



## **National Highway Traffic Safety Administration**

**[Docket No. NHTSA-2022-0067]**

### **General Motors – Receipt of Petition for Temporary Exemption from Various Requirements of the Federal Motor Vehicle Safety Standards for an Automated Driving System-Equipped Vehicle**

**AGENCY:** National Highway Traffic Safety Administration (NHTSA), Department of Transportation (DOT).

**ACTION:** Notice of receipt of petition for temporary exemption; request for public comment.

**SUMMARY:** General Motors (GM) has petitioned NHTSA for a temporary exemption from certain requirements in six Federal motor vehicle safety standards (FMVSS) for its ADS-equipped vehicle, the “Cruise Origin.” Specifically, GM seeks exemption from portions of FMVSS No. 102; Transmission shift position sequence, starter interlock, and transmission braking effect, FMVSS No. 104; Windshield wiping and washing systems, FMVSS No. 108; Lamps, reflective devices, and associated equipment, FMVSS No. 111; Rear visibility, FMVSS No. 201; Occupant protection in interior impact, and FMVSS No. 208; Occupant crash protection. NHTSA is publishing this document in accordance with statutory and administrative provisions and seeks comment on the merits of GM’s exemption petition and on potential terms and conditions that should be applied to a temporary exemption if granted. After receiving and considering public comments, NHTSA will assess the merits of the petition and will publish a notice in the Federal notice setting forth NHTSA’s reasoning for either granting or denying the petition.

**DATES:** Comments must be received on or before **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]**.

**ADDRESSES:** NHTSA invites you to submit comments on the petition described herein and the questions posed below. You may submit comments identified by docket number in the heading of this notice by any of the following methods:

- *Fax:* 202-493-2251.
- *Mail:* U.S. Department of Transportation, Docket Operations, M-30, Room W12-140, 1200 New Jersey Avenue, S.E., Washington, D.C. 20590.
- *Hand Delivery:* 1200 New Jersey Avenue, S.E., West Building Ground Floor, Room W12-140, Washington, D.C., between 9 a.m. and 5 p.m., Monday through Friday, except Federal Holidays.
- *Federal eRulemaking Portal:* Go to <http://www.regulations.gov>. Follow the online instructions for submitting comments.
- Instructions: All submissions must include the agency name and docket number. Note that all comments received will be posted without change to <http://www.regulations.gov>, including any personal information provided. Please see the Privacy Act discussion below. NHTSA will consider all comments received before the close of business on the comment closing date indicated above. To the extent possible, NHTSA will also consider comments filed after the closing date.

Docket: For access to the docket to read background documents or comments received, go to <http://www.regulations.gov> at any time or to 1200 New Jersey Avenue, S.E., West Building Ground Floor, Room W12-140, Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal Holidays. Telephone: 202-366-9826.

Privacy Act: In accordance with 5 U.S.C. 553(c), DOT solicits comments from the public to better inform its rulemaking process. DOT posts these comments, without edit, to [www.regulations.gov](http://www.regulations.gov), as described in the system of records notice, DOT/ALL-14 FDMS, accessible through [www.dot.gov/privacy](http://www.dot.gov/privacy). In order to facilitate comment tracking and response, we encourage commenters to provide their name, or the name of their organization; however,

submission of names is completely optional. Whether or not commenters identify themselves, all timely comments will be fully considered. If you wish to provide comments containing proprietary or confidential information, please contact the agency for alternate submission instructions.

Confidential Business Information: If you wish to submit any information under a claim of confidentiality, you must submit your request directly to NHTSA's Office of the Chief Counsel. Requests for confidentiality are governed by part 512. NHTSA is currently treating electronic submission as an acceptable method for submitting confidential business information to the agency under part 512. If you would like to submit a request for confidential treatment, you may email your submission to Dan Rabinovitz in the Office of the Chief Counsel at [Daniel.Rabinovitz@dot.gov](mailto:Daniel.Rabinovitz@dot.gov) or you may contact Dan for a secure file transfer link. At this time, you should not send a duplicate hardcopy of your electronic CBI submissions to DOT headquarters. If you claim that any of the information or documents provided to the agency constitute confidential business information within the meaning of 5 U.S.C. 552(b)(4), or are protected from disclosure pursuant to 18 U.S.C. 1905, you must submit supporting information together with the materials that are the subject of the confidentiality request, in accordance with part 512, to the Office of the Chief Counsel. Your request must include a cover letter setting forth the information specified in our confidential business information regulation (49 CFR 512.8) and a certificate, pursuant to § 512.4(b) and part 512, appendix A. In addition, you should submit a copy, from which you have deleted the claimed confidential business information, to the Docket at the address given above.

**FOR FURTHER INFORMATION CONTACT:** Callie Roach or Sara R. Bennett, Office of the Chief Counsel, National Highway Traffic Safety Administration, 1200 New Jersey Avenue S.E., Washington, DC 20590. Telephone: 202-366-2992; Fax: 202-366-3820.

