

ZOOX

ZOOX INC. 1149 CHESS DRIVE
FOSTER CITY, CA 94404

HELLO@ZOOX.COM
ZOOX.COM

November 7, 2022

John Donaldson
Acting Chief Counsel
National Highway Traffic Safety Administration
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, DC 20590-0001
VIA Secure File Transfer

Re: In re Zoox FMVSS Certified Vehicle; Response to Special Order

Dear Mr. Donaldson:

This letter serves as Zoox, Inc.'s response to the September 6, 2022 Special Order issued by the National Highway Traffic Safety Administration (NHTSA) ("Special Order"), seeking information related to Zoox's certification that its vehicle complies with all applicable Federal Motor Vehicle Safety Standards (FMVSS). We appreciate the opportunity to provide that information here.¹

Last spring, we informed NHTSA that we would be certifying the Zoox vehicle. As we moved toward certification, we extended an invitation to NHTSA to visit our facilities in Foster City, California, so we could demonstrate the Zoox vehicle and discuss our rigorous certification process. We also offered to follow the visit with additional technical and legal briefings. Our invitation remains open and we look forward to providing the agency with a look at Zoox's operations. We are also available to meet at your convenience to further discuss the technical and legal basis for our certification, and/or our response to the Special Order.

Introduction

Zoox was founded in 2014 to make personal transportation safer, cleaner, and more enjoyable. To realize that vision, we are building a fleet of fully autonomous, all-electric vehicles optimized for ridesharing in cities. That means we are developing the vehicle, automated driving system (ADS), and service all together. We own the vehicle fleet and will be responsible for daily operations, including fleet management, maintenance and repair,

¹ While the Special Order was limited to Zoox's certification and thus the focus of our response is on the applicable FMVSS, we have also designed and developed our vehicle to conform with other parts of the NHTSA regulations (*e.g.*, Part 563 and Part 581), and with an eye towards protecting against unreasonable risks to safety.

fleet routing and optimization, teleoperations, and customer support. Because we are not selling our vehicles to third parties, they will remain in our direct control at all times, allowing us to maintain the focus on day-to-day operational safety. Likewise, because we retain direct control of the fleet, should the need arise, we will have the ability to swiftly and completely resolve any safety or operational concerns.

Introduction of this technology will yield substantial safety, environmental, and equity benefits to the public, as well as help keep the United States in a global technology leadership position. To those ends, our technology and business model support the Department of Transportation's key priorities. Specifically, we are enhancing *safety* through our "prevent and protect" strategy and ongoing control of the fleet, promoting *climate and sustainability* through our shared fleet of all-electric vehicles that will reduce congestion and pollution in our cities, supporting *transformation* by developing and building innovative technologies in the United States that will revolutionize how Americans use our roadways, and increasing *equity* in transportation through our commitment to mobility for all. Since its founding, Zoox has grown to over 1,800 employees, with offices and facilities throughout the U.S., including in California, Massachusetts, Nevada, and Washington.

We publicly revealed our fully autonomous, all-electric vehicle in December 2020 (the "Zoox vehicle"). Developed and assembled in the U.S., the Zoox vehicle is designed with an emphasis on safety, while also optimizing passenger comfort and increasing maneuverability. Safety is foundational at Zoox and, by building from the ground up, we have been able to incorporate more than 100 new safety innovations into the Zoox vehicle. For example, we developed a horseshoe airbag that provides occupant protection for all riders in our cabin and a unique sensor architecture of cameras (visible and long wave infrared), radar, and LIDAR, which together provide an overlapping 360-degree view of the vehicle's surroundings. In addition, we have designed redundancy into the Zoox vehicle, so it will continue to operate safely even if certain systems become unavailable. Our vehicle also includes doors that, instead of swinging out, open to the side, meaning they take up less space and reduce risk of contact with nearby objects and other road users. The Zoox vehicle's small footprint and bidirectional, four-wheel steering provide more precise handling and control in dense urban environments, and our independent braking and active suspension systems create better tire traction and weight distribution, which translates to more braking control and shorter stopping distances.

