.S.C. § 30113(b)(3)(B)(iv)**

NHTSA's rule governing exemption requests requires GM to provide:

- (i) An analysis of how the vehicle provides the overall level of safety or impact protection at least equal to that of nonexempted vehicles;
- (ii) Substantiation that compliance would prevent the sale of the vehicle;
- (iii) A statement whether, at the end of the exemption period, the manufacturer intends to comply with the standard; and
- (iv) A statement that not more than 2,500 exempted vehicles will be sold in the United States in any 12-month period for which an exemption may be granted.<sup>8</sup>

GM's petition describes the Origin's safety features and provides analysis in support of its claim that the vehicle will provide a level of safety that is at least equal to that established by each of the FMVSS requirements for which an exemption is sought. It also includes statements

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<sup>4</sup> 49 U.S.C. § 30112(a)(1)

<sup>5</sup> 49 U.S.C. § 30112(b)(10). The limitation of this provision to testing and evaluating vehicles only, apparently would not extend to GM's plan to commercially use ADS-equipped Origin vehicles in controlled fleets.

<sup>6</sup> 49 U.S.C. § 30113(b)(3)(A).

<sup>7</sup> See 49 U.S.C. § 30101 ("The purpose of this chapter is to reduce traffic accidents and deaths and injuries resulting from traffic accidents. Therefore, it is necessary...to prescribe motor vehicle safety standards for motor vehicles and motor vehicle equipment in interstate commerce....").

<sup>8</sup> 49 CFR § 555.6(d).

indicating that not more than 2,500 Origin vehicles per year will be introduced into a GM-controlled ride-hail program, and that, during the two-year exemption period, GM will work with NHTSA and other stakeholders on regulatory changes to the FMVSS and on other ADS standards designed to accommodate ADS-only operated vehicles. GM notes that it does not intend for the Origin to comply with the FMVSS at the end of the exemption period unless they are amended to accommodate ADS-only operation. GM also asserts, without substantiation, that absent an exemption, the Origin's noncompliance with the FMVSS would prevent its sale or operation in commerce. Instead, GM focuses almost exclusively on its safety analyses and states, confusingly, that it (i) does not intend to sell the Origin; and (ii) intends to operate the Origin in GM-controlled ride-hail fleets at the end of the two-year exemption period for up to their normal service lives.<sup>9</sup> NHTSA should carefully consider whether GM has satisfied the requirements for a Section 30113(b)(3)(B)(iv) exemption.

**B. The GM Exemption Request Under 49 U.S.C. § 30113(b)(3)(B)(iii)**

NHTSA's rule governing Section 30113(b)(3)(B)(iii) exemption requests requires GM to provide:

- (i) Substantiation that the vehicle is a "low-emission vehicle" as defined by 49 U.S.C. §30113(a);
- (ii) Research, development, and testing documentation establishing that a temporary exemption would not unreasonably degrade the safety or impact protection of the vehicle, including -
  - (a) a detailed description of how the motor vehicle equipped with the low-emission engine would, if exempted, differ from one that complies with the standard; (b) if the applicant is presently manufacturing a vehicle conforming to the standard, the results of tests conducted to substantiate certification to the standard; (c) the results of any tests conducted on the vehicle that demonstrate its failure to meet the standard, expressed as comparative performance levels; and (d) reasons why the failure to meet the standard does not unreasonably degrade the safety or impact protection of the vehicle;
- (iii) Substantiation that a temporary exemption would facilitate the development or field evaluation of the vehicle;
- (iv) A statement whether, at the end of the exemption period, the manufacturer intends to conform with the standard; and
- (v) A statement that not more than 2,500 exempted vehicles will be sold in the United States in any 12-month period for which an exemption may be granted pursuant to this paragraph.<sup>10</sup>

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<sup>9</sup> Although it may be easier to collect and evaluate operational data with the Origin vehicles in GM controlled ride-hail fleets, the requested FMVSS exemptions do not appear to turn on who could own and operate the ADS-only operated Origin vehicles in question, i.e., such exemptions conceivably could apply to Origins sold through GM dealerships for operation by independent fleets.

<sup>10</sup>49 CFR § 555.6(c).

