Initial Statement of Reasons

Title 13, Division 1, Chapter 1

Article 3.7 – Testing of Autonomous Vehicles

Article 3.8 – Deployment of Autonomous Vehicles

PURPOSE

The Department of Motor Vehicles proposes amend Sections 227.02, 227.04, 227.16, 227.18, 227.20, 227.22, 227.24, 227.26, 227.28, 227.30, 227.32, 227.34, 227.36, 227.38, 227.40, 227.42, 227.44, 227.46, 227.48, 227.50, 227.52, and 227.54, and adopt Sections 227.56, 227.58, 227.60 227.62, 227.64, 227.66, 227.68, 227.70, and 227.72 in Article 3.7 and amend Sections 228.02, 228.04, 228.06, 228.08, 228.10, 228.12, 228.14, 228.16, 228.18, 228.20, 228.22, 228.24, 228.26, and 228.28, and adopt Sections 228.30, 228.32, 228.34, 228.36, 228.38, 228.40, 228.42, and 228.44, Chapter 1, Division 1, Title 13 of the California Code of Regulations, related to the testing and deployment of autonomous vehicles.

ALTERNATIVES CONSIDERED

The department must determine that no reasonable alternative considered, or that has otherwise been identified and brought to the attention of the department, would be more effective in carrying out the purpose for which this action is proposed, would be as effective and less burdensome to affected private persons that the action proposed, or would be more cost-effective to affected private persons and equally effective in implementing the statutory policy or other provision of law.

Article 3.7 - Testing of Autonomous Vehicles

§ 227.00. Purpose.

No amendments to Subdivision (a).

Subdivision (b) is amended to add reference to Article 3.8, specifying that a motor vehicle shall not be operated in autonomous mode on public roads in California except as permitted under Vehicle Code section 38750 and the regulations in both Articles 3.7 and 3.8.

§ 227.02. Definitions.

The following definitions enable the regulated public to better understand terms used throughout Article 3.7 and 3.8. To provide greater clarity on the definition of terms, the department is aligning definitions to the Society of Automotive Engineers (SAE) International's Taxonomy and Definitions for Terms Related to

Driving Automation Systems for On-Road Motor Vehicles, standard J3016 (SAE J3016 APR 2021) which is the leading standards document for driving automation systems and is codified in vehicle code Division 16.6.

Section 227.02 is amended to specify that the defined terms apply to both Articles 3.7 and 3.8.

Subdivision (a) is adopted to define the term "alternate route" is a temporary routing initiated due to an emergent situation and at the discretion of the California Highway Patrol, California Department of Transportation (CalTrans), or applicable local authorities, which may result in routing not otherwise legal for certain size combination vehicles. This temporary routing would only exist for the duration of the incident or closure of the regular legal route. The regulation is adopted to define situations where the autonomous vehicle (AV) must be directed to an alternate route or detour, which may be outside of the AV's normal route. Law enforcement, first responders, and California Department of Transportation may need to direct autonomous heavy-duty commercial motor vehicles away from freeway routes to an alternate route. An alternate route may be outside of the manufacturer's operational design domain and therefore may require additional consideration such as transitioning to a minimal risk condition.

Subdivision (b) is adopted to define the term "automated driving system," which allows the vehicle to perform the entire dynamic driving task on a sustained basis. The department is adopting this term to establish consistency with accepted standards as defined in SAE International's J3016 (APR 2021).

Subdivision (c) is adopted to define the term "automated driving system feature" as a feature of the automated driving system that operates at a specific driving automation level 3, 4, and/or 5 in the Society of Automotive Engineers (SAE) International's Taxonomy and Definitions for Terms Related to Driving Automation Systems for On-Road Motor Vehicles, standard J3016 (APR2021) and within a prescribed operational design domain. The department is adopting this term to delineate unique tasks performed by the automated driving system. This includes, but is not limited to, self-parking features, highway/traffic jam features.

Subdivision (d) is adopted to define the term "automated driving system service" as a product that functions in a service model, whereby the manufacturer provides a registered owner or lessee, who is not the manufacturer of the product, with an automated driving system, that, when equipped to a vehicle and activated, makes the vehicle operate in a manner consistent with the definition of an autonomous vehicle. The term is adopted to

introduce the use case for testing whereby the automated driving system feature is a software-based solution that when activated by the manufacturer will enable the base vehicle to operate as an autonomous vehicle.

Subdivision (e) is adopted to define the term "autonomous heavy-duty commercial motor vehicle" is a motor vehicle required to be registered under the Vehicle Code, has a gross vehicle weight rating of 10,001 pounds or more, is equipped with an automated driving system, and primarily used or maintained to transport property. The department is adopting this term to define an autonomous vehicle that is no longer prohibited from operating on public roads. Additionally, the department, at this time, is limiting this definition to vehicles carrying property and not passengers.

Former subdivision (a) is renumbered to subdivision (f), and the definition of the term "autonomous mode" is amended as the status of operation of an autonomous vehicle when the driving system is performing the dynamic driving task. The department is amending this term to define the status of whether the autonomous vehicle is engaged or disengaged from the dynamic driving task, particularly for traffic safety when a first responder must interact with the vehicle.

Subdivision (g) is adopted to define the term "autonomous test vehicle" as an autonomous vehicle that is operated solely by the manufacturer for testing purposes. The presence in the vehicle of a person that monitors an autonomous vehicle's performance and performs the dynamic driving task fallback shall not affect whether a vehicle meets the definition of an autonomous test vehicle.

Former subdivision (b) is renumbered to subdivision (h), and references to the term "autonomous test vehicle" in subsections (b), (b)(1), (b)(2), and (b)(3) is removed and replaced with the term "autonomous vehicle." The term "autonomous vehicle" is adopted and defined as a vehicle that is equipped with an automated driving system and is capable or designed with the goal of operating without the active physical control or monitoring by a natural person of the autonomous vehicle's performance of the dynamic driving task within the prescribed operational design domain. Subdivision (b) (2) numbering is removed since subsections (b) (1) and (b) (3) are removed, and language is adopted to enable the department to rely on any relevant information available to the department to determine whether a vehicle is equipped with feature(s), that, when engaged, meet the definition of Levels 3, 4, or 5 of the SAE International's J3016 (APR 2021), and is thus subject to Vehicle Code Section 38750 and the regulations in Articles 3.7 and 3.8, thereby falling under statutory and regulatory governance of autonomous vehicles.

Former subdivision (c) is renumbered to subdivision (i), and is amended to define an "autonomous vehicle test driver" as a natural person physically located in the driver's seat of an autonomous test vehicle, whether the vehicle is in autonomous or conventional mode, that possesses the proper class of license for the vehicle operated, expected to monitor the driving environment, supervise the performance of the vehicle and the automated driving system, and capable of taking over active physical control of the vehicle at any time and performing the dynamic driving task fallback immediately. The department is amending this definition, so the manufacturer understands the additional requirements of a safety driver. These requirements are added to enhance traffic safety.

Subdivision (j) is adopted to define the term "avoidance area" as a defined location identified by emergency response officials through an emergency geofencing message, where operation of autonomous vehicles is prohibited until the public agency that issued the emergency geofencing message authorized travel to resume in that area. There is duplication of statute from Vehicle Code section 38751. The department has determined the duplication is necessary to satisfy the clarity standard of Government Code section 11349.1(a)(3).

Former subdivision (d) is renumbered to subdivision (k) and is amended to add that the status of operation of an autonomous vehicle in "conventional mode" is when it is under the active physical control of a driver physically located in the driver's seat of the vehicle and to replace the term "autonomous technology" in the definition with the automated driving system disengaged. This amendment clarifies the role of the person in the driver's seat as a driver and clarifies the status of the automated driving system being disengaged. The department is amending this term to define the status of whether the autonomous vehicle is engaged or disengaged from the dynamic driving task, particularly for traffic safety when a first responder must interact with the vehicle.

Subdivision (l) is adopted to define the term "cyber security" as the manner in which an autonomous vehicle and supporting infrastructure, including, but not limited to, communications, backend logistics, and remote assistance systems, are protected from cyber threats to electrical or electronic components.

Former subdivision (e) is renumbered to subdivision (m) and is amended to define the term "designee" as a natural person authorized by the manufacturer to drive, operate, or perform a remote support function for the manufacturer's autonomous vehicles, autonomous vehicle on-road operations, or automated driving system on public roads. This definition specifies who is authorized to

drive, operate or perform remote support functions for the manufacturer's autonomous vehicle.

Subdivision (n) is adopted to define the term "detour" as a designated route established by a local highway authority or the California Department of Transportation for the express purpose of routing traffic around a temporary closure of a highway for any purpose. The regulation is adopted to define situations where the autonomous vehicle (AV) must be directed to a detour, which may be outside of the AV's normal route. Law enforcement, first responders, and California Department of Transportation may need to direct autonomous heavy-duty commercial motor vehicles away from freeway routes to a detour. A detour may be outside of the manufacturer's operational design domain and therefore may require additional consideration such as transitioning to a minimal risk condition.

Former subdivision (f) is renumbered to subdivision (o) and is amended to define the term "driver" as a natural person who drives or is in actual physical control of the autonomous vehicle when it is not in autonomous mode. This is a non-substantive change.

Subdivision (p) is adopted to define the term "driver's seat" as a sitting or standing position inside the autonomous vehicle from which a natural person is able to perform the dynamic driving task. The department adopted this term to include use cases where the driver could be in either a seated or standing position. The department has encountered situations where the driver is standing.

Subdivision (q) is adopted to define the term "Drivered Testing Permit" as an Autonomous Vehicle Testing (AVT) Program Manufacturer Permit, form OL 315 (Rev. 9/2024), which is hereby incorporated by reference, that is issued by the department to a manufacturer that operates an autonomous test vehicle, and which requires the presence of an autonomous vehicle test driver to operate on public roads. The content of the form may be submitted electronically to the department via the department's web portal application process. Section 2 – Manufacturer Information of the form is amended for a manufacturer that is testing autonomous heavy-duty commercial motor vehicles to provide the United States Department of Transportation identification number and the Carrier identification number to ensure the manufacturer are complying with all commercial motor vehicle requirements. The Carrier identification number is issued by the California Highway Patrol and is required to obtain a Motor Carrier Permit for intrastate commerce. The United States Department of Transportation identification number is required for intrastate and interstate commerce.

Section 3 – Acknowledgement of the form is amended to replace references to the term "operator" with "test driver," who is physically located in the driver's seat and, therefore, capable of taking active physical control of the vehicle. The department is amending this form, so the manufacturer understands the additional requirements of a test driver. These requirements are added to enhance traffic safety.

Subdivision (r) is adopted to define the term "Drivered Testing Permit Application" as an Autonomous Vehicle Tester (AVT) Program Application for Manufacturer's Testing Permit, form OL 311 (Rev. 2/2025), which is hereby incorporated by reference, that is submitted by the manufacturer and must be approved by the department in order to issue a Drivered Testing Permit. The content of the form may be submitted electronically to the department via the department's web portal application process. The form OL 311 is the departmental form when a manufacturer is applying to conduct drivered testing of an autonomous vehicle. This document is the application a manufacturer must complete prior to testing. The department will review and verify all components of the form and, once satisfied that all requirements have been met, will issue a permit authorizing testing and authorizing vehicles to test on public roadways.

Form OL 311 has been updated such that the Additional Permits option has been removed and the phrase "Add/Remove" to Driver(s) and Vehicle(s) is added to the form.

Section 1 is amended to add a requirement for the "United States Department of Transportation Number" and "Carrier Identification Number" to ensure the manufacturers are complying with all commercial motor vehicle requirements. Section 2 is amended to add a requirement for the "Automated Driving System Software Version" to enable the department to track potential risks to traffic safety based on software version. The vehicle type of "Auto" and "Commercial" is removed because the department's registration record already reflects this designation. Section 4 has been amended to simplify the form and ensure that the manufacturer certifies that they will adhere to all regulations outlined in 3.7 for the safe operation of autonomous vehicles on public roads. Section 5 has been amended to simplify the form and ensure that the manufacturer certifies that they will adhere to all regulations outlined in 3.7 for the safe operation of autonomous vehicles on public roads.

Subdivision (s) is adopted to define the term "Driverless Testing Permit" as an Autonomous Vehicle Testing (AVDT) Program Manufacturer Permit – Driverless Vehicles, form OL 315A (Rev. 10/2023), which is hereby incorporated by

reference, that is issued by the department to a manufacturer that operates an autonomous test vehicle and which does not require the presence of an autonomous vehicle test driver in the driver's seat to operate on public roads. The content of the form may be submitted electronically to the department via the department's web portal application process. Section 2 – Manufacturer Information of the form is amended for a manufacturer that is testing autonomous heavy-duty commercial motor vehicles to provide the United States Department of Transportation identification number and the Carrier identification number. The Carrier identification number is issued by the California Highway Patrol and is required to obtain a Motor Carrier Permit for intrastate commerce. The United States Department of Transportation identification number is required for intrastate and interstate commerce and will allow the department to track the United States Department of Transportation identification number safety score through the Federal Motor Carrier Safety Administration as well as any suspensions or out of service orders. In addition, Section 2 of the form is amended to replace references to "AVT permit number" with "AVDT permit number" to convey current driverless testing operations. Section 3 – Acknowledgement of the form is amended to replace references to the term "remote operator" with "remote driver and/or remote assistant."