**SUPPLEMENTARY INFORMATION:**

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## I. Introduction

NHTSA is responsible for promulgating and enforcing Federal motor vehicle safety standards (FMVSS) designed to improve motor vehicle safety. Generally, a manufacturer may not manufacture for sale, sell, offer for sale, or introduce or deliver for introduction into interstate commerce a vehicle that does not comply with all applicable FMVSS.<sup>1</sup> There are limited exceptions to this general prohibition.<sup>2</sup> One path permits manufacturers to petition NHTSA for an exemption for noncompliant vehicles under a specified set of statutory bases.<sup>3</sup> The details of these bases, and on which basis General Motors (GM) petitions under, is provided in the sections of this notice that follow.

On February 17, 2022, GM<sup>4</sup> submitted a petition for exemption for its Origin vehicle, which GM states is a multipurpose passenger vehicle equipped with a “Level 4 Automated Driving System” (ADS).<sup>5</sup> This document notifies the public that NHTSA has received from GM

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<sup>1</sup> 49 U.S.C. 30112(a)(1).

<sup>2</sup> 49 U.S.C. 30112(b); 49 U.S.C. 30113; 49 U.S.C. 30114.

<sup>3</sup> 49 U.S.C. 30113.

<sup>4</sup> The petition submitted by GM states “General Motors LLC (‘GM’), a Delaware limited liability company, with support from its majority-owned self-driving subsidiary, Cruise LLC (‘Cruise’), respectfully submits this petition to the National Highway Traffic Safety Administration (‘NHTSA’) for temporary exemption (‘Petition’) from certain Federal Motor Vehicle Safety Standards (‘FMVSS’ or ‘Standards’).” Page 5 of the petition. In other places, the petitions states: “GM and Cruise respectfully request temporary exemptions consistent with the Vehicle Safety Act, NHTSA guidance, and applicable law for certain requirements of nine FMVSS, all of which were developed for human-driven operations. [...] GM and Cruise seek these exemptions pursuant to both the ‘equivalent overall safety’ and ‘evaluation of a low emission vehicle’ provisions established by Congress in 49 U.S.C. § 30113(b)(3).” *Id.*

<sup>5</sup> Page 2 of the Petition.

a petition for a temporary exemption from portions of six FMVSS.<sup>6</sup> GM requests a two-year exemption, during which it seeks to be allowed to manufacture not more than 2,500 exempted vehicles for each 12-month period covered by the exemption. The exemption, if granted, will allow GM to manufacture and deploy into interstate commerce vehicles that lack certain safety features required by the FMVSS. GM states that it assures its majority-owned subsidiary Cruise will maintain “continuous ownership and control of the Origin” vehicles produced under this exemption, meaning that GM commits that the vehicles produced under this exemption will not be sold and will stay under GM’s ownership and possession, either by itself or through its majority-owned and controlled subsidiary, Cruise, throughout the entire lifecycle of the vehicles.

## **II. Authority and Procedures for Temporary Exemption**

The National Traffic and Motor Vehicle Safety Act (Safety Act), codified at 49 U.S.C. chapter 301, authorizes the Secretary of Transportation to exempt motor vehicles, on a temporary basis and under specified circumstances, and on terms the Secretary considers appropriate, from a FMVSS or bumper standard. This authority is set forth at 49 U.S.C. 30113. The Secretary has delegated the authority for implementing this section to NHTSA.<sup>7</sup>

The Safety Act authorizes the Secretary to grant, in whole or in part, a temporary exemption to a vehicle manufacturer if the Secretary makes one of four specified findings.<sup>8</sup> The Secretary must also look comprehensively at the request for exemption and find that the exemption is consistent with the public interest and with the objectives of the Safety Act.<sup>9</sup>

The Secretary may act under § 30113 on finding that:

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<sup>6</sup> Note that the petition discussed in this notice is separate and distinct from the petition GM submitted in 2018 for its “Zero Emission Autonomous Vehicle” (ZEAV). NHTSA sought comment on this petition in a Federal Register notice published on March 19, 2019 (84 FR 10182). In 2020, GM withdrew the petition. GM’s submission of this new petition, requested jointly with Cruise, began a new part 555 proceeding. Accordingly, while comments received on the 2019 notice may inform NHTSA’s decision-making regarding processing part 555 petitions generally, NHTSA will not consider comments from the previous notice as comments received on this notice.

<sup>7</sup> 49 CFR 1.95.

<sup>8</sup> 49 U.S.C. 30113(b)(3).

<sup>9</sup> 49 U.S.C. 30113(b)(3)(A).

(i) Compliance with the standard[s] [from which exemption is sought] would cause substantial economic hardship to a manufacturer that has tried to comply with the standard[s] in good faith;

(ii) the exemption would make easier the development or field evaluation of a new motor vehicle safety feature providing a safety level at least equal to the safety level of the standard;

(iii) the exemption would make the development or field evaluation of a low-emission motor vehicle easier and would not unreasonably lower the safety level of that vehicle; or

(iv) compliance with the standard would prevent the manufacturer from selling a motor vehicle with an overall safety level at least equal to the overall safety level of nonexempt vehicles.<sup>10</sup>

GM seeks exemption under two alternative bases, stating that its Origin vehicle meets both bases. The first basis is that an exemption would make the development or field evaluation of a low-emission vehicle easier without unreasonably lowering the safety of that vehicle.<sup>11</sup> The second basis is that compliance with the six FMVSS would prevent GM from selling a motor vehicle with an overall safety level at least equal to the overall safety level of nonexempt (i.e., compliant) vehicles.<sup>12</sup>

NHTSA established 49 CFR part 555, Temporary Exemption from Motor Vehicle Safety and Bumper Standards, to implement the statutory provisions concerning temporary exemptions. The requirements in 49 CFR 555.5 state that the petitioner must set forth the basis of the petition by providing the information required under 49 CFR 555.6, and the reasons why the exemption would be in the public interest and consistent with the objectives of the Safety Act.