Our emphasis on safety led us to challenge ourselves, from the beginning, to design the Zoox vehicle to comply with all applicable FMVSS and, where possible, exceed the level of performance required by those standards. As noted in the Special Order, "[s]elf-certification is a foundational responsibility for vehicle manufacturers."² We agree and take that responsibility seriously. As such, we have undertaken a rigorous evaluation that led us to

² *In re Zoox FMVSS Certified Vehicle*, Special Order Directed to Zoox, Inc. at p. 1.

conclude that the Zoox vehicle complies with all existing, applicable standards, the majority of which were assessed using the NHTSA established test procedures.

We recognize that NHTSA has invested substantial time and resources evaluating whether, and how, to amend the FMVSS to facilitate innovative technologies, particularly those that enhance safety and mobility access. In that respect, we appreciate the agency's policies, regulations, and guidance, explaining that there is nothing preventing the testing and deployment of autonomous vehicles that comply with all applicable FMVSS; its interpretation, reaffirming that a manufacturer acting with reasonable care may certify a vehicle, even if the exact compliance test procedures that accompany the standard cannot be performed; and its recent amendments to the occupant protection standards, clarifying their application to vehicles without traditional manual controls. NHTSA's overall task is made more complex by the diversity within the autonomous vehicle and ADS industry. Various manufacturers are focused on different driving modalities (*e.g.*, dual mode versus solely autonomous), different products (*e.g.*, automated driving system versus vehicle platform, and whether that vehicle platform is "conventional" or not), and different business models (*e.g.*, manufacturer fleet ownership and operation versus sale to consumers). Zoox's specific task in evaluating and assuring compliance with the existing FMVSS was not as complex, in large part because Zoox could focus on the safety of a single vehicle model and a single use case. That allowed us to proactively integrate the existing performance requirements and specifically design this vehicle to comply with safety performance standards without relying on exemptions or changes to those standards. We believe that our work complements the agency's ongoing efforts to support development and commercialization of this beneficial technology, and can serve as a model for deployment of this technology in similar circumstances within the existing regulatory framework.

Our path to certification started with determining the appropriate vehicle classification. While we could have classified the Zoox vehicle as a multi-purpose passenger vehicle for purposes of FMVSS certification, we ultimately decided to classify it as a passenger car. We then reviewed all FMVSS to identify the standards generally applicable to passenger cars. After identifying the list of FMVSS applicable to passenger cars, we assessed each standard's performance requirements for applicability to our specific vehicle, because not all FMVSS (or parts thereof) apply to all vehicle designs. The applicable standards and performance requirements were then cascaded to our design engineers for inclusion in vehicle, system, and component designs.

In addition, in evaluating aspects of certain FMVSS that could be read to require that the vehicle design incorporate certain hardware or manual control equipment, we looked at how NHTSA has historically interpreted such requirements in the context of beneficial new technology. As part of that analysis, Zoox considered, among other things, the fundamental safety purpose of the requirement, its origins, and the agency's rationale for the specification, all within the context of assuring that those FMVSS continue to meet the need for safety for an autonomous vehicle as required by federal law. Zoox also carefully considered these provisions in light of the

established tenet that NHTSA foster design flexibility by devising standards that are as performance oriented as possible and do not mandate any particular design.

As our vehicle design matured, we evaluated the appropriate method of assessing compliance with the applicable performance requirements. This evaluation was informed by a review of the test procedures contained in the FMVSS as well as the laboratory test procedures published by NHTSA's Office of Vehicle Safety and Compliance (OVSC). Although a manufacturer may evaluate the compliance of its vehicle through various means, Zoox strived to utilize the NHTSA test procedure whenever, and to the full extent, possible. In fact, we determined that twenty of the applicable standards could be assessed using the published NHTSA test procedures and methods as-written. Four standards were evaluated with only minor adjustments to the NHTSA test procedures. Three standards were evaluated with Zoox-developed, vehicle-specific test procedures for applying the controls, with the remainder of the NHTSA test procedure unchanged. Where such modifications were necessary or appropriate, we took care to minimize the scope of change from the NHTSA procedure and remain consistent with the regulatory framework and NHTSA's authoritative interpretations. Again, manufacturers may base their certification upon procedures other than those specified by NHTSA, such as modified testing, computer simulation, engineering analysis, or other means. manufacturers may base their certification upon procedures other than those specified by NHTSA, such as modified testing, computer simulation, engineering analysis, or other means.