Subdivision (t) is adopted to define the term "Driverless Testing Permit Application" as an Autonomous Vehicle Tester (AVT) Program Application for Manufacturer's Testing Permit Driverless Vehicles, form OL 318 (Rev. 2/2025), which is hereby incorporated by reference, that is submitted by the manufacturer and must be approved by the department in order to issue a Driverless Testing Permit. The content of the form may be submitted electronically to the department via the department's web portal. The form OL 318 is the departmental form when a manufacturer is applying to test driverless vehicles. This document is the application a manufacturer must complete prior to testing. The fee to process an original or renewal of a Driverless Testing Permit is $3,600. The fee to modify an existing Driverless Testing Permit is $70. This includes modifications to make the vehicle capable of operation at an SAE International level that is different than the level in the approved permit, make the vehicle capable of operation on a roadway type that is different than those in the approved permit, to add a vehicle make and/or model different than the vehicle(s) identified on the approved permit, increase the maximum speed of the vehicle by more than 15 miles per hour above that on the approved permit, make the vehicle capable of operation in geographic areas different than those in the approved permit, modify the days of the week or hours of operation that were identified on the approved permit, remove or modify any restricted

conditions that were identified on the approved permit, and change how law enforcement and other first responders interact with the autonomous vehicle.

The department will review and verify all components of the form and, once satisfied that all requirements have been met, will issue a permit authorizing testing and authorizing vehicles to test on public roadways.

Form OL 318 has been amended to include:

Additional check boxes added where the manufacturer can more specifically indicate its intention to change address, add/remove vehicles, add/remove remote drivers and/or assistants, make a change to its ODD, and vehicle platform change. These changes will enable the department to track whether the modification requested is a basic update or one that will require more substantive review. Basic updates include changes to address, adding/removing vehicles or remote drivers/assistants. Changes to the ODD and vehicle platform require a substantive review prior to approval.

Section 1 – Autonomous Vehicle Tester Information

Section added where Commercial Motor Vehicle manufacturers can provide a U.S. Department of Transportation Number and Carrier Identification Number to allow both light-duty and heavy-duty manufacturers to use the same form. The United States Department of Transportation identification number is required for intrastate and interstate commerce and will allow the department to track the United States Department of Transportation identification number safety score through the Federal Motor Carrier Safety Administration as well as any suspensions or out of service orders.

Section 2 – Driverless Vehicles Equipped for Testing

Adds a section for a manufacturer to include its ADS software version. This will enable the department to track potential risks to traffic safety based on software version.

Section 3 – Remote Drivers/Remote Assistants

Amended to include the addition/removal of remote drivers and remote assistants. Remote operators have become increasingly important as SAE Level 4 features are operated on public roads. The role of these assistants and/or drivers is critical to supporting the safe operation of the autonomous vehicle. The requirement represents the department's experience regulating autonomous vehicles as well as align with industry best practices. Due to the critical role of a remote operator, the department will require the manufacturer

to identify each remote assistant and remote driver at the time of application. Each remote operator will be issued a permit.

Section 4 - Acknowledgments

Section 4 has been amended to simplify the form and ensure that the manufacturer certifies that they will adhere to all regulations outlined in 3.7 for the safe operation of autonomous vehicles on public roads.

Section 5 - Attachments

Section 5 has been amended to simplify the form and ensure that the manufacturer certifies that they will adhere to all regulations outlined in 3.7 for the safe operation of autonomous vehicles on public roads.

Remote Operator has been replaced by "remote driver and remote assistant". Remote operator has been replaced with more accurate terms "remote driver" and "remote assistant" which are defined in SAE J3016 (APR2021) and specify the roles and responsibilities.

Former subdivision (g) is renumbered to subdivision (u), and is amended to define the term "dynamic driving task" as all of the real-time operational and tactical functions required to operate a vehicle in on-road traffic, excluding the strategic functions such as trip scheduling and selection of destinations and waypoints, and including without limitation, the following subtasks: lateral vehicle motional control via steering (operational); longitudinal vehicle motional control via acceleration and deceleration (operational); monitoring the driving environment via object and event detection, recognition, classification, and response preparation (operational and tactical); object and event response execution (operational and tactical); maneuver planning (tactical); and enhancing conspicuity via lighting, sounding the horn, signaling, gesturing, etc. (tactical). The definition aligns with SAE J3016 (APR 2021).

Subdivision (v) is adopted to define the term "dynamic driving task fallback" as (1) the response by the vehicle user to either perform the dynamic driving task or achieve a minimal risk condition after occurrence of any dynamic driving task performance-relevant system failure(s) or upon operational design domain exit, or (2) the response by an automated driving system to achieve a minimal risk condition given the circumstances identified in (1).

Subdivision (w) is adopted to define the term "emergency" as an unexpected occurrence demanding immediate action to prevent or mitigate any risk to public safety and/or loss or damage to life, health, property, or essential public services. The term is adopted pursuant to the Vehicle Code section 38751 and

specifies what constitutes an emergency. There is duplication of statute from Vehicle Code section 38751. The department has determined the duplication is necessary to satisfy the clarity standard of Government Code section 11349.1(a)(3).

Subdivision (x) is adopted to define the term "emergency geofencing message" as a message issued by emergency response officials to a manufacturer in the event of an emergency directing autonomous vehicles to leave or avoid an area. The message shall include the initial duration of the defined avoidance area, and provides the street address, intersection, longitude and latitude coordinates, or any other identifying information of the location. The term is adopted pursuant to the Vehicle Code section 38751 and specifies what constitutes an emergency geofencing message. There is duplication of statute from Vehicle Code section 38751. The department has determined the duplication is necessary to satisfy the clarity standard of Government Code section 11349.1(a)(3).

Subdivision (y) is adopted to define and identify an "emergency response official" as emergency dispatchers, first responders, and peace officers as defined in Chapter 4.5 (commencing with Section 830) of Title 3 of Part 2 of the Penal Code. The term is adopted pursuant to the Vehicle Code section 38751 and specifies what constitutes an emergency response official. There is duplication of statute from Vehicle Code section 38751. The department has determined the duplication is necessary to satisfy the clarity standard of Government Code section 11349.1(a)(3).

Subdivision (z) is adopted to define the term "first responder," which includes law enforcement, fire department, and emergency medical personnel. The term is adopted to include additional types of personnel that may interact with an autonomous vehicle.

Subdivision (aa) is adopted to define the term "imminent hazard" as the existence of an operating condition that presents a substantial likelihood that a severe injury or exacerbation of a severe injury may occur if operations are not restricted or discontinued before an investigation of the risk can be completed. The term is adopted to provide clarity for incidents requiring more immediate review and potential enforcement and aligns with thresholds established by the United States Department of Transportation.

Subdivision (bb) is adopted to establish and define the term "local roads" as public roads that provide access to residential areas, businesses, farms, and other local areas. This definition is adopted so manufacturers better understand the applicable restrictions on these types of roads.

Former subdivision (h) is renumbered to subdivision (cc). This regulation is amended to include business entities related to the manufacturer to ensure that the manufacturer's operation of autonomous technology remains in compliance with Article 3.7 and 3.8. The manufacturer has the obligation to provide reporting described under these Articles including operations conducted through a related business entity.

Former subdivision (i) is renumbered to subdivision (dd) and is amended to define the term "minimal risk condition" as a stable, stopped condition to which a vehicle user or an automated driving system may bring a vehicle after performing the dynamic driving task fallback in order to reduce the risk of a crash when a given trip cannot or should not be continued. The definition aligns with SAE J3016 (APR 2021).

Subdivision (ee) is adopted to define "Notice of Autonomous Vehicle Noncompliance", form OL 325 (Rev. 12/2024), which is hereby incorporated by reference, as a notice issued by a peace officer, as defined in Chapter 4.5 (commencing with Section 830) of Title 3 of Part 2 of the Penal Code, to a manufacturer due to an alleged violation of the Vehicle Code or local traffic ordinance while an autonomous vehicle was operating in autonomous mode. The notice is created pursuant to Vehicle Code 38752. The necessity of the Notice of Autonomous Vehicle Noncompliance, form OL 325 (Rev 12/2024) is to ensure the requirements of Assembly Bill 1777 are incorporated by July 1, 2026, allowing a peace officer that observes an alleged violation of the Vehicle Code, or an alleged violation of local traffic ordinance adopted pursuant to the Vehicle Code. This is necessary so the department will be notified of these alleged violations and therefore will be able to discuss/investigate and engage with the manufacturer to ensure traffic safety and compliance with Articles 3.7 and 3.8. There is duplication of statute from Vehicle Code section 38752. The department has determined the duplication is necessary to satisfy the clarity standard of Government Code section 11349.1(a)(3).

Former subdivision (j) is renumbered to subdivision (ff) and is amended to define the term "operational design domain" as the operating conditions under which a given driving automation system or feature thereof is specifically designed to function, including but not limited to, environmental, geographic, and time-of-day restrictions; and/or the requisite presence or absence of certain traffic or roadway characteristics. The definition aligns with SAE J3016 (APR 2021).

Former subdivision (k) is renumbered to subdivision (gg). This is a non-substantive change. No other amendments made.

Former subdivision (l) is renumbered to subdivision (hh). This is a non-substantive change. No other amendments made.

Subdivision (ii) is adopted to define the term "Preliminary information notice" as a request by the department to obtain preliminary information from the manufacturer that addresses or identifies incident(s) involving the operation of an autonomous vehicle(s) on public roads. This information will be requested to allow the department to gain immediate information from the manufacturer related to incidents involving autonomous vehicles.

Former subdivision (m) is renumbered to subdivision (jj). This is a non-substantive change. No other amendments made.

Subdivision (kk) is adopted to define the term "remote assistant" as a natural person who: is not physically located in the driver's seat of the vehicle is able to provide information or advice to an automated driving system-equipped vehicle to facilitate trip continuation when the autonomous vehicle encounters a situation it cannot manage, or provide a command to achieve a minimal risk condition, but does not include remote driving; and is able to provide an autonomous vehicle with revised goals and/or tasks. The term is adopted to reflect the tasks associated with a remote assistant. The definition aligns with SAE J3016 (APR 2021).

Former subdivision (n) is renumbered to subdivision (ll), and the term "remote operator" has been replaced with a more accurate term "remote driver," which is defined as a natural person who is not physically located in the driver's seat of the vehicle; engages and monitors the autonomous vehicle; and is able to perform real time performance of part or all of the dynamic driving task and/or the dynamic driving task fall back (including real-time braking, steering, acceleration, and transmission shifting if remotely driving a commercial vehicle then remote driver shall comply with subparts (F), (G), and (H) of part 383 Title 49). The definition of remote driver aligns with SAE J3016 (APR 2021). A remote driver is akin to a test driver and the qualification requirements represent the department's experience regulating autonomous vehicle test drivers as well as align with requirements for human driven commercial motor vehicles. This requirement is added for safety purposes.

Subdivision (mm) is adopted to define the term "remote operations support," which includes provision of a function by a remotely located human to support on-road operations of an autonomous vehicle, including remote assistance, remote driving, customer support, or dispatching. The term is adopted to encompass the various roles associated with providing remote support of an autonomous vehicle.

Subdivision (nn) is adopted to define the term "Request for information" as a request by the department to obtain substantive information from the manufacturer that addresses or identifies an incident(s) that occurred involving the operation of an autonomous vehicle on public roads. This information will assist the department in a more in-depth review of incidents to ensure the safety of autonomous vehicles on public roads.

Subdivision (oo) is adopted to define the term "safety case" as the manufacturer's structured argument, supported by a body of relevant evidence, that provides a compelling, comprehensible, and valid case that safety engineering efforts have ensured an automated driving system does not pose an unreasonable risk of injury or exacerbating injury. The safety case shall describe a manufacturer's safety lifecycle processes (e.g., development, deployment readiness, and continuous improvement) and include core safety information elements and safety performance indicators associated with core safety information elements.

A Safety Case is a structured argument whereby the manufacturer demonstrates that the AV is ready for testing and deployment on public roads. The safety case while unique to each manufacturer provides a formal structure to evaluate the manufacturer's safety claims and safety culture. The safety case not only describes the design and development associated with autonomous technology, but also describes how the manufacturer will continually monitor, review and update the case based on on-road operations. All of the core safety elements identified have been adopted to assist the department in understanding how the manufacturer has designed, developed, and tested their automated driving system. These elements have been identified as best practices from the Automated Vehicle Safety Consortium AVSC-D-02-2024 and describe the specific aspects of a manufacturer's approach to safety. The department will evaluate the completeness of the safety case at the time of application and refer to the safety case when evaluating incidents occurring on public roads.