A petition justified on the low-emission vehicle exemption basis must include the information specified in 49 CFR 555.6(c). Similarly, a petition submitted on the basis that the applicant is otherwise unable to sell (or in this instance, manufacture) a vehicle whose overall level of safety

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<sup>10</sup> 49 U.S.C. 30113(b)(3)(B).

<sup>11</sup> 49 U.S.C. 30113(b)(3)(B)(iii).

<sup>12</sup> 49 U.S.C. 30113(b)(3)(B)(iv).

or impact protection is at least equal to that of a nonexempt vehicle must include the information specified in 49 CFR 555.6(d).

### **III. GM's Petition**

The following discussion provides: An overview of the Origin based on information submitted in GM's petition; a brief summary of GM's safety showing and arguments for exemption from portions of certain FMVSS; and a summary of the petitioner's arguments that granting its petition for exemption would be in the public interest. Because GM has sought confidential treatment of some aspects of its petition, a redacted version of GM's petition is included in the docket referenced at the beginning of this notice. NHTSA notes that any of the descriptions provided in this section are GM's characterizations included in its petition and do not necessarily reflect the views of NHTSA.

#### **A. Overview of the Origin Vehicles**

GM describes the Origin as a zero-emission American-made vehicle, operated by an ADS, that is built for fleet-controlled rideshare and delivery services. GM states that it and Cruise will manage the fleet of vehicles and that the vehicle is classified as a multipurpose vehicle (MPV) with a curb weight of 3,084 kg and a gross vehicle weight rating (GVWR) of 3,640 kg. While its size is similar to that of a modern sport utility vehicle (SUV), its design deviates from more traditional vehicle designs in a number of ways. First, the Origin has carriage seating, meaning a front row of seats that faces backwards and a back row of seats that faces forwards. It also has split sliding doors on either side of the vehicle to permit passenger exit and entry. The Origin is operated almost entirely by an ADS,<sup>13</sup> and thus, is not equipped with manually operated driving controls or features (e.g., steering wheel, pedals, manual turn signals, mirrors) that a human might need if they were driving. In its petition, GM provides many photos of the Origin.

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<sup>13</sup> The petition mentions "Cruise Remote Assistance."

GM also includes details of various novel, operational information about its vehicles, such as the start/stop ride button, the call button that contacts rider support, the mobile application GM intends to use, the battery that powers the vehicle, various occupant protection systems, and information about the Origin's sensing systems. Finally, GM provides some basic information about the ADS and various safety topics surrounding the ADS and its operation. For specific FMVSS, GM's petition goes into greater detail about how the ADS and the accompanying sensor suite fulfill those FMVSS requirements with which it does not comply and is seeking exemption.

## **B. Safety Showing**

GM has petitioned NHTSA for a temporary exemption from certain requirements in six FMVSS for its ADS-equipped vehicle, the Origin. Specifically, GM seeks exemption from portions of:

- FMVSS No. 102; Transmission shift position sequence, starter interlock, and transmission braking effect.
- FMVSS No. 104; Windshield wiping and washing systems.
- FMVSS No. 108; Lamps, reflective devices, and associated equipment.
- FMVSS No. 111; Rear visibility.
- FMVSS No. 201; Occupant protection in interior impact, and
- FMVSS No. 208; Occupant crash protection.

In its petition for exemption, GM states that certain requirements are either not necessary for safety as applied to the Origin's design and performance, or their purpose and intent continue to be met through innovative, alternative means that each provide an equivalent level of safety, and together provide an overall safety level at least equal to the overall safety of nonexempt vehicles and would not unreasonably lower the safety of the vehicle. GM states its "safety-equivalency approach to the FMVSS that are the subject of this Petition has focused on the performance requirements of the applicable standard, considering the language of the applicable



standard as a whole, with a particular focus on NHTSA's stated purpose and intent for that standard." A short description of the rationale GM provides for why its Origin vehicle should receive an exemption follows. The appendixes attached to GM's petition include additional support for its arguments related to each FMVSS.

GM petitions for exemption from portions of four of NHTSA's crash avoidance FMVSS. FMVSS No. 102 requires the identification of gear selection shift positions to be visibly identified, including the positions in relation to each other. GM argues that the Origin, unlike a human, does not need transmission shift positions to be presented visibly in relation to each other because the Origin is programmed to always select the correct shift position and the ADS knows which position it is selecting. For GM's petition for exemption from portions of FMVSS No. 104, GM argues that the purpose and intent of the safety standard is obviated by the Origin's sensor system design. GM argues the Origin's sensor system does not rely on the windshield for forward visibility thanks to its suite of sensors surrounding the Origin vehicles and thus, is not equipped with a windshield wiping or washing system. Portions of FMVSS No. 108 contain requirements related to manual controls for use by humans in switching various signals and lights. GM argues an ADS would not need manual devices to operate signals and lights, and the Origin's ADS is capable of activation and control of all lighting and signals through other means. FMVSS No. 111 contains requirements for outside and/or inside mirrors and linger time of a rearview image, among other requirements. GM argues that its sensor suite on the Origin provides the ADS the same, if not better, visibility than FMVSS No. 111 would provide human drivers. Additionally, GM points out that the purpose and intent of FMVSS No. 111 is based on human perception and visibility so there is no operational safety need for these requirements when applied to a vehicle driven by an ADS.