Throughout our certification process, we remained vigilant about advancing safety and meeting our obligation to assure that the Zoox vehicle satisfies the performance requirements of the applicable standards. We started testing our prototypes in 2018 and undertook a process of iterative improvements, which led to the vehicle design that was revealed to the public in December 2020. During the following eighteen months, we completed physical testing and evaluation for all applicable FMVSS. That testing and evaluation demonstrated that our vehicle meets or exceeds all applicable performance requirements. To conduct independent testing, Zoox retained many of the same test houses that NHTSA's OVSC and New Car Assessment Program (NCAP) use for their testing. Where appropriate, we also used engineering analyses and computer aided engineering (CAE) simulations to further support our test results.

As a result of these efforts, on June 30, 2022, we certified the Zoox vehicle. While the Zoox vehicle is not manufactured for sale, nor is there any distributor or dealer to which Zoox can make such certification, the company nevertheless affixed a label reflecting its reasonable and good faith determination that the Zoox vehicle meets (and in many cases exceeds) the performance required by the applicable FMVSS. While the Zoox

vehicle is not yet operating on public roads, we hope to be in the near future.³ Initially, we plan to operate the Zoox vehicle [REDACTED]

Legal Framework

Our certification is rooted in the governing statutory framework and NHTSA authoritative interpretations, which we have summarized here for ease of reference. The National Traffic and Motor Vehicle Safety Act of 1966, as amended and recodified, 49 U.S.C. Chapter 301 (the "Safety Act"), defines the respective responsibilities of NHTSA and vehicle manufacturers in the certification of motor vehicles. For its part, NHTSA sets the minimum performance requirements each motor vehicle must achieve. Manufacturers such as Zoox then must certify compliance with those performance requirements.

In authorizing NHTSA to prescribe motor vehicle safety standards, the Safety Act requires that the standards be "practicable, meet the need for motor vehicle safety, and be stated in objective terms."⁴ Those standards are to be expressed in terms of required performance, rather than design specifications. Indeed, the Safety Act defines the term "motor vehicle safety standard" as "a minimum standard for motor vehicle or motor vehicle equipment performance."⁵ When prescribing such a standard, NHTSA must consider (among other things) whether it is "reasonable, practicable, and appropriate for the particular type of motor vehicle . . . for which it is prescribed," and whether it will carry out the purpose of the statute.⁶ In other words, there must be a nexus between an identified safety need and the performance standard.

The Safety Act prohibits any person from manufacturing for sale, selling, offering for sale, introducing into interstate commerce, or importing a motor vehicle unless it (i) complies with all applicable FMVSS and (ii) is covered by a certification issued under section 30115. As to the first requirement, manufacturers must exercise "reasonable care" to ensure that their products conform to each applicable standard. "If they do, they may certify

³ We are currently testing our ADS on public roads in California, Nevada, and Washington with our fleet of retrofitted Toyota Highlander vehicles. In addition, we have the California permit necessary to operate this fleet without a human driver in a specified operational design domain (ODD) in Foster City.

⁴ 49 U.S.C. § 30111(a).

⁵ 49 U.S.C. § 30102(a)(9).

⁶ 49 U.S.C. § 30111(b).

the vehicle as compliant.”⁷ A manufacturer need not submit any evidence of compliance (*e.g.*, test reports, studies, engineering analyses) to NHTSA as part of its certification, and NHTSA does not issue approvals for motor vehicles or motor vehicle equipment.