Unless noted, each element applies to drivered testing, driverless testing and deployment. A summary of core safety information elements includes, but is not limited to the following:

(1) Use Case Description – How the automated driving system will be utilized in public-facing operations. Description may include a high level description of automated driving system intended use case; types of interactions with other road users; consumers; infrastructure; expected fleet size for deployment; list of likely hazards associated with the use case.

(2) Operational Design Domain – Driverless testing and deployment only. This core element is required for driverless testing (SAE Level 4 and 5) and deployment (SAE Level 3, 4 and 5). Under a drivered testing permit, a manufacturer is authorized to operate on any public road in California. In contrast, under a driverless testing and deployment permit, a manufacturer is restricted to a specific operational design domain.

(3) Non-Proprietary Aspects System Design – Outline of the interaction between key elements within the system. Description may include a system design, functional design, hardware, software, supporting system design.

(4) Vehicle Integration – Description may include information about the existing vehicle platform; high level description of relevant changes made to the vehicle and their impact, if any, to the base vehicle safety features; description of the integration testing conditions for new hardware or software.

(5) Validation and Verification Testing – Processes for testing and analysis, ensuring completion of testing and analysis, and addressing test failures. Description may include how the validation and verification requirement generation process and testing approach cover known unsafe and unknown unsafe scenarios; outline safety assurance processes which explain the measures in place to assess the effectiveness and safety of all components of the system.

(6) Safety Relevant Human Machine Interactions – Description may include functionality of the human machine interface communication system.

(7) Safety Management Systems – Addresses all relevant functions of development, manufacturer, testing, monitoring covering the full scope of the product lifecycle. Full scope includes safety policy and objectives, safety promotion, safety risk management and safety assurance. Description shall include:

(A) Description of the manufacturer's safety policy objectives.

(B) An established methodology for managing safety risks with examples of detected safety incidents and how they were addressed through the safety management system.

(C) Information on how the safety management system incorporates feedback loops across all areas.

(8) Fleet Operations and Maintenance and Operations. Description may include:

(A) Processes to track damage, maintenance inspections, and return to service.

(B) Tracking maintenance activities, demonstrating compliance with maintenance schedules.

(9) Remote Operations, including Remote Assistance – Driverless testing and deployment only. This core element is required for driverless testing (SAE Level 4 and 5) and deployment (SAE Level 4 and 5) where there is no driver seated in the driver's seat. Under a drivered testing permit, there is a safety driver present in the vehicle at all times and remote operations is not required.

Description shall include:

(A) Broad summary of remote assistance system activation processes-triggering conditions, criteria for initiating remote assistance, response times.

(B) Data shared with remote assistant (e.g., camera feeds, vehicle speed, telematics data). Description shall include how this data exchange promotes situational awareness.

(C) Communication infrastructure that facilitates real-time data exchange between the remote assistant and the autonomous vehicles. The description shall include the average and maximum latencies between the autonomous vehicle and the remote assistant and provide a description of the testing and validation the manufacturer performed to ensure operations are robust in light of these latencies.

(D) Training process for remote operators.

(10) Incident Response and Post-Incident Analysis. Description shall include:

(A) Explanation of incident response processes.

(B) Processes for how information will be shared with third parties (e.g., first responders, department), as appropriate.

(C) Processes for testing incident response plans (e.g., simulations, dry runs, tabletop exercises).

(D) Procedures for post-incident investigations, in-depth root cause analysis, potential corrective measures, prevention strategies and information sharing.

(11) Post Crash Vehicle Response, Data Collection and Analysis. Description shall include:

(A) Process for communicating the incident internally and externally.

(B) Process and steps taken to support the passenger or other road users and parties involved after the crash.

(C) Process for collecting and managing crash related data.

(12) First Responder Safety Interactions – Driverless testing and deployment only. This core element is required for driverless testing (SAE Level 4 and 5) and deployment (SAE Level 3, 4 and 5) and provides information related to the safe interaction with an autonomous vehicle.

(13) Safety-Relevant Cybersecurity – Formal, comprehensive, and effective methodology to manage safety- relevant cybersecurity. Description may include:

(A) Company's security goals.

(B) Foundational elements of the established methodology.

(14) Misuse Mitigation – Driverless testing and deployment only. This core element addresses safety of passengers, vehicle users and other road users and is applicable to driverless testing (SAE Level 4 and 5) and deployment (SAE Level 3, 4 and 5) where passenger service is being conducted or where the vehicle is being sold, leased or utilized by someone other than the manufacturer.

Description may include:

(A) Safety guidelines for passengers and end users.

(B) Educational programs for passengers and end users.

(C) Automated driving system's general response in situations where misuse has been detected to facilitate safety of the passengers and the public.

Subdivision (pp) is adopted to define the term "testing" means the operation of an autonomous vehicle on public roads by employees, contractors, or designees of a manufacturer for the purpose of assessing, demonstrating, and validating the automated driving system's capabilities. This requirement is adopted to differentiate from manual operation of a testing vehicle.

Subdivision (qq) is adopted to define the term "vehicle immobilization" as a stop on a public road in an active travel lane when the autonomous vehicle is not able to continue the dynamic driving task and must be retrieved or requires manual intervention. The term is adopted to support the department's effort related to monitoring and tracking the safe operation of autonomous vehicles on public roads. As driverless vehicles began operating more frequently in 2021 and 2022, the department received reports of autonomous vehicles being

stopped in the public roadways. The National Highway Traffic Safety Administration opened a preliminary investigation on Cruise LLC on December 12, 2022 (PE22014) which reviewed immobilization events occurring on public roads. These events are not currently required to be reported to the department and occur when an autonomous vehicle cannot continue the driving task. In many instances these stops are resolved by the autonomous vehicle communicating with a remote assistant, but a percentage are not, and the manufacturer needs to manually retrieve the vehicle. The department will utilize the instances where the vehicle cannot continue and needs to be retrieved. These immobilizations provide information into challenges within the operational design domain and the department will engage with the manufacturer to understand how the incident is being addressed. Frequent data reporting will increase public transparency of autonomous vehicle operations and will also be used in testing summaries when a manufacturer is applying for deployment authorization.

§ 227.04. Requirements for a Manufacturer's Testing Permit.

No amendments are made to subdivision (a).

Subdivision (b) is amended to remove reference to Section 227.38, replacing with Section 227.42. These changes are non-substantive.

Subdivision (c) is amended to remove the word "with" in the phrase formerly written as "The manufacturer has in place and has provided the department with evidence." This is not a substantive change.

Subdivision (d) is amended to add references to "Drivered," and "Driverless" Testing Permits. This amendment will ensure consistency with the amended definitions.

§ 227.14. Autonomous Test Vehicles Proof of Financial Responsibility.

No amendments are made to subdivision (a).

Subdivision (b) is amended to specify that the manufacturer shall keep a copy of the bond inside the test vehicle while operating the vehicle on public roads. This requirement ensures that the manufacturer maintains evidence of financial responsibility in the vehicle that demonstrates ability to respond to judgment(s) for damages for personal injury, death, or property damage arising from the operation of autonomous test vehicles on public roads.

§ 227.16. Identification of Autonomous Vehicles.

Subdivision (a) is amended to require the manufacturer to identify all autonomous test vehicles at the time of submission of the Drivered Testing Permit Application, form OL 311 (Rev. 2/2025) or Driverless Testing Permit Application form OL 318 (Rev. 2/2025), removing former language for a manufacturer to provide this information to the department in writing. The amendment clarifies the process by which the manufacturer shall identify the vehicles in writing. The application process allows the department to conduct vehicle registration review and appropriately mark the vehicle record for tracking purposes.

No amendments are made to subdivision (a) (1) through (a) (3).

Subdivision (a) (4) is adopted to require the manufacturer to provide the software version number of the automated driving system equipped to each identified vehicle. Identifying the software version at the time of the application allows the department to track progression of the ADS development and acts as a marker when reviewing incidents. When an incident requires an update to the software, the department, through engagement with the manufacturer, can track and evaluate potential regressions. The department appreciates that software versions change regularly, and the data point received during the application process acts only as a marker in time.

Subsections (b), (b)(1), and (b)(2) are adopted to require the manufacturer to provide for each identified autonomous heavy-duty commercial motor vehicle: (1) A valid United States Department of Transportation number; (2) An active carrier identification number (California number) issued by the Department of the California Highway Patrol. The United States Department of Transportation identification number is required for intrastate and interstate commerce and will allow the department to track the United States Department of Transportation identification number safety score through the Federal Motor Carrier Safety Administration as well as any suspensions or out of service orders.

Former subdivision (b) is renumbered to subdivision (c). No other amendments are made.

Subdivision (d) is adopted to require the manufacturer to certify that a physical copy of the permit will be maintained in each vehicle identified on an Autonomous Vehicle Testing (AVT) Program Test Vehicle Permit at all times while operated on public roads. This requirement ensures that the vehicle has been appropriately registered under the autonomous vehicle program. Pursuant to Vehicle Code 22651 an autonomous vehicle operating without a permit may be subject to impoundment.

Form OL 313 (Rev. 9/2024) includes amendments to Section 2 – Manufacturer Information of the form is amended for a manufacturer that is testing autonomous heavy-duty commercial motor vehicles to provide the United States Department of Transportation identification number and the Carrier identification number. The Carrier identification number is issued by the California Highway Patrol and is required to obtain a Motor Carrier Permit for intrastate commerce. The United States Department of Transportation identification number is required for intrastate and interstate commerce. The United States Department of Transportation identification number is required for intrastate and interstate commerce and will allow the department to track the United States Department of Transportation identification number safety score through the Federal Motor Carrier Safety Administration as well as any suspensions or out of service orders.

Subdivision (e) is adopted to require the manufacturer to certify that a copy of the permit will be readily available in the vehicle identified on a Driverless Testing Permit vehicle at all times while the vehicle is operating on public roads. This subdivision is adopted to ensure appropriate identification of the autonomous test vehicle. This requirement ensures that the vehicle has been appropriately registered under the autonomous vehicle program. Pursuant to Vehicle Code 22651 an autonomous vehicle operating without a permit may be subject to impoundment.

§ 227.18. Manufacturer's Testing Permit and Manufacturer's Testing Permit – Driverless Vehicles.

Subdivision (a) is amended to remove references of Autonomous Vehicle Testing (AVT) Manufacturer's Testing Permit, replacing with Drivered Testing Permit and Driverless Testing Permit.

Subdivision (b) is amended to remove the capitalization in the term "operational design domain." This is a non-substantive change.

Subdivision (c) is adopted to limit manufacturers of autonomous heavy-duty commercial motor vehicles to conducting driverless testing and deployment within an operational design domain that allows operation only on specified routes legal for the size, weight and loading of the vehicle or vehicle combination. Operation on local roads with a posted speed limit of 25 miles per hour or less is prohibited unless those roads fall within the shortest distance to freeways from hubs, motor carrier and shipper facilities, distribution centers, fueling and charging stations and end points. Manufacturers shall use arterial roadways wherever possible. Autonomous heavy-duty commercial motor vehicles will be prohibited from operating on local roads with a posted speed

limit of 25 miles per hour or less due to the complexity associated with these roadway types (e.g., urban core, residential, school zones) and may only use a local road to access their operational design domain.

Subdivision (c) (1) is adopted to require manufacturers to provide the department the specific routes associated with the operational design domain and identify any local roads associated with accessing the primary routes within the operational design domain. This requirement allows the department to evaluate the ODD at the time of application and to monitor operations during the term of the permit for purposes of compliance.

Subdivision (c) (2) (A) is adopted to require the driver to assume conventional mode operation of the vehicle and follow direction given by first responders, traffic control personnel, and/or devices when conditions on the predesignated routes require a detour or alternate route for commercial motor vehicles. This requirement is adopted for traffic safety and to set forth specific requirements depending on circumstances where the route for the autonomous heavy duty commercial motor vehicle deviates from the operational design domain limitations described in subdivision (c) (1).

Subdivision (c) (2) (B) is adopted to require, when a driver is not present with the vehicle, a remote assistant or remote driver to follow direction given by first responders, traffic control personnel and/or devices when conditions on the predesignated-specified routes require a detour or alternate route for commercial motor vehicles.

Subdivision (c) (2) (C) is adopted to require, when a designated detour or alternate route conflicts with the Vehicle Code or a local ordinance for compliance with maximum height, maximum length, or maximum weight limits, as recognized or limited by the operational design domain, the manufacturer to ensure the vehicle can be legally parked and an assessment made confirming the legality and physical capability of the commercial motor vehicle to safely travel on the detour or alternate route. This requirement is adopted for traffic safety and to set forth specific requirements depending on circumstances where the route for the autonomous heavy duty commercial motor vehicle deviates from the operational design domain limitations described in subdivision (c) (1).

Subdivision (c) (2) (D) is adopted to prohibit an alternate routing decision made by a driver, remote assistant, or remote driver using only commercially available mapping programs (e.g., Google maps and Apple maps) which do not reflect legal access for the type or configuration of commercial motor vehicle being operated. Commercial motor vehicle drivers use additional tools such as

commercial subscription-based map services to determine roads appropriate for size and weight. CalTrans quick map, has specific filters for size and weight and provides travel updates, as well. This requirement is adopted for traffic safety and to set forth specific requirements depending on circumstances where the route for the autonomous heavy duty commercial motor vehicle deviates from the operational design domain limitations described in subdivision (c) (1).