GM petitions for exemption from portions of two of NHTSA's occupant protection FMVSS. The first is FMVSS No. 201, which requires that a sun visor be provided for each front outboard seating position. GM argues that sun visors are not necessary because the Origin is not

operated by a human driver, and the ADS does not use the windshield for visibility. Next, FMVSS No. 208 requires that a seat belt assembly provided at the left front outboard seating position shall be equipped with a warning device that activates based on the status of the ignition switch. GM states that it meets the requirement that there be a warning system, it provides warnings to occupants when the seat belt is not fastened, but that such a warning is based upon occupants pressing start/stop buttons in the vehicle (i.e., not the ignition position). Thus, GM argues it meets the purpose and intent of the requirement.

Finally, GM's petition included requests for exemption from FMVSS Nos. 203, 204, and 207, but NHTSA believes exemption from portions of those standards is no longer necessary due to the publication of the Occupant Protection for Vehicles with Automated Driving Systems final rule, published in the Federal Register on March 30, 2022.<sup>14</sup> GM's petition states that it may amend its petition to address the Occupant Protection for Vehicles with Automated Driving Systems final rule, including to remove those safety standards from the petition.

### **C. GM's Public Interest Argument**

GM argues that granting its petition for exemption for the Origin furthers the Safety Act's objectives and advances other public interests, including:

1. Enabling the sharing of substantive ADS information with NHTSA;
2. Promoting safety of the transportation system by advancing autonomous technology;
3. Taking an important step towards unlocking potentially significant environmental benefits;
4. Helping advance environmental justice;
5. Helping advance greater transportation accessibility for all users;
6. Supporting US jobs and investment;
7. Supporting the US with shaping AV norms and standards; and,
8. Helping foster public acceptance of autonomous and electric technologies.

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<sup>14</sup> 87 FR 18560.

NHTSA requests comment on the strength and persuasiveness of these arguments and the support for each provided by GM.

#### **IV. Agency's Review of GM's Petition**

NHTSA has not yet made any judgment on the merits of GM's petition nor on the adequacy of the information submitted. NHTSA will assess the merits of the petition and consider public comments on the petition, as well as any additional information that the agency receives from GM. NHTSA is placing a non-confidential copy of the petition in the docket in accordance with statutory and administrative provisions.

#### **V. Public Interest Considerations**

Section 30113 authorizes NHTSA to grant exemptions that are consistent with the public interest and the Safety Act and authorizes NHTSA to apply appropriate terms to any such grant. Whether granting the exemption is consistent with the public interest and the objectives of the Safety Act are required findings that are no less critical than a discussion of the particular statutory basis on which the exemption is sought (e.g., whether the subject vehicle provides an equivalent level of safety to a nonexempt vehicle). Although NHTSA's mission is primarily a safety mission, NHTSA's authority under section 30113 requires the agency to extend its consideration to issues beyond traffic safety.<sup>15</sup> NHTSA is seeking comment on the agency's consideration of specific matters of public interest in both deciding whether granting the exemption is consistent with the public interest and in developing terms and conditions with which the petitioner must comply if its petition is granted.

As the expert agency in automotive safety and the interpretation of its existing standards, NHTSA has significant discretion in making the safety findings required under these provisions. Further, the broad authority to determine whether the public interest and general goals of the

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<sup>15</sup>NHTSA stated, in the February 11, 2020 Federal Register notice granting an exemption for the first ADS-equipped vehicle to Nuro, that the broad authority to determine whether the public interest and general goals of the Vehicle Safety Act will be served by granting the exemption allows the Secretary to consider many diverse effects of the exemption, including: The overall safety of the transportation system beyond the analysis required in the safety determination; how an exemption will further technological innovation; economic impacts, such as consumer benefits; and environmental effects. (85 FR 7826, 7828).

Safety Act will be served by granting the exemption allows the agency to consider many diverse effects of the exemption, including: the overall safety of the transportation system beyond the analysis required in the safety determination; how an exemption will further technological innovation; economic impacts, such as consumer benefits; and environmental effects.

ADS vehicles have the potential to benefit our transportation system significantly beyond the analysis required in the safety determination. As NHTSA considers the potentially transformative impact of ADS technology, it is also considering its role in encouraging the use of ADS vehicles in ways that maximize their benefit to society. Specifically, NHTSA is exploring its role and responsibility in considering environmental impacts, accessibility and equity when an exemption is sought for an ADS-equipped vehicle. Climate, accessibility and equity, in addition to road safety, are important public interest goals of the Department and NHTSA. NHTSA will also continue to consider how exemptions affect the development of advanced vehicle technologies.