While NHTSA does not certify vehicles or approve a manufacturer’s certification, it has established test procedures that it may use in assessing compliance with a standard’s performance requirements post-certification. However, it is NHTSA’s long standing position that “the Safety Act does not require that a manufacturer ensure that NHTSA can validate the manufacturer’s certification through the FMVSS test conditions and procedures when it certifies the vehicle.”⁸ Instead,

A manufacturer may evaluate its products in various ways to determine whether the vehicle or equipment will comply with the safety standards and to provide a basis for its certification of compliance. Depending on the circumstances, the manufacturer may be able to base its certification on actual testing (according to the procedure specified in the standard or some other procedure), computer simulation, engineering analysis, technical judgment or other means...⁹

Thus, “for those vehicles with designs that preclude testing under existing FMVSS test conditions and procedures, a manufacturer acting in good faith and exercising reasonable care may certify the vehicle as compliant even if the Agency cannot conduct the exact test procedure set forth in the standard.”¹⁰

In order to meet the safety purpose of the FMVSS and the statutory requirements of section 30111, NHTSA’s practice and precedent have allowed for flexibility in interpreting the application of the FMVSS to new technology.¹¹ It has been the agency’s longstanding approach to interpret existing standards to accommodate

⁷ *Notice Regarding the Applicability of NHTSA FMVSS Test Procedures to Certifying Manufacturers*, Notice of Interpretation, 85 Fed. Reg. 83143, 83148 (Dec. 21, 2020) (emphasis added).

⁸ *Id.* at 83144. *See also, e.g., Part 571-Federal Motor Vehicle Safety Standards; Fuel System Integrity*, Response to Petitions for Reconsideration, 39 Fed. Reg. 40857, 40858 (Nov. 21, 1974).

⁹ *Id.* at 83146 n25.

¹⁰ *Id.* at 83145.

¹¹ *See, e.g.*, Ltr from ██████████ to Anonymous (Jan. 30, 1997) available at <https://isearch.nhtsa.gov/files/12496-3.pja.html> (noting that, although the language of FMVSS 114 was not intended for electronic key cards, “we must apply it as best we can to your system”); Ltr from ██████████ to ██████████ (Jan. 14, 2016) available at <https://isearch.nhtsa.gov/files/15-005347%20BMW%20Brake%20Transmission%20Shift%20Interlock%20v5.htm> (interpreting

beneficial new technologies that were not contemplated at the time the standard was developed, while ensuring that the standard's safety needs continue to be met. For example, in the context of FMVSS 102 (Transmission shift position sequence, starter interlock, and transmission braking effect), NHTSA considered new start/stop technology that did not comply with a literal reading of the text of the standard.¹² Nevertheless, the agency interpreted the regulation as allowing a manufacturer deploying this innovation to certify compliance with the standard. Specifically, the agency stated:

[T]he agency intends to begin rulemaking to update the language of Standard No. 102 to address the technological advances in this area since the current language was adopted in 1968. Until that action is completed, we will interpret S3.1.3 of Standard No. 102 as requiring that driver activation of the engine starter must be inoperative when the transmission shift lever is in a forward or reverse drive position. *This meaning effectively addresses the purpose of the requirement, while allowing flexibility for advanced designs.* Consistent with this reading of the existing language, the design on your hybrid electric vehicle would not be prohibited by S3.1.3 of Standard No. 102.¹³

NHTSA's exercise of reasonable flexibility, while continuing to effectuate the safety purpose of the standard, has allowed manufacturers to incorporate beneficial innovations for safety, efficiency, accessibility, and consumer choice into their certification.

Once a manufacturer has reasonably determined that its vehicle complies with the applicable standards, Section 30115 establishes the process under which the manufacturer is to affix a label certifying that vehicle's compliance. Specifically, the manufacturer must "certify to the distributor or dealer at delivery that the vehicle or equipment complies with applicable motor vehicle safety standards prescribed under this chapter."¹⁴

Zoox adhered to this legal framework in determining the appropriate test methodologies, assessing compliance with the FMVSS, and certifying the Zoox vehicle. Our approach ensures that our innovative design satisfies not only the purpose of each standard, but also advances the safety needs of the requirements. Zoox's responses to

the phrase "service brake to be depressed" in FMVSS 114 to allow the service brake to be applied by the vehicle as opposed to being pressed or applied by any particular object or function, such as a driver's foot).