Subdivision (c) (2) (E) is adopted to set forth that an alternate route may be utilized only when there is a necessity to continue the movement of an autonomous heavy-duty commercial motor vehicles for the purpose of safety and not for the purpose of continuing the movement for a commercial reason. This requirement is adopted for traffic safety and to set forth specific requirements depending on circumstances where the route for the autonomous heavy duty commercial motor vehicle deviates from the operational design domain limitations described in subdivision (c) (1).

§ 227.20. Term of Permit.

Former Section 227.22 is renumbered to Section 227.20. This is a non-substantive change.

Subdivision (a) is amended to remove references of Autonomous Vehicle Testing (AVT) Manufacturer's Testing Permit, replacing with Drivered Testing Permit and Driverless Testing Permit, and to add suspension and revocation as reasons that may lead to a permit becoming invalid prior to the end of the one-year permit term. This is necessary to notify manufacturers that a suspension or revocation will affect the term of the permit, such that the renewal process will not occur until the suspension or revocation is lifted. In addition, Subdivision (a) is amended to change the term of a testing permit to one year. The annual renewal aligns with the annual renewal requirement for registration of conventional vehicles and will amplify the department's regulatory oversight by increasing the frequency of contact between manufacturers and the department which ensures the safe operation of autonomous vehicles on public roads.

Subdivision (b) is amended to remove references of Autonomous Vehicle Testing (AVT) Manufacturer's Testing Permit, replacing with Drivered Testing Permit and Driverless Testing Permit. The department has defined the Drivered Testing and Driverless Testing permits in Sections 227.02 (q) and (s), respectively.

§ 227.22. Enrollment in Employer Testing Program.

Former Section 227.24 is renumbered to Section 227.22. The regulatory text is unchanged.

§ 227.24. Prohibitions on Operation on Public Roads.

Former Section 227.26 is renumbered to Section 227.24. This is a non-substantive change.

Section 227.24 is amended to set forth restrictions under which a manufacturer shall not allow operation of its autonomous test vehicles on public roads in California.

No amendments are made to subdivision (a).

Subdivision (b) is amended to add references to Sections 227.38 and 227.40. This is a non-substantive change.

Subdivision (c) replaces reference to Section 227.38 with Section 227.42. This amendment simplifies the language associated with the role of the autonomous vehicle test driver and is a non-substantive change.

No amendments are made to subdivision (d).

Subdivision (e) is amended to remove reference of Manufacturer's Testing Permit, replacing with Drivered Testing Permit, adding reference to Driverless Testing Permit. The department has defined the Drivered Testing and Driverless Testing permits in Sections 227.02 (q) and (s), respectively.

Subdivision (f) is amended to specify members of the public who are not employees, contractors, or designees of the manufacturer. This amendment ensures that the requirement applies to the manufacturer.

Subdivision (g) is removed. This prohibition has been removed to allow a manufacturer to receive compensation for transporting property only. Autonomous heavy duty commercial motor vehicles are currently carrying commercial loads under their United States Department of Transportation FMCSA registration during testing and development in other jurisdictions. Additionally, manufacturers of autonomous vehicles carrying goods for compensation in California will require a Motor Carrier of Property Permit and shall be subject to terminal inspections and requirements set forth in Vehicle Code Section 34600 et seq.

§ 227.26. Vehicles Excluded from Testing and Deployment.

Former Section 227.28 is renumbered to Section 227.26.

No amendments are made to Subdivisions (a), (a) (1), and (a) (2).

Subdivisions (a) (3) is removed. The section was removed to allow for the autonomous heavy duty commercial motor vehicles to operate through the interstate registration plan.

Subdivision (a) (4) is removed to remove the prohibition of testing and deployment of autonomous vehicles with a gross vehicle weight rating of 10,001 or more pounds.

Former Subdivision (a) (5) is renumbered to (a)(3) and amended to remove reference to the Vehicle Code section 31309 and exception of motortrucks as defined in Vehicle Code section 410 with a gross vehicle weight rating of less than 10,001 pounds and specify the prohibition of testing and deployment of vehicles described in Vehicle Code section 34500 (g). This regulation is amended to include all commercial motor vehicles from transporting hazardous materials.

Subdivision (a) (4) is adopted to prohibit testing or deployment of commercial motor vehicles used by Household movers, as defined in the Business and Professions Code Section 19225.5, under the Household Mover Permit, pursuant to Section 19237 of that code. This regulation is adopted due to these carriers not being subject to the Motor Carrier of Property Permit and therefore not subject to terminal inspections and requirements set forth in Vehicle Code Section 34600 et seq, which may increase risk to traffic safety.

Subdivision (a) (5) is adopted to prohibit testing or deployment of commercial motor vehicles used to transport oversize loads (i.e., any combination of vehicles that require a permit issued by the California Department of Transportation or a local agency). This does not apply to vehicle equipment that is permanently attached and required for safe operation of a vehicle. When a permit is required for equipment permanently attached to the vehicle, the manufacturer shall provide the department with evidence of a permit that has been approved by the authorized issuing entity. This regulation is adopted for traffic safety as this type of vehicle requires additional support vehicles and potential traffic controls.

Subsection (a) (6) is adopted to prohibit testing or deployment of commercial motor vehicles used to transport passengers under any circumstances including when there are no passengers in the vehicle. This regulation is adopted due to these vehicles not being subject to the Motor Carrier of Property Permit and therefore not subject to terminal inspections and requirements set forth in Vehicle Code Section 34600 et seq, which may increase risk to traffic safety.

Subsection (a) (7) is adopted to prohibit testing or deployment of commercial motor vehicles used to transport bulk liquids, requiring a tank endorsement, as defined in the Vehicle Code Section 15278.

Subsection (a) (8) is adopted to prohibit to prohibit testing or deployment of salvage vehicles that are not able to perform the dynamic driving task in a manner that is consistent with the definition of SAE International levels 3, 4, or 5, unless a manufacturer provides a Statement of Facts certifying the feature is deemed capable of operating. This regulation is adopted for safety to prevent vehicles that have been determined to be salvage vehicles from operating as an autonomous vehicle, unless they have been evaluated by the manufacturer and deemed acceptable to operate as autonomous vehicles.

No amendments are made to Subdivision (b).

Since 2014, the department has taken an incremental approach to testing and deployment of autonomous vehicles. California's regulatory framework supports innovation while focusing primarily on traffic safety. The prohibitions introduced in 227.26 are aligned with California's approach to traffic safety. The regulations will initially prohibit autonomous commercial heavy duty motor vehicles from carrying hazardous materials, liquid and oversize loads. Additionally, the regulations will initially focus on the carrying of property and not passengers in commercial heavy-duty vehicles. The department may revisit these prohibitions over time as the technology progresses and use cases expand.

§ 227.28. Manufacturer's Testing Permit Application.

Former Section 227.30 is renumbered to Section 227.28. This is a non-substantive change.

Subdivision (a) is amended to remove reference of an Autonomous Vehicle Tester Program (AVT) Application for Manufacturer's Testing Permit, replacing with Drivered Testing Permit Application, and to allow a manufacturer submitting an original, modification, or renewal of the Drivered Testing Permit Application to submit the form electronically via the department's web portal. The department has defined the Drivered Testing permit in Section 227.02 (q).

Former Subdivision (a) (1) is amended to remove numbering and add reference to Drivered Testing Permit Application.

Subdivision (a) (2) is removed. The department has created electronic processing via the internet to allow for more than 10 vehicles and 20 drivers to be submitted during an application request.

Subdivision (b) is amended to require the manufacturer to notify the department within 10 business days of any change to the manufacturer's contact information under a valid testing permit, including any changes in the authorized representative's email address. The department needs to keep accurate contact information of manufactures, and the 10-day change in contact information requirement is consistent with existing Driver License change of address requirements outlined in Vehicle Code 14600 and Vehicle Registration change of address requirements outlined in Vehicle Code 4159.

Subdivision (c) is amended to remove reference of Manufacturer's Testing Permit, replacing with Drivered Testing Permit, form OL 315 (Rev. 9/2024) as well as reference of form OL 311 (Rev. 2/2025), replacing with Drivered Testing Permit Application, form OL 311 (Rev. 2/2025) and to require the manufacturer to submit a revised Drivered Testing Permit Application to process any other changes or modifications to the Drivered Testing Permit required by the manufacturer during the term of the permit, including but not limited to, changes to the autonomous vehicle driver training program, as described in section 227.36, autonomous vehicle test driver licensing information, and vehicle registration information (e.g., replacing license plates that are lost or stolen, converting registration from auto to commercial), adding any vehicles or autonomous vehicle test drivers that were not identified in the original Drivered Testing Permit Application, form OL 318 (Rev. 2/2025) and issued a permit by the department, removing any vehicles from the Drivered Testing Permit, form OL 315A (Rev. 10/2023) and removing autonomous vehicle test drivers from the Drivered Testing Permit in compliance with section 227.34 (b) (4). The purpose of this regulation is to include examples of modifications to the permit which require the manufacturer to submit an application. The previous regulation did not provide specific examples.

Subdivision (d) is adopted to require a manufacturer submitting either an original or renewal of a Drivered Testing Permit Application,, form OL 311 (Rev. 2/2025) or an original, renewal or modification, that is intended to implement changes as defined in Section 227.42, subsections (n) (1) through (n) (8), of a Driverless Testing Permit Application, form OL 318 (Rev. 2/2025), to provide a safety case and a complete set of core safety information, including safety metrics as described in 227.02 (oo), for the subject autonomous vehicle for testing on public roads in the intended operational design domain. Within 10 business days of the adoption of any material modifications to the core safety information due to a remediation from incidents described in these articles, the manufacturer shall provide the department with the modified version, including a summary of the modifications made. The safety case is a critical component

to understanding the manufacturer's approach to the safe design, development and validation of the autonomous vehicle. The safety case includes both the manufacturer's approach to safety, safety measures as well as how the manufacturer incorporates updates and changes. The department will utilize this important artifact in the assessment of applications as well as reviewing incidents occurring on public roads. For traffic safety, the department must have an up-to-date safety case and core safety elements.

Core Safety Information elements are directly tied to the manufacturer's safety case and approach to designing, developing, and maintaining an autonomous vehicle. These safety elements are recognized industry best practices described by the Automated Vehicle Safety Consortium AVSC-D-02-2024 and will provide the department with a not only safety claims, but safety measures tied to evaluating each claim. This approach preserves the self-certification model and allows the department to facilitate a robust review of the application by understanding the safety approach unique to the manufacturer's use case and operational design domain. The department will require the manufacturer to provide any material updates to the safety information, which will provide a reference when the department is reviewing incidents or other data reporting.

Subsections (e), (e)(1), (e)(2), and (e) (3) are adopted to require a manufacturer submitting a Drivered Testing Permit Application, form OL 318 (Rev. 2/2025) or a Driverless Testing Permit Application, form OL 311 (Rev. 2/2025) for an autonomous commercial motor vehicle to adhere to specific requirements at the time of application and throughout the duration of the permit: (1) Compliance with required inspections pursuant to Vehicle Code Sections 2800 and 2813. Autonomous commercial motor vehicles shall be subject to this paragraph notwithstanding the term "driver" when inspection stops are required; (2) The Basic Inspection of Terminals program requirements contained in Vehicle Code Section 34501.12 and periodic vehicle inspection requirements in Vehicle Code Section 34505.5; and (3) Applicable safety requirements contained in Title 13, Division 2. The requirements align with human driven commercial motor vehicles, and autonomous vehicles are being required to also adhere to these requirements in order to ensure they are operated safely on public roads. The department may revisit these regulations over time as the technology progresses and use cases expand.

§ 227.30. Review of Application.

Former Section 227.20 is renumbered to Section 227.30. This is a non-substantive change.

Subdivision (a) is amended to remove references of Autonomous Vehicle Tester Program (AVT) Application for Manufacturer's Testing Permit, replacing with Drivered Testing Permit Application, form OL 311 (Rev. 2/2025) reference of Autonomous Vehicle Testing (AVT) Program Manufacturer Permit, replacing with Drivered Testing Permit, form OL 315 (Rev. 9/2024) and reference of Autonomous Vehicle Testing (AVT) Program Manufacturer Permit – Driverless Vehicles, replacing with Driverless Testing Permit, form OL 315A (Rev. 10/2023) to specify the department must notify the manufacturer within 10 business days whether all required documentation has been received, and after such notification, the department will conduct a substantive review of the contents submitted by the manufacturer to determine whether the application is sufficient and all requirements have been met. If so, the department shall approve the application and issue a Drivered Testing Permit, form OL 311 (Rev. 2/2025) or Driverless Testing Permit, form OL 315A (Rev. 10/2023).