With regard to environmental impacts, NHTSA seeks to learn about the interplay between fuel efficiency and ADS technologies. NHTSA seeks public comment on whether it should adopt reporting requirements when granting part 555 petitions for vehicles with ADS that would allow the agency to better understand the energy use of the vehicles throughout their service life and, possibly, to better assess, and quantify, the environmental impacts of ADS-equipped vehicles. NHTSA is also seeking comment regarding the weight it should give to the environmental impacts of internal combustion engine (ICE) vehicles when deciding whether to grant an exemption to an ICE vehicle moving forward. Finally, NHTSA is seeking comment about whether to seek from entities that receive a grant of a petition information about how, exactly, their vehicles would promote environmental justice.

NHTSA seeks comment on the extent to which accessibility and equity might be considered in either determining whether an exemption is in the public interest or applying appropriate conditions to an exemption as it is granted. Proponents of ADS technology often

claim that ADS-equipped vehicles would help advance greater transportation accessibility for persons with disabilities. GM states in its petition that one of the reasons that granting its petition for the Origin vehicle is in the public interest is because doing so would help advance greater transportation accessibility for all users. GM states broadly that the Origin will “help expand mobility options for seniors, people who are blind or have low vision, and other communities that have traditionally had lower access to reliable transportation.” GM states in the petition that it has conducted studies to inform user experience and vehicle design in ways that would make the Origin more accessible for all passengers, and that this research has resulted in GM developing a wheelchair accessible version of the Origin. GM also implies that it has taken into account the needs of people who are blind or have low vision. NHTSA appreciates this potential and appreciates that manufacturers are considering the benefits to underserved populations.

NHTSA is interested in learning more about specific actions that manufacturers and operators of ADS-equipped exempted vehicles are taking to ensure that accessibility and equity goals will be met. For example, we are considering seeking information from entities that receive a grant of a petition about how they ensure that their ride-hailing services comply with any applicable Americans with Disabilities Act (ADA) requirements. NHTSA is also considering seeking information about how many vehicles manufactured under a part 555 exemption would be wheelchair accessible. Additionally, NHTSA is interested in what, specifically, the manufacturer would do to ensure access to people with vision disabilities, or to ensure that persons with wheelchairs, walkers, or other mobility devices, can safely transition from the vehicle to the sidewalk and vice versa. NHTSA seeks comment on these questions about accessibility.

NHTSA is also considering seeking information about how the exempted vehicles would be used to improve accessibility and equity in serving underserved communities. The agency seeks comments on whether an entity that receives a grant of a petition should be required to provide plans about how it intends to ensure that access to its services is equitable in terms of

neighborhood, income levels, race and ethnicity, age (etc.), and/or should be required to provide reports of how it achieved those objectives through use of the exempted vehicles. Should the agency require manufacturers granted an exemption to report to NHTSA about how the exempted vehicles will be used to improve accessibility and equity in serving underserved communities? Data reported on these elements would help DOT and NHTSA assess if assumptions about the beneficial societal impacts of ADS-equipped vehicles are bearing out, and if not, why not.

NHTSA is also considering seeking information about the economic impacts of granting a petition. Many advocates of ADS technology argue that deploying ADS-equipped vehicles will increase U.S. jobs and innovation. For example, should the agency seek information about potential job creation and displacement of workers? Should NHTSA seek other information about how the grant would impact investment in the U.S. economy, such as through the generation of tax revenue or development of intellectual property?

Further, NHTSA seeks comments on whether the agency should consider additional matters of public interest in developing terms and conditions with which a part 555 petitioner must comply if its petition were granted. To the extent that you believe other areas should be considered, please tell us how we can best promote the public interest through the exercise of our discretion in granting exemptions and establishing terms and conditions to such exemptions.

## **VI. Statement on Terms**

Section 30113 authorizes the Secretary, NHTSA by delegation, to condition the grant of a temporary exemption “on terms [NHTSA] considers appropriate.”<sup>16</sup> The agency’s authority to set terms is broad. It is not limited solely to terms and conditions relevant to its specific determination. Instead, this provision allows the agency to set terms that would allow NHTSA to

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<sup>16</sup> 49 U.S.C. 30113(b)(1) (delegation of authority at 49 CFR 1.95).

collect information about the exempted vehicles that would service the public interest, such as information concerning the performance of the ADS.<sup>17</sup>

Once a manufacturer receives a temporary exemption from the prohibitions of 49 U.S.C. 30112(a)(1), NHTSA can affect the use of those vehicles produced pursuant to the exemption through the terms in partially or fully granting the exemption or as it exercises its enforcement authority (e.g., its safety defect authority). The agency's authority to set terms is broad. Since the terms would be the primary means of monitoring and affecting the operation of the exempted vehicles, the agency would carefully consider whether to establish terms and what types of terms to establish if it were to grant a petition. The manufacturer would need to agree to abide by the terms set for that exemption in order to begin and continue producing vehicles pursuant to that exemption.

Due to the novel nature of ADS technology and NHTSA's interest in better understanding the safety and utility of ADS-equipped vehicles, if the petition were granted in whole or in part, the agency anticipates applying conditions to the grant.