In addition to GM's statements and analyses regarding the Origin's safety features, the number of exempted vehicles GM intends to produce, and GM's intentions at the end of the exemption period, GM's petition asserts that NHTSA should grant its petition because the Origin will be a battery electric vehicle (BEV) that will meet the definition of "low-emission motor vehicle" set out in Section §30113(a). Unlike the fact that the Origin will be ADS-only operated, the fact that it likely will be a "low-emission motor vehicle" appears to be irrelevant to the several FMVSS exemptions being sought. Specifically, GM's petition provides virtually no detail as to how the exemptions requested would facilitate or make easier the development or field evaluation of "low-emission motor vehicle" technology. To the contrary, GM, a leader in the development of low emission motor vehicle technology, currently produces and sells into commerce several BEV models that are ostensibly in full compliance with all currently applicable FMVSS. Again, NHTSA should carefully analyze whether GM has satisfied the requirements for an exemption under the low emission vehicle category.

### **III. Safety Analyses**

Prior to granting any temporary exemption for the Origin, NHTSA should thoroughly evaluate GM's "equal or better" safety claims. Moreover, an exemption should only be granted upon a conclusive determination that the Origin will be ADS-operated subject to full and rigorous safety testing, evaluation, and verification protocols designed to demonstrate, among other things, that the Origin's ADS will perform in a manner that is at least as safe as a human driver, a key public interest. And when confirming the Origin's "at least as safe" performance, while NHTSA need not consider protections aimed at nonexistent human drivers, it must focus its attention on prospective Origin passengers and on other road users ranging from human drivers and passengers in other motor vehicles to pedestrians and everyone in between.

Given that this is one of only two FMVSS exemption petitions under consideration by NHTSA for SAE Level 4 ADS-only operated vehicles, the agency should take care to evaluate the potential impact on the public's perception of, and confidence in, such vehicles. To encourage the marketplace acceptance of ADS-only operated vehicles, the public needs to know that the Origin will compare favorably to similar FMVSS-compliant, human-controlled GM vehicles, and that its ADS will operate at a safety level equal to or greater than an average human driver. SAE Level 4 ADS-only operated vehicles that cannot match the safety record of the average human driver will, by definition, have a negative impact on road safety and, as such, will undermine the future sale, operation, and use of such vehicles.

Moreover, granting FMVSS exemptions for the Origin should be the start, not the end, of NHTSA's involvement. For example, an ongoing sharing and analysis of critical safety data will be key to evaluating the relative safety performance of the Origin and its ADS. Ongoing safety data analysis also will help NHTSA determine how to modify existing FMVSS to accommodate future ADS-only operated vehicles without jeopardizing intended safety benefits. For any documented crash incidents that occur during the exemption period, NHTSA should analyze how a similar human driven vehicle would have performed.

When comparing ADS-operated Origins with human-operated vehicles, NHTSA should not limit itself to metrics such as accidents-per-mile. For example, GM and NHTSA should collect and analyze data on how well the Origin operates mechanically and how it complies with local traffic laws and established road customs. Among other things, mechanical failures and traffic law noncompliance can indicate whether an ADS (or human driver) operated vehicle is likely to become involved in future accidents. GM also should commit to an appropriate level of computer simulation modeling of the Origin's ADS-operated safety performance.

GM and NHTSA should also carefully analyze any instance where the Origin is put into a minimal risk condition. Such conditions typically reflect a vehicle or ADS malfunction and may even indicate potential safety or design defects. Moreover, given public concerns regarding the ability of SAE Level 4 ADS vehicles to attain minimal risk conditions without causing other passenger or traffic safety concerns, any approval of the GM petition should involve a detailed discussion of how and under what conditions the Origin will achieve minimal risk conditions, and how passengers are to be cared for once such conditions occur. The petition states that GM will contact passengers, necessary support services, and local authorities as needed if an Origin achieves a minimal risk condition but does not provide sufficient details about next steps. For example, it may be helpful to know if GM will arrange for a dispatch from the nearest GM dealership to assist both passengers and the Origin itself, and what specific types of circumstances will prompt GM to contact local authorities or emergency responders.

In addition, while GM does not intend for passengers or even emergency responders to take over operation of an Origin, NHTSA should carefully consider the potential benefits of enabling passengers to monitor the Origin's performance under ADS operation as they may be the first to recognize when an ADS is behaving erratically, or when a serious, but rare, road safety hazard is developing. Of course, as with emergency brakes on larger transit vehicles, GM and NHTSA must analyze and balance the potential safety benefits associated with enabling passengers to override an Origin's ADS using emergency brakes or "kill switches" against the potential misuse of such devices.