This Section clarifies the review process associated with the applications. Based on experience reviewing applications and questions from manufacturers, the department is clarifying the 10-day requirement refers to business days not calendar days. The initial review determines whether the application is complete and contains all the components outlined in these articles. After the application is determined to be complete the department conducts a substantive review of the data and safety case and engages with the manufacturer to review the specifics associated with each unique operational design domain. Because each application is unique there is no set timeframe for the approval of an application. This approach aligns with California's focus on traffic safety.

Subdivision (b) is amended to specify that the department shall notify the manufacturer of any deficiency in the application. This is a non-substantive change.

§ 227.32. Requirements for Autonomous Vehicle Test Drivers.

Subdivision (a) is amended to remove the phrase the autonomous vehicle test driver "is either in immediate physical control of the vehicle" and replace with the phrase the autonomous vehicle test driver "has situational awareness of the automated driving system and the vehicle in relation to the driving environment." Based on the department's experience with regulating the testing of autonomous vehicles, this subdivision is amended to align with the expectations and tasks associated with an autonomous test driver. An autonomous test driver must maintain situational awareness of both the vehicle

and the driving environment and be capable to taking over immediate physical control.

No amendments are made to Subdivision (b).

Subdivision (c) is amended to add reference to the California Code of Regulations and local ordinances, add the exception of adherence to traffic safety laws and regulations, for the safety of vehicle's occupants and/or others, including vulnerable road users. This requirement is being added to include evasive maneuvers to protect vulnerable road users and ensure traffic safety.

Subdivision (d) is amended to specify that each autonomous vehicle test driver, knows the limitations of the vehicle's autonomous technology and is capable of safely operating the vehicle in all conditions under which the vehicle can reasonably be expected to encounter. Based on the department's experience with regulating the testing of autonomous vehicles, this subdivision is amended to align with the expectations and tasks associated with an autonomous test driver. This requirement is essential to ensure autonomous vehicles are operated safely on public roads.

Subdivision (e) is adopted to require certification that each autonomous vehicle test driver, of an autonomous heavy-duty commercial motor vehicle shall comply with the hours-of-service regulations set forth in the Title 49 Code of Federal Regulations, Part 395 and Title 13 of the California Code of Regulations section 1212.5 for the type of vehicle being driven or operated. This requirement aligns the regulation for test drivers with federal commercial driver requirements. These requirements are essential to ensure autonomous vehicles are operated safely on public roads.

§ 227.34. Qualifications for Autonomous Vehicle Test Driver.

Section header for 227.34 is amended to rename the section from "Autonomous Vehicle Test Driver Qualifications" to "Qualifications for Autonomous Vehicle Test Driver."

Subdivision (a) is adopted to require the manufacturer to maintain a physical copy of the Autonomous Vehicle Testing (AVT) Program Test Vehicle Operator Permit, form OL 314 (Rev. 10/2023), which is hereby incorporated by reference, in the vehicle the autonomous vehicle test driver is operating at all times while the vehicle is operating on public roads. This requirement is added to ensure that the test driver maintains the permit at all times while operating on public roads, to ensure the driver has the appropriate credentials should there be an on-road incident requiring verification of their safety driver status. Changes include Section 2 – Manufacturer Information of the form is amended for a

manufacturer that is testing autonomous heavy-duty commercial motor vehicles to provide the United States Department of Transportation identification number and the Carrier identification number. The Carrier identification number is issued by the California Highway Patrol and is required to obtain a Motor Carrier Permit for intrastate commerce. The United States Department of Transportation identification number is required for intrastate and interstate commerce. The United States Department of Transportation identification number is required for intrastate and interstate commerce and will allow the department to track the United States Department of Transportation identification number safety score through the Federal Motor Carrier Safety Administration as well as any suspensions or out of service orders. Section 3- has been amended to reflect the role of the test driver and aligns their role with 227.02 (i).

Subdivision (b) has been amended to add that each remote driver permitted by the manufacturer is required to meet certain driver licensing requirements. This requirement has been added to ensure that remote drivers have driving records that align with test drivers. These requirements are essential to ensure autonomous vehicles are operated safely on public roads.

Subdivision (b) (1) has been amended to specify that each autonomous vehicle test driver, and remote driver, shall maintain a valid license with a clean driving record for the three years immediately preceding application to the department. This requirement has been added to ensure that remote drivers have driving records that align with test drivers. These requirements are essential to ensure autonomous vehicles are operated safely on public roads.

No amendments to Subdivisions (b) (1) (A) through (b) (1) (C), and (b)(2).

Subdivision (b) (3) is adopted to require that each autonomous vehicle test driver is enrolled in the manufacturer's Employer Pull Notice Program and must meet all eligibility requirements described in this article on a continuous basis while holding an active permit issued by the department. This requirement is added to ensure that the test driver meets eligibility requirements at the time of application and throughout the term of the permit. These requirements are essential to ensure autonomous vehicles are operated safely on public roads.

Subdivision (b) (4) is adopted to require the manufacturer to immediately remove any autonomous vehicle test driver, who no longer meets the eligibility requirements in this article. The person may not be reinstated to the Autonomous Vehicle Tester (AVT) Program until the manufacturer has verified the person now meets the eligibility requirements in this article. This requirement is added for safety purposes to ensure that the test driver meets eligibility requirements at the time of application and throughout the term of the permit.

Subdivisions (b) (5) and (b) (5) (A) through (b) (5) (D) are adopted to align requirements with those of commercial drivers to ensure safety compliance while operating on California public roads. This requirement is added for safety purposes to ensure that the test driver meets eligibility requirements at the time of application and throughout the term of the permit.

§ 227.36. Autonomous Vehicle Test Driver Training Program.

Section 227.36 is amended to add the requirement for the manufacturer to provide the modified version of the course outline and description of the autonomous vehicle test driver training program within 10 business days of the adoption of any material modifications. Safety drivers are critical to ensuring safe operation during Drivered Testing and manufacturers consistently add and remove safety drivers throughout the course of their permits. The 10-day requirement ensures that the department receives timely updates to the training of these safety critical personnel.

No amendments to Subdivisions (a).

Former Subdivision (a) (1) is removed and is amended to remove references to Section 227.32 (a) and (b) (1), replacing with reference to Section 227.34. This is a non-substantive change.

No amendments to Subdivisions (b) and (c).

§ 227.38. Requirements, Qualifications and Training for Remote Drivers.

Remote operators have become increasingly important as SAE Level 4 features are operated on public roads. The role of these assistants and/or drivers is critical to supporting the safe operation of the autonomous vehicle. The requirements represent the department's experience regulating autonomous vehicles as well as align with industry best practices. Due to the critical role of a remote operator, the department will require the manufacturer to identify each remote assistant and remote driver at the time of application. Each remote operator will be issued a permit. The qualifications, functional and training requirements formalize uniform requirements for all manufacturers to ensure safe operation on public roads.

Section 227.38 is adopted and named as Requirements, Qualifications, and Training for Remote Drivers.

Section 227.38 is adopted to prohibit a manufacturer from allowing any person to act as a remote driver unless certain eligibility requirements have been met.

Subdivision (a) is adopted to require a manufacturer to identify each remote driver to the department at the time of any original, renewal or modification driverless testing application, as applicable providing the driver's true full name, the driver's license number and jurisdiction of issuance of the license, and the remote driver has been issued an Autonomous Vehicle Remote Assistant / Remote Driver Permit, form OL 323 (Rev. 11/2024), which is hereby incorporated by reference. This information allows law enforcement to speak to a remote assistant or remote driver or have their information if conducting an investigation where remote assistance or remote driving was engaged at the time of the event.

The Autonomous Vehicle Remote Assistant/Remote Driver Permit, form OL 323 (Rev. 11/2024), is a necessity to ensure remote assistants and remote drivers are properly qualified and trained to perform remote assistant and remote driver tasks on California public roads. With the scaling of driverless testing and deployment operations in California the role of remote operators is expanding and the need to ensure permitting of trained and qualified remote assistants and remote drivers is essential to maintain safe operations on California public roads.

Subdivision (b) is adopted to set forth functional requirements for remote drivers.

Subdivision (b) (1) is adopted to require a manufacturer to provide a description of the specific remote driving tasks, circumstances under which remote driving may occur, systems and policies for assigning persons be available for and engage in remote driving. The qualifications, functional and training requirements formalize uniform requirements for all manufacturers to ensure safe operation on public roads. Additionally, this information provides the department with a better understanding of incidents occurring on public roads.

Subdivision (b)(2) is adopted to require remote driving to be performed by a person who has been trained and certified for the assigned remote driving task. The qualifications, functional and training requirements formalize uniform requirements for all manufacturers to ensure safe operation on public roads.

Subdivision (b) (3) is adopted to require a manufacturer to describe the method for updating tooling utilized for remote driving to enable changes and improvements as appropriate. This requirement relates to the manufacturer's core safety elements related to remote operations defined in Section 227.02 oo.

Subdivision (b) (4) is adopted to require a manufacturer to provide a description of fatigue risk assessments and how it will reduce or prevent human fatigue,

error, or other adverse effects of fatigue. The remote driver has the capability of performing the dynamic driving task and the manufacturer must provide how fatigue will be monitored to ensure safe operation of the vehicle on public roads.

Subdivision (b) (5) is adopted to require a manufacturer to ensure remote driver has the ability to follow instructions issued by first responders, allow an emergency response official to move the autonomous vehicle, and cause the autonomous vehicle to move as directed by an emergency response official. This is necessary to ensure an autonomous vehicle is capable of being cleared quickly in an emergency situation. There is duplication of statute from Vehicle Code section 38751. The department has determined the duplication is necessary to satisfy the clarity standard of Government Code section 11349.1(a)(3).

Subdivision (b) (6) is adopted to require a manufacturer to ensure remote driver have the ability to bring the autonomous vehicle to a controlled stop in its current travel path allowing the vehicle to remain stopped and not perform any functions in autonomous mode. This is necessary to ensure autonomous vehicles are operated safely on public roads.

Subdivision (b) (7) is adopted to require a manufacturer to remove any remote driver who no longer meets the eligibility requirements in this article and the remote driver may not be reinstated until the manufacturer has verified the person meets eligibility requirements in this article. This regulation is adopted to ensure continuous oversight of remote operators to ensure vehicles are operated safely on public roads.

Subdivision (b) (8) is adopted to require a manufacturer to immediately remove any remote driver of an autonomous commercial heavy duty motor vehicle who engages in conduct prohibited by the Controlled Substance and Alcohol Testing Program, pursuant to Title 49 Code of Federal Regulations, Section 382.501. The person may not be reinstated until the person has met the return-to-duty requirements contained in Title 49 Code of Federal Regulations, Part 40, Subpart O. This regulation of remote drivers is adopted to align with requirements for human drivers of commercial motor vehicles. This requirement is added for safety purposes.

Subdivision (b) (9) is adopted to require a manufacturer to comply with an officer's commands during a vehicle inspection or traffic stop and will not cause the vehicle to move unless directed by a law enforcement officer. This requirement is added for safety purposes for the CHP or law enforcement officer who is conducting the inspection or traffic stop.

Subdivision (c) is adopted to set forth training requirements for remote drivers.

The role of remote drivers is critical to supporting the safe operation of the autonomous vehicle. The training requirements represent the department's experience regulating autonomous vehicles as well as align with industry best practices. The requirements listed are necessary to ensure remote drivers receive the necessary training to ensure they are able to support the safe operation of autonomous vehicles on public roads.

Subdivision (c) (1) is adopted to reference remote driving criteria that includes training and assessment of knowledge about the automated driving system, escalation processes, and tooling utilized to engage in remote driving tasks.

Subdivision (c) (2) is adopted to require a manufacturer to provide training and assessments to enable sufficient evaluation of a person's readiness to respond to the specific type of tasks assigned. This requirement aligns with the safety core elements described in Section 227.02 oo.

Subdivision (c) (3) is adopted to require a manufacturer to certify that the remote driver has received training appropriate for the type of remote driving task. This requirement aligns with the safety core elements described in Section 227.02 oo.

Subdivision (c) (4) is adopted to require a manufacturer to maintain records showing a list of remote driving tasks and each person who is trained and certified for each task. This requirement will assist the department when reviewing incidents occurring on public roads where the autonomous vehicle is supported by a remote operator and ensures that the manufacturer is utilizing remote operators appropriately per the manufacturer's training program.

Subdivision (c) (5) is adopted to require a manufacturer to provide the department within 10 business days of adoption of any material modifications the modified version of the course outline and description of the remote driver training program. Remote drivers are critical to ensuring safe operation of the autonomous vehicle on public roads. The 10-day requirement ensures that the department receives timely updates to the training of these safety critical personnel.

Subdivision (d) is adopted to set forth qualifications for remote drivers.

The role of remote assistants and/or drivers is critical to supporting the safe operation of the autonomous vehicle. A remote driver is akin to a test driver and the qualification requirements represent the department's experience regulating autonomous vehicle test drivers as well as align with requirements for

human driven commercial motor vehicles. This requirement is added for safety purposes.