NHTSA exercised its ability to apply a variety of terms when it granted Nuro's petition for the first ADS-equipped vehicle exempted under part 555.<sup>18</sup> The terms NHTSA chose were designed to enhance the public interest and included post-crash reporting, periodic reporting, terms concerning cybersecurity, and certain general requirements. NHTSA seeks comment on whether the agency should apply the same type of conditions, and others, to GM if NHTSA decides to grant its petition.

NHTSA will carefully consider whether to establish terms and what types of terms to establish if it grants GM's petition. If GM's petition were granted, GM would need to agree to abide by the terms set for that exemption in order to begin and continue producing vehicles pursuant to that exemption. Nothing in either the statute or implementing regulations limits the

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<sup>17</sup> 85 FR 7826, 7840 (February 11, 2020).

<sup>18</sup> *Id.*

application of these terms to the period during which the exempted vehicles are produced.

NHTSA could set terms that continue to apply to the vehicles throughout their normal service life if it deems that such application is necessary to be consistent with the Safety Act.

Thus, if NHTSA were to grant an exemption, in whole or in part, it could establish, for example, reporting terms to ensure a continuing flow of information to the agency throughout the normal service life of the exempted vehicles, not just during the two-year period of exemption. When NHTSA granted Nuro's exemption, NHTSA stated that the terms would apply throughout the useful life of the vehicles. Beyond the two-year exemption period, GM could be subject to civil penalties for failure to comply with the terms established as a condition for granting the part 555 exemption.

Given the uniqueness of GM's vehicles, its petition, and public interest concerns, extended reporting may be appropriate. Since only a portion of the total mileage that the vehicles, if exempted, could be expected to travel during their normal service life would have been driven by the end of the exemption period, the data would need to be reported over a longer period of time to enable the agency to make sufficiently reliable judgments. Such judgments might include those made in a retrospective review of the agency's determination about the anticipated safety effects of the exemption.

NHTSA could also establish terms to specify what the consequences would be if the flow of information were to cease or become inadequate during or after the exemption period. Other potential terms could include limitations on vehicle operations (based upon speed, weather, identified Operational Design Domains, road types, ownership, and management, etc.). Conceivably, some conditions could be graduated, i.e., restrictions could be progressively relaxed after a period of demonstrated driving performance. Further, as with data-sharing, it may be necessary to specify that these terms would apply to the exempted vehicles beyond the two-year exemption period.



NHTSA notes that its regulations at 49 CFR part 555 provide that the agency can revoke a part 555 exemption if a manufacturer fails to satisfy the terms of the exemption. NHTSA could also seek injunctive relief.<sup>19</sup>

NHTSA seeks comment on whether the agency should apply the same types of conditions that it applied to Nuro's exemption for ADS-equipped low-speed occupantless vehicles. NHTSA seeks comment not only on whether these conditions are appropriate to apply to GM's exemption, if granted, but also whether there are additional terms that NHTSA should apply. GM's exemption request differs significantly from Nuro's in that the request is for a passenger vehicle, and it is not limited to 25 mph, as was the case of the Nuro vehicle. As such, there are likely to be additional terms that would be appropriate to apply to GM's exemption, if granted.

Please comment on whether NHTSA should apply the following terms and conditions to a potential grant of GM's exemption request:

1. Reporting within 24 hours of an exempt vehicle being involved in any crash, to include:<sup>20</sup>
  - a. The data elements specified in 49 CFR part 563, Event Data Recorders.<sup>21</sup>
  - b. If the ADS was in control of the vehicle during the event, a detailed timeline of the 30 seconds leading up to the crash, including a detailed read-out and interpretation of all sensors in operation during that time period, the ADS's object detection and classification output, and the vehicle actions taken (*i.e.*, commands for braking, throttle, steering, etc.).

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<sup>19</sup> 49 U.S.C. 30163(a).

<sup>20</sup> GM and Cruise are currently required to submit reports to NHTSA for crashes involving ADS pursuant to NHTSA Standing General Order (2021-01). More information about the General Order is available on NHTSA's website at <https://www.nhtsa.gov/laws-regulations/standing-general-order-crash-reporting-levels-driving-automation-2-5>.

<sup>21</sup> See Table I-Reported Data Elements and Table II-Reported Data Element Format. 85 FR 78426, 7841 (February 11, 2020).

- c. If a human operator took over control of the vehicle prior to the event, a detailed timeline of the 30 seconds leading up to the human operator taking over control, including a detailed read-out and interpretation of all ADS sensors in operation during that time period, the ADS's object detection and classification output, and the vehicle actions taken (*i.e.*, commands for braking, throttle, steering, etc.).
  - d. If a human operator was in control of the vehicle at any point during or up to 30 seconds before the event, a detailed timeline of any actions the human operator took that affected the crash event, as well as any technical problems that could have contributed to the crash (signal latency, poor field of view, etc.).
  - e. Any additional information about the event that NHTSA deems pertinent for determining either crash or injury causation, including additional information related to the ADS or remote operator system.
2. Beginning 90 days after the date of the exemption grant, and at an interval of every 90 days thereafter, a report detailing the operation of each exempted vehicle in operation during that time period. This report may provide this information either in aggregate or on a per-vehicle basis, but it must include the following:
- a. A calculation of the total miles the vehicle has traveled using the ADS during the report period, and heat maps of the geofenced area in which the vehicle operates to illustrate travel density.
  - b. Detailed descriptions of any material changes made to the subject vehicle's Operational Design Domain (ODD) or ADS software during the reporting period.