¹² Ltr from ████████ to ████████ (Oct. 22, 1999) available at <https://isearch.nhtsa.gov/files/19796-2.html>.

¹³ *Id.* (emphasis added).

¹⁴ 49 U.S.C. § 30115(a).

NHTSA's specific questions are below. We look forward to our continued engagement with NHTSA and answering additional questions you may have.

Response to Special Order Requests

Our specific responses to NHTSA's requests are as follows:

- 1. For each subject vehicle, by make and model, provide the following:**
 - a. The type classification of the vehicle as defined in 49 C.F.R. § 571.3 (e.g., passenger car, truck, multipurpose passenger vehicle, bus, etc).**
 - b. A detailed narrative description of the vehicle sufficient to support the type classification provided above;**
 - c. The gross vehicle weight rating (GVWR);**
 - d. The maximum operational speed of the vehicle;**
 - e. The SAE Automation Level of the vehicle (see SAE J3016 APR2021);**
 - f. A description of the Operational Design Domain (e.g., maximum speed, road type/geometries, geographical, time-of-day restrictions, etc.) and include any weather (temperature, snow, rain, fog, hail, high winds, cloud cover, etc.) or other environmental conditions that may affect the performance of the vehicle's ADS;**
 - g. A representative photograph of the certification label as affixed to a representative subject vehicle; and**
 - h. The total number of vehicles Zoox has certified.**

Response: Please refer to the documents titled "CBI_Response to Request No. 1.pdf" and "Certification label.pdf" in the attached folder marked for Request No. 1.

- 2. State in detail how Zoox determined which FMVSS (or parts thereof) were applicable to the subject vehicle.**

Response: [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

3. State each and every FMVSS each subject vehicle was certified by Zoox as complying with.

Response: Please refer to the document titled "CBI_Response to Request Nos. 3-4.pdf" in the attached folder marked for Request Nos. 3-4.

4. For each and every FMVSS listed in response to the request above, provide a detailed summary of how Zoox determined that the subject vehicle complied with each standard. To the extent that a FMVSS allows for certification under more than one method or subpart, specifically identify the subpart that the subject vehicle was certified to. Specifically state whether Zoox performed engineering analyses, physical tests, simulations, or other means to determine compliance.

Response: [REDACTED]

[REDACTED]

Please refer to the document titled "CBI_Response to Request Nos. 3-4.pdf" in the attached folder marked for Request Nos. 3-4 for further detail on how Zoox determined that the vehicle complied with the performance requirements of each applicable standard.

- 5. State whether Zoox had any indications of the subject vehicle not complying with an applicable FMVSS, regardless of whether a test, analysis or other means to evaluate compliance with an applicable FMVSS was considered a non-test, a failure, or otherwise invalid. If the answer is yes, provide a narrative description of the FMVSS involved and why there was an indication that the subject vehicle did not comply with an applicable FMVSS.

Response: [REDACTED]

[REDACTED]

6. Given that "driver" as defined in 49 C.F.R. § 571.3 is defined as "the occupant of a motor vehicle seated immediately behind the steering control system," state if the subject vehicle has a driver. If the answer is yes, describe in detail who or what Zoox considers to be the driver.

Response: [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

7. Does Zoox contend that any FMVSS or aspect of an FMVSS does not apply to the subject vehicles because they lack a human driver that would otherwise apply if the vehicles had a human driver? If yes, state the FMVSS or aspect of an FMVSS that Zoox contends does not apply and describe with specificity the basis of that contention, including whether it was necessary to Zoox's certification.

Response: [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

- 8. Does Zoox contend that any FMVSS or aspect of an FMVSS does not apply to the subject vehicles because they lack conventional manual controls or other equipment for use by a human driver (including, but not limited to, a brake pedal, gas pedal, steering wheel, mirrors, and telltales) that would otherwise apply if the vehicles had such conventional manual controls or other equipment for use by a human driver? If yes, state the FMVSS or aspect of an FMVSS that Zoox contends does not apply and describe with specificity the basis of that contention, including whether it was necessary to Zoox's certification.