Subdivision (d) (1) is adopted to require the remote driver to comply with subparts (F), (G), and (H) of part 383 of Title 49 of the Code of Federal Regulations. A remote driver performs the driving task of the autonomous vehicle and must have a license for the type of vehicle being operated on public roads. This requirement is adopted for traffic safety and to ensure a remote driver of an autonomous heavy duty commercial motor vehicle holds a commercial driver license.

Subdivision (d) (2) is adopted to require the remote driver to meet eligibility requirements as described in Section 227.38 (a). A remote driver performs the driving task of the autonomous vehicle and must have a license for the type of vehicle being operated on public roads. This requirement is added for safety purposes.

Subdivision (d) (3) is adopted to require the remote driver to be an employee, contractor, or designee of the manufacturer. The manufacturer is responsible for the design, development, validation, and updates of the automated driving system and as such the remote driver must be under the purview of the manufacturer to ensure the most up to date training. This requirement is added for safety purposes.

Subdivision (d) (4) is adopted to require the remote driver to be trained and certified to respond to each request they are assigned. This requirement aligns with the safety core elements described in Section 227.02 oo and is added for safety purposes.

Subdivision (d) (5) is adopted to require the remote driver to hold a valid driver's license for the type of vehicle being operated. This requirement has been adopted due to the remote driver performing the driving task and operating the vehicle on public roads and is added for safety purposes. The remote driver has the same responsibilities as a driver physically located in the vehicle.

Subdivision (d) (6) is adopted to require the remote driver to be enrolled in the manufacturer's Employer Pull Notice Program and must meet all eligibility requirements described in this article on a continuous basis while holding an active permit issued by the department. This requirement has been adopted due to the remote driver performing the driving task and operating the vehicle on public roads. The remote driver has the same responsibilities as a driver physically located in the vehicle. This requirement is added for safety purposes.

Subdivision (d) (7) is adopted to require each remote driver that operates an autonomous heavy-duty commercial motor vehicle to comply with the hours-of-service regulations, for the type of vehicle being driven or operated, set forth in Title 49 Code of Federal Regulations, Part 395, for vehicles engaged in interstate commerce, or Title 13 California Code of Regulations, Division 2, Chapter 6.5, for vehicles engaged in intrastate commerce, as those terms are defined in Title 13 California Code of Regulations, section 1201. The regulation includes a requirement for the manufacturer to make available logs for inspection pursuant to the Basic Inspection Terminal (BIT) program. The BIT program, which is administered by the California Highway Patrol ensures that motor carriers are adequately maintaining vehicles and overseeing driver hours of service and drug and alcohol screening. This requirement has been adopted due to the remote driver performing the driving task and operating the commercial motor vehicle on public roads and is necessary to ensure that remote drivers are able to assist autonomous heavy-duty commercial vehicles to operate safely on public roads. The remote driver has the same responsibilities as a driver physically located in the vehicle.

Subdivision (d) (8) is adopted to require each remote driver that operates an autonomous heavy-duty commercial motor vehicle, for a type of commercial motor vehicle defined in Title 49 Code of Federal Regulations, section 382.107, to be enrolled in a Controlled Substance and Alcohol Testing Program meeting the requirements of Title 49 Code of Federal Regulations, Part 382, and shall comply with Vehicle Code section 34520. The regulation includes a requirement for the manufacturer to make available logs for inspection pursuant to the Basic Inspection Terminal (BIT) program. The BIT program, which is administered by the California Highway Patrol ensures that motor carriers are adequately maintaining vehicles and overseeing driver hours of service and drug and alcohol screening. This requirement has been adopted due to the remote driver performing the driving task and operating the commercial motor vehicle on public roads. The remote driver has the same responsibilities as a driver physically located in the vehicle. This requirement is added for safety purposes.

§ 227.40. Requirements, Qualifications and Training for Remote Assistants.

Section 227.40 has been adopted to establish that remote assistants have become increasingly important as SAE L4 features are operated on public roads. Remote assistants provide guidance to the autonomous vehicle and do not perform the driving task; however, the role of these assistants is critical to supporting the safe operation of the autonomous vehicle. The following requirements represent the department's experience regulating autonomous vehicles as well as align with industry best practices described by the

Automated Vehicle Safety Consortium AVSC-I-04-2023. Due to the critical role of a remote assistant, the department will require the manufacturer to identify each remote assistant at the time of application. Each remote assistant will be issued a permit and subject to the following requirements.

Section 227.40 is adopted and named as Requirements, Qualifications, and Training for Remote Assistants.

Section 227.40 is adopted to prohibit a manufacturer from allowing any person to act as a remote assistant unless certain eligibility requirements have been met. These requirements are added for safety purposes.

Subdivision (a) is adopted to require a manufacturer to identify each remote assistant to the department at the time of any original, renewal or modification driverless testing application, as applicable providing the driver's true full name, the remote assistant's license number, jurisdiction of issuance of the license, and the remote assistant has been issued an Autonomous Vehicle Remote Assistant / Remote Driver Permit, form OL 323 (Rev. 11/2024). This information allows law enforcement to speak to a remote assistant or have their information if conducting an investigation where remote assistance was engaged at the time of the event.

The Autonomous Vehicle Remote Assistant/Remote Driver Permit, form OL 323 (Rev. 11/2024), is a necessity to ensure remote assistants are properly qualified and trained to perform remote assistant tasks on California public roads. With the scaling of driverless testing and deployment operations in California the role of remote operators is expanding and the need to ensure permitting of trained and qualified remote assistants is essential to maintain safe operations on California public roads.

Subdivision (b) is adopted to set forth functional requirements for remote assistants.

Subdivision (b) (1) is adopted to require a manufacturer to provide a description of how requests for remote assistance are assigned and the process for determining how many agents are required to be available to respond to requests at a given time. This requirement provides details on the specific tasks and roles and responsibilities of each remote assistant. This information will be important in instances where the autonomous vehicle interacts with first responders or when reviewing incidents. Additionally, this information is important to ascertain how many remote assistants are necessary to ensure safe operation of autonomous vehicles.

Subdivision (b) (2) is adopted to require that a remote assistance request shall be assigned only to an agent that has been trained and certified for responding to such a request. Remote assistants provide guidance to the autonomous vehicle and must be appropriately trained on the tools and response mechanisms created by the manufacturer to ensure the safe operation of the autonomous vehicle on public roads.

Subdivision (b) (3) is adopted to require a manufacturer to provide a method for updating tooling utilized to provide remote assistance to enable changes and improvements as appropriate. Remote assistants provide guidance to the autonomous vehicle and updates to training on the tools and response mechanisms are necessary to ensure the safe operation of the autonomous vehicle on public roads.

Subdivision (b) (4) is adopted to require a remote assistant to follow instructions issued by first responders, allow an emergency response official to move the autonomous vehicle, and cause the autonomous vehicle to move as directed by an emergency response official. There is duplication of statute from Vehicle Code section 38751. The department has determined the duplication necessary to satisfy the clarity standard of Government Code section 11349.1(a)(3).

Subdivision (b) (5) is adopted to require a remote assistant to have the ability to bring the autonomous vehicle to a controlled stop in its current travel path allowing the vehicle to remain stopped and not perform any functions in autonomous mode. This requirement is added to clarify requirements pursuant to the Vehicle Code section 38751. The statute requires the remote human operator to have the ability to immobilize the autonomous vehicle. The department is further defining this requirement to ensure a safe controlled stop in lane. This requirement is added for safety purposes.

Subdivision (b) (6) is adopted to require a remote assistant to comply with an officer's commands during a vehicle inspection or traffic stop and will not cause the vehicle to move unless directed by a law enforcement officer. This requirement is added for safety purposes for the CHP or law enforcement officer who is conducting the inspection or traffic stop.

Subdivision (b) (7) is adopted to require a manufacturer to immediately remove any remote assistant who no longer meets the eligibility requirements in this article. The remote assistant may not be reinstated until the manufacturer has verified the person meets the eligibility requirements in this article. This regulation is adopted to ensure continuous oversight of remote operators to ensure vehicles are operated safely on public roads.

Subdivision (c) is adopted to set forth remote assistant training requirements.

Subdivision (c) (1) is adopted to require that for a remote assistant to be assigned to any request, the remote assistant must receive training that includes training and assessment of knowledge about the automated driving system, escalation processes, and tooling utilized to provide remote assistance. Remote assistants provide guidance to the autonomous vehicle and do not perform the driving task; however, the role of these assistants is critical to supporting the safe operation of the autonomous vehicle. The requirements listed are necessary to ensure remote drivers receive the necessary training to ensure they are able to support the safe operation of autonomous vehicles on public roads. This requirement aligns with the safety core elements described in Section 227.02 oo.

Subdivision (c) (2) is adopted to require a manufacturer to provide training and assessments that will be designed to enable sufficient evaluation of a remote assistant's readiness to respond to the specific type of requests assigned. Remote assistants provide guidance to the autonomous vehicle and do not perform the driving task; however, the role of these assistants is critical to supporting the safe operation of the autonomous vehicle. The requirement represents the department's experience regulating autonomous vehicles as well as aligns with the safety core elements described in Section 227.02 oo.

Subdivision (c) (3) is adopted to require completion of foundational training and assessments and necessary training to be certified for an assignment to a specific type of remote assistance request. Remote assistants provide guidance to the autonomous vehicle and do not perform the driving task; however, the role of these assistants is critical to supporting the safe operation of the autonomous vehicle. The requirement represents the department's experience regulating autonomous vehicles as well as aligns with the safety core elements described in Section 227.02 oo.

Subdivision (c) (4) is adopted to require that records to be continually maintained showing at any given time a list of requests for which each agent is trained and certified. Remote assistants provide guidance to the autonomous vehicle and do not perform the driving task; however, the role of these assistants is critical to supporting the safe operation of the autonomous vehicle. This requirement will assist the department when reviewing incidents occurring on public roads where the autonomous vehicle is supported by a remote operator and ensures that the manufacturer is utilizing remote operators appropriately per the manufacturer's training program.

Subdivision (c) (5) is adopted to require the manufacturer to provide the department with the modified version of the course outline and description of

the training program within 10 business days of the adoption of any material modifications. Remote assistants provide guidance to the autonomous vehicle and do not perform the driving task; however, the role of these assistants is critical to supporting the safe operation of the autonomous vehicle. Remote assistants are critical to ensuring safe operation of the autonomous vehicle on public roads. The 10-day requirement ensures that the department receives timely updates to the training of these safety critical personnel.

Subdivision (d) is adopted to set forth remote assistant qualifications.

Subdivision (d) (1) is adopted to require a remote assistant to be trained and certified to respond to each request they are assigned. This requirement aligns with the safety core elements described in Section 227.02 oo and is added for safety purposes.

Subdivision (d) (2) is adopted to require a remote assistant to be an employee, contractor, or designee of the manufacturer. The manufacturer is responsible for the design, development, validation, and updates of the automated driving system and as such the remote driver must be under the purview of the manufacturer to ensure the most up to date training. This requirement is added for safety purposes.

Subdivision (d) (3) is adopted to require a remote assistant to hold a valid driver's license. While remote assistants do not perform the driving task, they provide a critical role in guiding the autonomous vehicle and must understand the rules of the road. This requirement is added for safety purposes.

§ 227.42. Manufacturer's Permit to Test Autonomous Vehicles That Do Not Require a Driver in the Driver's Seat.

Former Section 227.38 is renumbered to Section 227.42. This is a non-substantive change.

The header of Section 227.42 is amended to specify the Driverless Testing Permit, form OL 315A (Rev. 10/2023) is designated for autonomous vehicles that do not require a driver "in the Driver's Seat." In addition, Section 227.42 is amended to specify requirements for a manufacturer desiring to conduct testing of autonomous vehicles designed to be operated on public roads in California in a specific operational design domain without the presence of a driver physically located in the driver's seat of the vehicle, which, at all times, requires a manufacturer to maintain a valid Drivered Testing Permit, form OL 315 (Rev. 9/2024) to possess a Driverless Testing Permit, form OL 315A (Rev. 10/2023). Driverless Testing Permit is defined in Sections 227.02 (s) and (t). Moreover, Section 227.42, is amended to allow a manufacturer submitting an original,

modification, or renewal of the Driverless Testing Permit Application, form OL 318 (Rev. 2/2025) to submit the form electronically via the department's web portal. Electronic submission will allow greater efficiency in application intake and payment of fees.

Subdivisions (a) and (b) are adopted to establish minimum number of miles of testing across the manufacturer's fleet in California prior to applying for a Driverless Testing Permit. The minimum thresholds for light duty autonomous vehicles (50,000 miles) are based on testing data provided by manufacturers that have previously applied and have been approved for Driverless Testing Permits. The lower minimum threshold for low-speed autonomous vehicles (10,000 miles) aligns with the more limited routes associated with the use case. The threshold for autonomous heavy-duty commercial motor vehicles (500,000 miles) is based on fleetwide testing mileage conducted in other jurisdictions and aligns with the longer routes and higher speeds generally associated with the use case. The department has determined through prior experience that these minimum thresholds establish that the manufacturer has demonstrated sufficient experience to apply for a Driverless Testing Permit. The department will not solely rely on this minimum threshold. The regulations establish minimum threshold requirements, and all other requirements described in Article 3.7. All determinations are made on a case-by-case basis based on the totality of each unique application.