NHTSA must closely evaluate GM's requested exemption from existing FMVSS-mandated driver controls, displays, indicators, warnings, and telltales to determine the extent to which they offer safety benefits beyond those associated with human operation. To what degree would warning lights, turn signal indicators and other displays, indicators, and telltales provide passengers with critical situational awareness that might help them assess a vehicle's operation and make informed decisions about whether (and how) to begin, continue, alter, or terminate a ride (or even to abandon a vehicle)? For example, passengers should know prior to or soon after entering an Origin, if it is operating on a low battery charge that could prevent it from completing a trip and even lead to a safety incident. As alluded to above, a critical public interest is the need for passengers and other road users to have the information they need to trust in the safety performance of ADS-operated vehicles.

GM's petition clearly recognizes the importance of passenger awareness and involvement by indicating that, although the Origin will not have a driver facing instrument panel or traditional driver cockpit, it will be equipped with six in-vehicle display screens to convey information to passengers, including important safety messages, FMVSS-mandated telltales, and a start/stop button. NHTSA should carefully evaluate these strategies to determine if they will satisfy the purpose of the FMVSS at issue and provide an equivalent level of safety.

#### **IV. Public Interest**

The public interests at issue with respect to the statutory exemptions cited above relate to road safety alone. Whether an ADS-only operated vehicle, be it a BEV or not, may result in an increase in other societal benefits (e.g., environmental, equity, mobility, etc.) versus a comparable human operated vehicle if deployed in commerce simply is not relevant to NHTSA's petition review. Simply put, any evaluation of such potential benefits is irrelevant to the GM petition, which does not suggest how, if at all, Origin vehicles will directly displace human driven vehicles in ride-hail service, or otherwise. Consequently, NHTSA need not assess and evaluate the potential non-safety benefits (or concerns) associated with GM's intended use of the Origin. In short, the petition stands on its own and is limited to the time-period, number of Origin vehicles, and the specific FMVSS requirements at issue.<sup>11</sup>

As noted above, while the "public interest" involves the relative safety performance of exempt ADS-only operated Origin vehicles, NHTSA should evaluate the relative risks posed to other road users in addition to those involving Origin passengers. For example, a concern is whether GM's petition adequately demonstrates that the Origin will offer internal and external signaling and communication functionality sufficient to enable passengers, other road users, and emergency responders to understand the vehicle's operating characteristics and how to safely interact with it. For each FMVSS at issue, NHTSA should evaluate whether there are any benefits that extend beyond the human driver.<sup>12</sup>

#### **V. Terms and Conditions**

The operation of ADS-only Origins in ride-hail fleets should result in the collection and analysis of data useful for making FMVSS revisions and for creating ADS performance standards. Thus, if NHTSA grants GM's petition, it should include a condition requiring GM to collect and share with NHTSA any such data for as long as each Origin vehicle is kept in operation. This is particularly important given that GM likely will be making changes to ADS-related software and hardware that could impact the Origin's safety performance over time.

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<sup>11</sup>NHTSA need not even compare the marginal safety benefits (if any) of exempt ADS-only operated Origins versus comparable human-operated vehicles significantly equipped with Advanced Driver Assistance Systems (ADAS).

<sup>12</sup>For example, whether operational windshield wipers, mirrors, or sun visors provide any safety benefits to passengers or other road users?

NHTSA also should condition any approval of the GM petition on appropriate requirements governing cybersecurity and passenger privacy, to help ensure both appropriate vehicle safety performance the public acceptance of ADS-only operated vehicles. With respect to privacy, any data gathered by GM and shared with NHTSA should be scrubbed of personal information and compiled in aggregated data sets to help ensure passenger anonymity.

Conditions set out in any temporary Origin exemption should also clearly state operational design domain restrictions and well-defined minimal risk condition criteria. Conditions should specify the importance of recognizing and complying with all applicable (and permissible) state and local motor vehicle safety-related requirements, and those specifically applicable to the operation of commercial ride-hail vehicles. Conditions also should cover appropriate incident, law violation, and mechanical failure reporting, external vehicle identification, signaling, and warning, speed limiter and emergency braking functions, data collection and reporting, video recording, and vehicle- to-passenger and vehicle-to-emergency responder communication. Lastly, NHTSA should limit any grant of GM's petition to a requirement that the vehicles in question be operated directly or indirectly under GM's control.

As noted above, the petition indicates that, if granted, GM will work with NHTSA and industry stakeholders on an FMVSS rulemaking to address modifications designed to accommodate and foster safe and reliable ADS-only vehicle operations. As an interested stakeholder, NADA looks forward to working with NHTSA as it moves forward with these important regulatory initiatives.

On behalf of NADA, I thank NHTSA for the opportunity to comment on this matter.

Respectfully submitted,



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