Response: [REDACTED]

- 9. 49 C.F.R. § 571.101 (FMVSS No. 101) S4 defines control as “the hand-operated part of a device that enables the driver to change the state or functioning of the vehicle or a vehicle subsystem.” FMVSS No. 101 S5.1.1 and S5.1.2 specify under certain conditions that certain controls “must be located so they are operable by the driver” and that certain telltales and indicators “must be located so that, when activated, they are visible to a driver.” Other requirements in S5.2.6 stipulate that identifications for certain controls, telltale, and indicators “must appear to the driver to be perceptually upright.” Explain whether and, if so, how the subject vehicles are equipped with controls, telltales, and indicators meeting these requirements.

Response: [REDACTED]

[REDACTED]



[Redacted text block]

[Redacted text block]

[Redacted text block]

[Redacted text block]

[Redacted text block]

[Redacted text block]

[Redacted text block]

[REDACTED]

10. Zoox has publicly stated “Cars have windshield wipers to ensure that visibility isn’t occluded in the rain. Zoox isn’t a car so it doesn’t have that issue. We do, however, have sensors that must be clear of water and debris to function.” 49 C.F.R. § 571.104 (FMVSS No. 104) S4.1 specifies “Each vehicle shall have a power-driven windshield wiping system.” State whether and, if so, how the subject vehicles have a power-driven windshield wiping system. If the subject vehicles have a power-driven windshield wiping system, provide a representative photograph of the power-driven windshield wiping system and any data or reports demonstrating compliance with FMVSS No. 104.

Response: [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

- 11. The subject vehicle appears to be bi-directional. Given that what constitutes the front and rear of the vehicle may be critical to numerous provisions of FMVSS, describe in detail how Zoox determined what was the “front” and what was the “rear” of the vehicle, and how such determinations affected the certification of the subject vehicle.

Response: [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

12. State whether your vehicle is capable of going in reverse, and if so, detail under which circumstances the vehicle could go in reverse.

Response: [REDACTED]

13. State whether the subject vehicle has a turn signal operative unit that is self-canceling by steering wheel rotation. Also state whether the subject vehicle has a manually operated control of a turn signal operating unit. If the answer to any of the previous questions is no, provide in detail how Zoox determined that the subject vehicle complied with FMVSS 108 S9.1.1.

Response: [REDACTED]



[Redacted text block]

[Redacted text block]

[Redacted text block]

[Redacted text block]

[Redacted text block]

[Redacted text block]

[Redacted text block]

[Redacted text block]

[Redacted text block]



[Redacted text block]

[Redacted text block]

[Redacted text block]

[Redacted text block]

[Redacted text block]

14. FMVSS No. 111 contains requirements for rear visibility. To the extent that you do not believe that any or all of FMVSS No. 111 S5 is applicable to the subject vehicle, state all reasons why.

Response: [Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[REDACTED]

[REDACTED]

15. State whether the subject vehicle has an inside rearview mirror of unit magnification. If yes, please describe it in detail and provide a drawing demonstrating its location in the subject vehicle.

Response: [REDACTED]

[REDACTED]

- [REDACTED]
- [REDACTED]
- [REDACTED]

[REDACTED]

16. State whether the subject vehicle has an outside mirror(s) of unit magnification. If yes, please describe in detail and provide a drawing demonstrating its location(s) on the subject vehicle.

Response: [REDACTED]

17. State whether the subject vehicle has a rearview image meeting the requirements of FMVSS No. 111 S5.5.1 through S5.5.7. If yes, please describe it in detail and provide a drawing demonstrating its location in the subject vehicle.

Response: [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



[Redacted text block]

[Redacted text block]

[Redacted text block]

- [Redacted list item]
- [Redacted list item]
- [Redacted list item]
- [Redacted list item]
- [Redacted list item]

[REDACTED]

18. Given the Agency's position that manufacturers are not permitted to certify vehicles as compliant if they do not meet all applicable performance standards (including any particular section of a performance standard or subcomponent thereof) and given the Agency's position that manufacturer of a vehicle without a brake pedal could not certify to 49 C.F.R. § 571.135 (FMVSS No. 135) S5.3.1, provide in detail how Zoox determined that the subject vehicle (which does not appear to have a foot control or brake pedal) complies with the specific requirement in FMVSS 135 S5.3.1. Address in your answer whether and, if so, how Zoox's stated disagreement with NHTSA's position on FMVSS No. 135, as reflected in a public comment dated January 20, 2021, relates to Zoox's determination that the subject vehicle complies with FMVSS No. 135.