Subdivision (a) (1) is adopted to require a manufacturer, except a manufacturer of autonomous heavy-duty commercial motor vehicles, as described in (2), to test a minimum of 50,000 autonomous miles with a valid Drivered Testing Permit on public roads throughout the operational design domain. Also, this Subdivision is adopted to require a manufacturer operating a low-speed autonomous vehicle to test a minimum of 10,000 autonomous miles with a valid Drivered Testing Permit on public roads throughout the operational design domain. Unlike heavy-duty manufacturers, light-duty manufactures will operate in the urban core and on arterial, connector, and local roads. Due to the complexity of California operational design domains (e.g., San Francisco), light-duty manufacturers must conduct all their minimum threshold testing miles on California public roads. The manufacturer is not prohibited from submitting evidence of testing from other jurisdictions, but this evidence will not be a substitute for the minimum threshold requirements.

Subdivision (a) (1) (A) is adopted to require a manufacturer to provide the results of an assessment of operational data from testing with a valid Drivered Testing Permit, form OL 315 (Rev. 9/2024) under the testing parameters in this subsection, which demonstrates evidence supporting all of the manufacturer's core safety

information, provided pursuant to 227.28 (d) for the subject automated driving system to operate throughout the intended operational design domain, and in all conditions that can reasonably be expected to be encountered. This regulation is established to provide the department with operational data from testing which supports the manufacturer's safety claim that the autonomous vehicle can operate safely within the operational design domain without the presence of a safety driver physically located in the vehicle.

Subdivision (a) (1) (A) (i) is adopted to allow the department to request additional information related to the application it deems necessary from the manufacturer if the department ascertains a necessity for more information to assess the safety of an autonomous vehicle capable of operating without the presence of a driver inside the vehicle. This regulation is adopted to provide the department with further understanding incidents and data submitted pursuant to the Driverless Testing application and is necessary for ensuring the safe operation of autonomous vehicles operating on public roads.

Subdivision (a) (2) is adopted to require a manufacturer of autonomous heavy-duty commercial motor vehicles to test a minimum of 500,000 autonomous miles with a valid Drivered Testing Permit, form OL 315 (Rev. 9/2024) on public roads throughout the operational design domain and in all conditions under which the subject automated driving system is intended to operate with a Driverless Testing Permit, form OL 315A (Rev. 10/2023). Up to 400,000 of these miles may occur in other jurisdictions contingent upon the manufacturer providing a summary of testing in a comparable operational design domain which includes crash reports from that jurisdiction; disengagements and remediations; braking events and remediation. 100,000 miles of such testing must occur within the intended operational design domain in California. This requirement establishes a minimum threshold of fleet testing miles in the operational design domain. The threshold is higher than light duty vehicle due to the speed and use case of these heavy-duty vehicles, which generally travel at higher speeds and over longer distances. The department appreciates that manufacturers are already conducting testing of autonomous heavy-duty vehicles on public highways in other jurisdictions and therefore will allow the manufacturer to provide this evidence assuming the operational design domains (e.g., single lane use case, interstate, freeway) are similar. If the manufacturer provides testing from other jurisdictions, they still need to provide the data reporting requirements for California testing miles to demonstrate safe operation during testing. Given California's unique traffic and roadway conditions on freeways (e.g., Los Angeles, Long Beach, Bay Area) the manufacturer must conduct a minimum number of miles on California public roads. This approach strikes a balance

between supporting traffic safety and innovation. The department has determined that 100,000 miles is a sufficient minimum threshold for miles in California due to the size and speed of autonomous heavy duty commercial motor vehicles. The department will not solely rely on this minimum threshold. The regulations establish minimum threshold requirements, and all other requirements described in Article 3.7. All determinations are made on a case-by-case basis based on the totality of each unique application.

Subdivision (a) (2) (A) is adopted to require a manufacturer to provide the results of an assessment, of operational data from testing with a valid Drivered Testing Permit, form OL 315 (Rev. 9/2024) under the testing parameters in this subsection, which demonstrates evidence supporting all of the manufacturer's Core Safety Information, provided pursuant to 227.28 (d) for the subject automated driving system to operate throughout the intended operational design domain, and in all conditions that can reasonably be expected to be encountered. This regulation is established to provide the department with operational data from testing which supports the manufacturer's safety claim that the autonomous vehicle can operate safely within the operational design domain without the presence of a safety driver physically located in the vehicle.

Subdivision (B) is adopted to allow the department to request additional information from the manufacturer that it deems necessary to assess the safety of an autonomous heavy-duty commercial motor vehicle capable of operating without the presence of a driver inside the vehicle. This regulation is adopted to provide the department with further understanding incidents and data submitted pursuant to the Driverless Testing application and is necessary for ensuring the safe operation of autonomous vehicles operating on public roads.

Subdivision (b) is adopted to set forth requirements to apply for a modification for an existing Driverless Testing Permit.

The minimum mileage requirements associated with the modification are based on the presumption that the manufacturer has gone through the initial original application requirements and has provided the department with a comprehensive safety case as well as testing assessment. The modification builds upon the original application.

Subdivision (b) (1) is adopted to require a manufacturer, except a manufacturer of autonomous heavy-duty commercial motor vehicles as described in (2), to test a minimum of 25,000 autonomous miles with a valid Drivered Testing Permit, form OL 315 (Rev. 9/2024), on public roads throughout the operational design domain. Also, this Subdivision is adopted to require a manufacturer operating a low-speed autonomous vehicle to test a minimum of 10,000 autonomous miles

with a valid Drivered Testing Permit, form OL 315 (Rev. 9/2024), on public roads throughout the operational design domain. The manufacturer has previously applied for and received a Driverless Testing Permit. The department has determined through prior experience that these minimum thresholds establish that the manufacturer has demonstrated sufficient experience to apply for a Driverless Testing Permit. The department will not solely rely on this minimum threshold. The regulations establish minimum threshold requirements, and all other requirements described in Article 3.7. All determinations are made on a case-by-case basis based on the totality of each unique application.

Subdivision (b) (2) is adopted to require a manufacturer of an autonomous heavy-duty commercial motor vehicle to test a minimum of 250,000 autonomous miles under an existing driverless Testing Permit. Up to 200,000 of these miles may occur in other jurisdictions contingent upon the manufacturer providing all the reports that California requires to cover that out-of-state testing (i.e., crash reports from that jurisdiction; disengagements and remediations; events and remediation). 50,000 miles of such testing must occur within the intended operational design domain in California. This requirement establishes a minimum threshold of testing miles in the operational design domain for a modification application. The minimum mileage requirements associated with the modification are based on the presumption that the manufacturer has gone through the initial original application requirements and has provided the department with a comprehensive safety case as well as testing assessment. The modification builds upon the original application.

Subdivision (c) is adopted to require a manufacturer submitting an original Driverless Testing or modification application to provide a report of all testing conducted with a Drivered Testing Permit, form OL 315 (Rev. 9/2024) on California public roads inclusive and reflective of the operational design domain for which a Driverless Testing Permit, form OL 315A (Rev. 10/2023) is being sought. This regulation is established to provide the department with operational data from testing which supports the manufacturer's safety claim that the autonomous vehicle can operate safely within the operational design domain without the presence of a safety driver physically located in the vehicle.

Subdivision (c) (1) is adopted to require the manufacturer to provide the total number of miles each autonomous vehicle operated in autonomous mode on public roads prior to the date of application. The total number of disengagements that occurred in autonomous mode in the year prior to the date of application, if any, and a full description of all contributing factors that led to or caused each disengagement and measures taken to remediate the cause of each disengagement, where applicable. This regulation is established

to provide the department with operational data from testing which supports the manufacturer's safety claim that the autonomous vehicle can operate safely within the operational design domain without the presence of a safety driver physically located in the vehicle.

Subdivision (c) (2) is adopted to require the manufacturer to report any traffic collision that occurred during the operation of an autonomous vehicle in autonomous mode on public roads resulting in damage of property in excess of one thousand dollars ($1,000), bodily injury, or death, and a full description of all contributing factors that led to or caused each traffic collision and measures taken to remediate the cause of each traffic collision, where applicable. This information is necessary for the department to evaluate any risks associated with on road operations.

Subdivision (c) (3) is adopted to require the manufacturer to report any braking event, as defined in section 227.64, subsection (a), that occurred during the operation of an autonomous vehicle in autonomous mode on public roads over the year prior to application in the operational design domain that is the same or comparable to that which is intended for testing with a Driverless Testing Permit, form OL 315A (Rev. 10/2023) and a full description of all contributing factors that led to or caused each braking event and measures taken to remediate the cause of each braking event, where applicable. This information is necessary for the department to evaluate any risks associated with on road operations.

Former Subdivision (a) is renumbered to subdivision (d). No other amendments are made. This is a non-substantive change.

No amendments are made to Subdivisions (d) (1), (d) (2), (d) (3), (d) (4), (d) (5), and (d) (6).

Former Subdivision (b) is renumbered to subdivision (e) and is amended to make the term "autonomous test vehicle" plural and to remove "the" in the phrase "complies with all." This is a non-substantive change.

Subdivision (e)(1) is amended to require the manufacturer to certify that the autonomous test vehicle is equipped with a communication link that enables the autonomous vehicle to seek and receive remote support, as applicable, and includes communication of information on the vehicle's location and status. For autonomous vehicles designed for passenger service, there is a method to enable two-way communication for purposes of providing remote operations support to any passengers if the vehicle experiences any failures or other conditions that would endanger the safety of the vehicle's passengers or

other road users, or otherwise prevent the vehicle from functioning as intended without a driver physically located in the driver's seat of the vehicle. Prior language requiring that there is a communication link "between the vehicle and the remote operator to provide information on the vehicle's location and status and allow two-way communication between the remote operator and any passengers if the vehicle experiences any failures that would endanger the safety of the vehicle's passengers or other road users, or otherwise prevent the vehicle from functioning as intended, while operating without a driver" is removed. This amendment specifies the purpose of the communication link and clarifies that the communication link will include the ability for the autonomous vehicle to request (seek) and receive remote support. In addition, the communication link will allow for the remote operator to support any passengers in the vehicle, as applicable.

Subdivision (e) (1) A) is amended to require the manufacturer to certify it has a system and process, which includes use of a redundant communications network to continuously monitor the status and functionality of the vehicle and that a two-way communication link is maintained, while operating the vehicle without a driver physically located in the driver's seat of the vehicle. This requirement is added for safety purposes and to ensure that the manufacturer has designed the communications infrastructure to include redundancies, which mitigates risk of degraded communication.

Subdivision (e) (1) (B) is amended to require the manufacturer's certification to include a description of how the manufacturer will continuously monitor the status of the vehicle and communication link, and what type of data will be monitored. The department is amending this requirement to specify that the monitoring must be continuous while the autonomous vehicle is operating on public roads.

Former Subdivision (b) (1) (C) is removed. The requirement is described in subdivision (e) (1) (B).

Subdivision (e) (1) (C) is adopted to require the manufacturer's certification to include a description of what redundancies and automated driving system capabilities are in place if there is a loss or degradation of the communication link. This requirement is added for safety purposes and to ensure that the manufacturer has designed the communications infrastructure to include redundancies, which mitigates risk of degraded communication. Should the autonomous vehicle experience a loss or degradation of the communication link, the manufacturer must describe how the vehicle will be supported.

Subdivision (e) (1) (D) is adopted to require the manufacturer's certification to include a description of how the manufacturer will support the vehicle in situations including, but not limited to, when the automated driving system executes an automated fallback to a minimal risk condition, a minimal risk condition is triggered by a remote driver or remote assistant, the communication network fails or is degraded, vehicle hardware or software failures. The description should include, but not be limited to, response time, number of personnel, location of personnel, and roles and responsibilities of personnel. This requirement is added for safety purposes and to ensure that the manufacturer has a process in place to support the autonomous vehicle. This process will be reviewed by the department and referenced when evaluating incidents occurring on public roads.

Subdivision (e) (1) (E) is adopted to require the manufacturer's certification to include a description and photographic evidence of the type of control output (e.g., screens, speakers, haptic feedback, etc.) and input devices (e.g., steering wheels, joysticks, keyboards, microphones, etc.) utilized to provide remote operations support, as applicable. The description of these devices allows the department to understand how the remote assistant or remote driver interacts and supports the autonomous vehicle, particularly during on-road incidents. The department can develop questions surrounding remediation efforts and review incidents for any regressions.

No amendments are made to Subdivision (e) (2).

Subdivisions (e) (3) (A) through (e) (3) (H), and (e) (4) are adopted pursuant to the Vehicle Code section 38751. There is duplication of statute from Vehicle Code section 38751. The department has determined the duplication necessary to satisfy the clarity standard of Government Code section 11349.1(a)(3).

Subdivision (e) (3) is adopted to require a manufacturer for autonomous vehicles with a gross vehicle weight rating of less than 10,001 pounds to certify to certain requirements commencing by July 1, 2026.