- c. Detailed descriptions of any incidents in which any exempted vehicle violated any local or State traffic law, whether operating using the ADS or under human control.
  - d. Detailed descriptions of any incidents in which the exempt vehicles experienced a sustained acceleration of at least 0.7g on any axis for at least 150 ms, or of any incidents in which the vehicle had an unexpected interaction with humans or other objects (other than crashes that require immediate reporting).
  - e. Detailed descriptions of all instances in which a public safety official, including law enforcement, attempted to interact with an exempted vehicle, such as to pull it over, or contacted GM regarding an attempted interaction with an exempted vehicle.
  - f. Detailed descriptions of any “minimal risk condition fallback” events that occurred, even if no crash has occurred. If the event has occurred because the vehicle self-diagnosed a malfunction of a vehicle system, the report must include a detailed description of the cause and nature of the malfunction, and what remedial steps were taken. If the event was caused by the vehicle encountering a complex or unexpected driving situation, the report must include a detailed timeline of the ADS's decision-making process that led to the event, including any difficulties the ADS had in detecting and classifying objects.
  - g. In addition, GM must make necessary staff available to meet with NHTSA staff quarterly to discuss the status of its deployment program.
3. GM must have a documented cybersecurity incident response plan that includes its risk mitigation strategies and the incident notification requirements listed below.

- a. GM must cease operations of all exempt vehicles immediately upon becoming aware of any cybersecurity incident involving the exempt vehicles and any systems connected to the exempt vehicles that has the potential to impact the safety of the exempt vehicles.
  - b. No later than 24 hours after being made aware of a cybersecurity incident, GM must inform NHTSA's Office of Defects Investigations (ODI) of the incident. GM must also respond to any additional requests for information from NHTSA on the cybersecurity incident.
  - c. Prior to resuming its operation of any exempt vehicles following the discovery of a cybersecurity incident, GM must inform NHTSA of the steps it has taken to patch the vulnerability and mitigate the risks associated with the incident, and receive NHTSA approval to resume operation.
4. GM must be capable of issuing a “stop order” that causes all deployed exempted vehicles to, as quickly as possible, cease operations in a safe manner, in the event that NHTSA or GM determines that the exempted vehicles present an unreasonable or unforeseen risk to safety.
5. GM must coordinate any planned deployment of the exempted vehicles or change to the ADS/ODD with State and local authorities with jurisdiction over the operation of the vehicle as required by the laws or regulations of that jurisdiction.
6. The exempted vehicles must comply with all State and local laws and requirements at all times while in operation. Each vehicle must be duly permitted, if applicable, and authorized to operate within all properties and upon all roadways traversed.
7. GM must maintain ownership and operational control over the exempted vehicle that are built pursuant to this exemption for the life of those vehicles.

8. GM must create and maintain a hotline or other method of communication for the public and GM employees to directly communicate feedback or potential safety concerns about the exempted vehicles to the company.
9. If there are other categories of data that should be considered, please identify them and the purposes for which they would be useful to the agency in carrying out its responsibilities under the Safety Act.
10. If the agency were to require the reporting of data, for what period should the agency require it to be reported--the two-year exemption period or the vehicles' entire normal service life?
11. Given estimates that vehicles with ADS would generate terabytes of data per vehicle per day, how should the need for data be appropriately balanced with the burden on manufacturers of providing and maintaining it and the ability of the agency to absorb and use it effectively?
12. As explained in the section above, NHTSA has broad authority to determine whether the public interest and general goals of the Safety Act will be served by granting an exemption. NHTSA seeks to understand the many diverse effects of the exemption, including: the overall safety of the transportation system beyond the analysis required in the safety determination; how an exemption will further technological innovation; whether the exemption will address transportation accessibility and equity; economic impacts, such as consumer benefits; and environmental effects.
13. With regard to environmental impacts, how should NHTSA use the part 555 exemptions to learn about the interplay between fuel efficiency and ADS technologies? Should the agency adopt reporting requirements that would allow the agency to better understand the energy use of the vehicles throughout their service life and possibly better assess, and quantify, the environmental impacts of ADS-equipped vehicles? Should NHTSA require an entity whose petition has been granted

to provide data about, for example, how often and how far its vehicles are driving around unoccupied v. occupied? Is there other information related to the environmental consequences and effects of the vehicles covered by the petition that NHTSA should require from entities granted an exemption?

14. How should NHTSA consider accessibility in applying appropriate conditions to an exemption if it were granted? As noted above, many proponents of ADS technology often claim that ADS-equipped vehicles could help advance greater transportation accessibility for persons with disabilities. Should NHTSA impose conditions on grants of part 555 exemptions to learn more about specific actions that manufacturers and operators of ADS-equipped exempted vehicles are planning, or have taken, to further the attainment of accessibility and equity goals? Should NHTSA seek information from manufacturers granted an exemption as to how they ensure that their ride-hailing services comply with any applicable Americans with Disabilities Act (ADA) requirements, how many vehicles would be wheelchair accessible, how they reach people with disabilities to offer access to ride sharing services, or whether the exempt vehicles provide other accommodations for individuals with disabilities, such as communication and/or human-machine interface (HMI) features designed for individuals with sensory disabilities (such as sight or hearing) or cognitive disabilities? Should NHTSA require grantees to report on efforts, such as research or community outreach, that the manufacturer is planning, or has taken, to increase the likelihood that accessibility goals will be met? Comments are requested on whether there is other information related to accessibility that NHTSA should require from an entity when granting its petition.