Response: [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



[Redacted text block]

[Redacted text block]

[Redacted text block]

[Redacted text block]

[Redacted text block]

[Redacted text block]

[Redacted text block]

[Redacted text block]

[REDACTED]

19. In light of the Agency's stated position in Final Rule, Occupant Protection for Vehicles with Automated Driving Systems, 87 Fed. Reg. 18560, 18567 n.29 (Mar. 30, 2022) that other regulatory changes to the FMVSS not impacted by the rulemaking (e.g., with regard to the 100-Series FMVSSs) would likely be necessary to permit a vehicle solely operated by an ADS to be manufactured for sale (absent an exemption to the FMVSS under 49 C.F.R Part 555) provide a detailed explanation how the subject vehicles comply without any exemption under 49 C.F.R. Part 555.

Response: [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

20. State whether each subject vehicle has a Vehicle Identification Number (VIN) assigned in accordance with 49 CFR Part 565, and state whether you have submitted the information required in 49 CFR 565 to NHTSA.

- a. If you have not assigned VINs to the subject vehicles or if you have not reported VIN information to NHTSA in accordance with 49 CFR Part 565, please provide a detailed status update, including an estimated time frame that the vehicles will be marked with a proper VIN and when the VIN decoding information will be provided to NHTSA.**
- b. If you have assigned VINs to subject vehicles, state when you first affixed the VIN to a subject vehicle and when you first provided the VIN deciphering information to NHTSA. Provide a representative photograph of the VIN as affixed on a representative subject vehicle.**

Response: The VIN was affixed to the Zoox vehicle on June 30, 2022, coincident with the certification label. A representative photograph of the VIN titled "VIN label.pdf" is provided in the attached folder marked for Request No. 20.

In addition, all of the requisite VIN information has been provided to NHTSA in a timely manner. First, the VIN information required by 49 C.F.R. § 565.16(b) was timely submitted by Zoox's agent, the Society of Automotive Engineers (SAE), in or about February 2018.⁵⁶ Second, the VIN information required by 49 C.F.R. § 565.16(c)-(d) was timely submitted by Zoox through the manufacturer's portal on October 17, 2022.

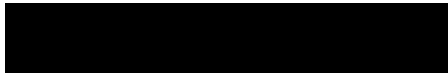
* * *

Zoox appreciates the agency's interest in our certification. We have met our obligations under the Safety Act and believe that our approach is consistent with the Agency's goals of supporting the development and commercialization of this beneficial technology while ensuring that the safety goals of the FMVSS continue to be met. Our previously extended offers for legal and technical briefings stand. We look forward to welcoming you to our facilities to see what we are doing and how we are doing it.

⁵⁶ SAE assigned Zoox's WMI via letter dated February 14, 2018.

If you have any questions regarding the information provided in this response or would like to discuss this matter further, please feel free to contact me at cnalevanko@zoox.com or Beth Mykytiuk at bmykytiuk@zoox.com.

Sincerely,



Christopher Nalevanko
General Counsel

DECLARATION

I, Christopher Nalevanko, state as follows:

1. I am General Counsel for Zoox, Inc., and I am authorized by the company to execute documents on its behalf.
2. I have undertaken and directed an inquiry reasonably calculated to assure that the responses and production of documents are complete and correct.
3. I have directed a diligent search of information and documents responsive to this Special Order and produced them to NHTSA.
4. To the best of my knowledge, the answers to the inquiries provided to NHTSA respond completely and correctly to this Special Order.
5. I certify under penalty of perjury that the foregoing is true and correct.

Executed on this 7th day of November 2022.

A solid black rectangular box redacting the signature of Christopher Nalevanko.

Christopher Nalevanko