15. How should NHTSA consider equity in applying appropriate conditions to an exemption if it were granted? For example, should NHTSA require entities receiving a grant of their petition to report how the exempted vehicles will be used to improve

accessibility and equity in serving underserved communities? Should such an entity be required to provide plans about how it intends to ensure that access to its services is equitable in terms of neighborhood, income levels, race and ethnicity, age (etc.), and/or provide reports of how it achieved those objectives through use of the exempted vehicles? Should entities receiving a petition grant be required to report on barriers they encountered to deploying ADS-equipped vehicles in underserved communities and how those barriers could be overcome? Should such an entity be required to provide demographic data about its services, or report on efforts, such as research or community outreach, that the manufacturer is planning or has taken to ensure better that equity goals will be met? Comments are requested on whether there is other information related to equity that NHTSA should require when granting a petition.

16. How should NHTSA consider economic impacts when applying appropriate conditions to an exemption if it were granted?

## **Public Participation**

### **A. Request for Comment and Comment Period**

The agency seeks comment from the public on the merits of GM's petition for a temporary exemption. NHTSA is also seeking comment on the potential types of terms the agency should set if the agency decides to grant the petition.

NHTSA is providing a 30-day comment period. After considering public comments and other available information, NHTSA will publish a notice of final action on the petition in the Federal Register.

### **B. Instructions for Submitting Comments**

#### ***How long do I have to submit comments?***

Please see DATES section at the beginning of this document.

#### ***How do I prepare and submit comments?***

- Your comments must be written in English.
- To ensure that your comments are correctly filed in the Docket, please include the Docket Number shown at the beginning of this document in your comments.
- If you are submitting comments electronically as a PDF (Adobe) File, NHTSA asks that the documents be submitted using the Optical Character Recognition (OCR) process, thus allowing NHTSA to search and copy certain portions of your submissions. Comments may be submitted to the docket electronically by logging onto the Docket Management System website at <http://www.regulations.gov>. Follow the online instructions for submitting comments.
- You may also submit two copies of your comments, including the attachments, to Docket Management at the address given above under ADDRESSES.

Please note that pursuant to the Data Quality Act, in order for substantive data to be relied upon and used by the agency, it must meet the information quality standards set forth in the OMB and DOT Data Quality Act guidelines. Accordingly, we encourage you to consult the guidelines in preparing your comments. OMB's guidelines may be accessed at <http://www.whitehouse.gov/omb/fedreg/reproducible.html>. DOT's guidelines may be accessed at [http://www.bts.gov/programs/statistical\\_policy\\_and\\_research/data\\_quality\\_guidelines](http://www.bts.gov/programs/statistical_policy_and_research/data_quality_guidelines).

***How do I submit confidential business information?***

If you wish to submit any information under a claim of confidentiality, you must submit your request directly to NHTSA's Office of the Chief Counsel. Requests for confidentiality are governed by part 512. NHTSA is currently treating electronic submission as an acceptable method for submitting confidential business information to the agency under part 512. If you would like to submit a request for confidential treatment, you may email your submission to Dan Rabinovitz in the Office of the Chief Counsel at [Daniel.Rabinovitz@dot.gov](mailto:Daniel.Rabinovitz@dot.gov) or you may contact Dan for a secure file transfer link. At this time, you should not send a duplicate hardcopy of your electronic CBI submissions to DOT headquarters. If you claim that any of the information or



documents provided to the agency constitute confidential business information within the meaning of 5 U.S.C. 552(b)(4), or are protected from disclosure pursuant to 18 U.S.C. 1905, you must submit supporting information together with the materials that are the subject of the confidentiality request, in accordance with part 512, to the Office of the Chief Counsel. Your request must include a cover letter setting forth the information specified in our confidential business information regulation (49 CFR 512.8) and a certificate, pursuant to § 512.4(b) and part 512, appendix A. In addition, you should submit a copy, from which you have deleted the claimed confidential business information, to the Docket at the address given above.

***Will the Agency consider late comments?***

We will consider all comments that Docket Management receives before the close of business on the comment closing date indicated above under DATES. To the extent possible, we will also consider comments that Docket Management receives after that date.

***How can I read the comments submitted by other people?***

You may see the comments on the internet. To read the comments on the internet, go to <http://www.regulations.gov>. Follow the online instructions for accessing the dockets.

Please note that, even after the comment closing date, we will continue to file relevant information in the Docket as it becomes available. Further, some people may submit late comments. Accordingly, we recommend that you periodically check the Docket for new material.

(Authority: 49 U.S.C. 30113 and 49 U.S.C. 30166; delegations of authority at 49 CFR 1.95.)

Issued in Washington, DC, under authority delegated in 49 CFR 1.95.

**Steven S. Cliff,**

*Administrator.*

BILLING CODE: 4910-59-P

[FR Doc. 2022-15557 Filed: 7/20/2022 8:45 am; Publication Date: 7/21/2022]