Subdivision (e) (3) (A) is adopted to require the manufacturer to certify that there is a dedicated emergency response telephone line available for emergency response officials during all hours when the autonomous vehicle is on a public road and is available at no cost to public agencies.

Subdivision (e) (3) (B) is adopted to require the manufacturer to certify that the dedicated emergency response telephone line is equipped and staffed to

ensure calls are picked up within 30 seconds by remote operations personnel who have situational awareness of the autonomous vehicle.

Subdivision (e) (3) (C) is adopted to require the manufacturer to certify that there is a two-way voice communication device that enables emergency response officials that are near the vehicle to communicate effectively with remote operations personnel that have situational awareness.

Subdivision (e) (3) (D) is adopted to require the manufacturer to certify that an emergency response official is able to reach remote operations personnel within 30 seconds after making a request through the two-way voice communication device.

Subdivision (e) (3) (E) is adopted to require the manufacturer to certify that remote operations personnel are able to immobilize the autonomous vehicle, allow an emergency response official to move the vehicle, or cause the autonomous vehicle to move as directed by emergency response official.

Subdivision (e) (3) (F) is adopted to require a manufacturer, whose autonomous vehicle is operating under a Drivered Testing Permit or Driverless Testing Permit, to certify that its fleet shall leave or avoid an identified area within 2 minutes of receiving an emergency geofencing message from an emergency response official. The avoidance area shall remain in place until it is cleared by the same agency that initiated the request.

Subdivision (e) (3) (G) is adopted to require the manufacturer to certify providing the emergency response official with all information necessary for the emergency response official to begin issuing and for the manufacturer to receive and respond to emergency geofencing messages within 30 business days of receiving a notice that an emergency response official wishes to begin issuing emergency geofencing messages.

Subdivision (e) (3) (H) is adopted to require the manufacturer to certify that the autonomous vehicle is equipped with an override system that allows law enforcement and firefighters to immobilize or cause the vehicle to move as necessary to address an emergency and that the manufacturer will provide training to first responders on the use of the override system, which shall be reviewed and updated by the manufacturer as changes are needed.

Subdivision (e) (4) is adopted to require the manufacturer to certify that the autonomous vehicle has an indicator that is visible and interpretable to first responders and identifies when the vehicle is operating in autonomous mode, when the vehicle is operating conventional mode, and when the vehicle will remain stopped.

Subdivision (e) (5) is amended to require the manufacturer of autonomous heavy-duty commercial motor vehicles that do not meet Federal Motor Vehicle Safety Standards, (FMVSS), to provide evidence of an exemption that has been approved by the Federal Motor Carrier Safety Administration. The manufacturer shall provide a copy of the exemption to law enforcement upon request. If exempt, the manufacturer shall describe how the vehicle materially deviates from the FMVSS. For consistency in compliance, this requirement aligns heavy duty vehicles with existing exemption requirements for light duty autonomous vehicles.

Subdivision (e) (6) is adopted to require the manufacturer to certify that the automated driving system is designed to detect and respond to roadway situations in compliance with all provisions of the California Vehicle Code, California Code of Regulations, and local ordinances applicable to the performance of the dynamic driving task in the vehicle's operational design domain, except when necessary to enhance the safety of the vehicle's occupants and/or others. This requirement ensures that the autonomous technology is designed to adhere to not only the vehicle code, but any local regulations, as applicable when performing the dynamic driving task. This requirement is adopted to ensure the safe operation of autonomous vehicles on public roads.

Former Subdivision (c) is renumbered to subdivision (f) and amended to specify the manufacturer certifies that autonomous vehicles are capable of operating without the presence of a driver physically located in the driver's seat of the vehicle and to remove reference to SAE International's standard J3016 (SEP 2016), replacing with reference to the most current version of standard J3016 (APR 2021). This requirement references 227.02 (i) and distinguishes driverless testing from drivered testing.

Former Subdivision (d) is renumbered to subdivision (g), and is amended to require the manufacturer to identify all commonly-occurring or restricted conditions, including, but not limited to: inclement weather conditions and a description of how inclement weather affecting performance in a manner that requires achieving a minimal risk condition is identified, traffic, roadway characteristics, and other known domain constraints, and geo-fencing by location or roadway type, under which the vehicle is unable to operate reliably in autonomous mode, and state the mechanism for safely disengaging autonomous mode in the event the vehicle encounters any condition outside of its prescribed operational design domain. This regulation establishes the requirement for the manufacturer to provide specific information on how the autonomous vehicle will operate in inclement weather. Autonomous vehicles in

California are exposed to a variety of inclement conditions including, but not limited to, rainstorms, wind and fog and weather conditions can change rapidly. This regulation is established to ensure the safe operation of autonomous vehicles on public roads.

Subdivisions (g) is also adopted to ensure that heavy duty autonomous vehicles are operated safely when directed to alternate routes or detours by law enforcement or other officials. This requirement is adopted for traffic safety and will allow the department to evaluate and reference the operational design domain if there is an incident occurring on public roads that deviates from what the manufacturer provides in their application.

Former Subdivision (e) is renumbered to subdivision (h), and is amended to replace the term "Law Enforcement Interaction Plan" with "First Responder Interaction Plan," to require the manufacturer to develop, publish and maintain the plan, to make the plan available to law enforcement agencies and other first responders located within the operational design domain, and to provide automated driving system content to support first responder training development, and to remove definition of the term "first responder," which is already defined in Section 227.02. The necessity of the First Responder Interaction Plan is to ensure the safety of first responders while interacting with autonomous vehicles in testing and deployment operations.

Subdivision (h) (1) is amended to replace the term "Law Enforcement Interaction Plan" with "First Responder Interaction Plan." The title of the "plan" now incorporates interaction with first responders as defined in Section 227.02 (z). Subdivision (h) (1) is amended to set forth requirements on what shall be included in the manufacturer's First Responder Interaction Plan.

Law Enforcement Interaction Plan has been replaced by First Responder Interaction Plan.

California was one of the first states to adopt a robust autonomous vehicles testing framework where a safety driver is removed from the vehicle. The initial Law Enforcement Interaction Plan adopted by California described how law enforcement should interact with a driverless vehicle. Since that time, industry best practices have been developed that build upon law enforcement interactions to include other first responders such as fire department personnel. Subdivision (h) is amended to reflect input gathered from department led first responder roundtables and incorporate industry best practices outlined by the Automated Vehicle Safety Consortium AVSC-I-01-2024.

Subdivision (h) (1) (A) is adopted to require the First Responder Interaction Plan to describe the operational design domain, including, but not limited to geographical area description, road types, speed range, weather condition, time of day. This requirement is adopted to ensure the safety of first responders while interacting with autonomous vehicles in testing and deployment operations.

Subdivision (h) (1) (B) is adopted to require the First Responder Interaction Plan to describe remote operations support, including roles and responsibilities, types of services and hours of operation. This information is critical given the unique roles a remote assistant, remote driver or customer service support personnel. These various remote support personnel have different tasks and responsibilities. This requirement is adopted to ensure the safety of first responders while interacting with autonomous vehicles in testing and deployment operations.

Subdivision (h) (1) (C) is amended to require the First Responder Interaction Plan to include a telephone number dedicated for emergency response officials to directly contact and communicate with a remote operations personnel who has situational awareness of the vehicle and is available at all times that the vehicle is in operation, and describe how to use a the two-way voice communication link enabling communication between emergency response officials and the Remote Operations personnel. There is duplication of statute from Vehicle Code section 38751. The department has determined the duplication is necessary to satisfy the clarity standard of Government Code section 11349.1(a)(3). This requirement is adopted to ensure the safety of first responders while interacting with autonomous vehicles in testing and deployment operations.

Subdivision (h) (1) (D) is adopted to require the First Responder Interaction Plan to include a description and pictures, diagrams or other means to identify the autonomous vehicle. This requirement is adopted to ensure the safety of first responders while interacting with autonomous vehicles in testing and deployment operations.

Subdivision (h) (1) (E) is adopted to require the First Responder Interaction Plan to include instructions on how to safety approach the AV and how to determine the vehicle's mode and how to immobilize the autonomous vehicle. This requirement is adopted to ensure the safety of first responders while interacting with autonomous vehicles in testing and deployment operations.

Subsection (h) (1) (F) is adopted to require the First Responder Interaction Plan to include instructions for accessing registration, permit and proof of insurance information. This requirement is adopted to ensure the safety of first responders

while interacting with autonomous vehicles in testing and deployment operations.

Subdivision (h) (1) (G) is adopted to require the First Responder Interaction Plan to include instructions on the vehicle's electrical power source and instructions for safely disconnecting or otherwise disabling electrical power on the vehicle. This requirement is adopted to ensure the safety of first responders while interacting with autonomous vehicles in testing and deployment operations.

Subdivision (h) (1) (H) is adopted to require the First Responder Interaction Plan to include instructions that enable first responders to act independently or in concert with remote operations support to drive or otherwise safely remove the autonomous vehicle from the active portion of the roadway. Instructions shall include how first responders will move the autonomous vehicle from the roadway if they are unable to contact remote operations support. This requirement is adopted to ensure the safety of first responders while interacting with autonomous vehicles in testing and deployment operations.

Subdivision (h) (1) (I) is adopted to require the First Responder Interaction Plan to include the means for determining the presence of passengers and how first responders may assist them with exiting the vehicle. This requirement is adopted to ensure the safety of first responders while interacting with autonomous vehicles in testing and deployment operations.

Subdivision (h) (1) (J) is adopted to require the First Responder Interaction Plan to include any special considerations for extricating passengers from the autonomous vehicle, including any appropriate or inappropriate cut points or cut zones in the vehicle body/structure. This requirement is adopted to ensure the safety of first responders while interacting with autonomous vehicles in testing and deployment operations.

Subdivision (h) (1) (K) is adopted to require the First Responder Interaction Plan to include a description of any unique hazards or special considerations for extinguishing fires on or around the vehicle, if applicable. This requirement is adopted to ensure the safety of first responders while interacting with autonomous vehicles in testing and deployment operations.

Subdivision (h) (1) (L) is adopted to require the First Responder Interaction Plan to include instructions for coordinating with remote operations support and safety considerations for first responders needing to tow the autonomous vehicle from the roadway. This requirement is adopted to ensure the safety of first responders while interacting with autonomous vehicles in testing and deployment operations.

Former Subdivisions (e) (1) (B), (e) (1) (C), and (e) (1) (E) through (e) (1) (G) are removed because requirements are now replaced by requirements described above.

Former Subdivisions (e) (1) (D) is renumbered to Subdivision (h) (1) (M) and is amended to require the First Responder Interaction Plan to describe the visual indicator inside the cabin that identifies when the vehicle is operating in autonomous mode, and how to safely deactivate the autonomous mode and validate that the autonomous mode has been deactivated. This requirement is adopted to ensure the safety of first responders while interacting with autonomous vehicles in testing and deployment operations.

Former Subdivisions (e) (1) (H) is renumbered to Subdivision (h) (1) (N). No other amendments are made.

Subdivision (h) (2) is adopted to set forth specific requirements for the First Responder Interaction Plan for autonomous heavy-duty commercial motor vehicles.

Subdivision (h) (2) (A) is adopted to require the First Responder Interaction Plan to describe how the vehicle will maneuver to the designated location for a vehicle inspection without posing any risk to traffic safety, other vehicles being inspected, or pedestrians. This requirement is adopted to ensure the safety of first responders and other road users while interacting with autonomous vehicles in testing and deployment operations.

Subdivision (h) (2) (B) is adopted to require the manufacturer to certify that the automated driving system and remote driver and/or remote assistant is able to recognize, respond to, and comply with law enforcement or vehicle inspectors during a vehicle inspection. This requirement is adopted to ensure the safety of first responders or vehicle inspectors while interacting with autonomous vehicles in testing and deployment operations.

Subdivision (h) (2) (C) is adopted to require the First Responder Interaction Plan to describe how the automated driving system and remote assistant will recognize and respond to a vehicle inspection, including, but not limited to, verbal and non-verbal directions by law enforcement and vehicle inspectors, traffic control devices (e.g., signal lamps, changeable message signs, etc.), pavement markings, and zones designated for vehicle inspection without posing any risk to traffic safety, other vehicles being inspected, or pedestrians. This requirement is adopted to ensure the safety of first responders, vehicle inspectors or other road users while interacting with autonomous vehicles in testing and deployment operations.

Subdivision (h) (2) (D) is adopted to require the manufacturer to certify that each remote assistant and remote driver shall comply with an officer's commands during a vehicle inspection or traffic stop and will not cause the vehicle to move unless directed by a law enforcement officer. This requirement is adopted to ensure the safety of first responders while interacting with autonomous vehicles in testing and deployment operations.

Subdivision (h) (2) (E) is adopted to require the manufacturer to establish a dedicated emergency response telephone line that is available for emergency response officials during all hours when the autonomous vehicle is on a public road and is staffed to ensure calls are picked up within 30 seconds by remote operations personnel who have situational awareness of the autonomous vehicle. This requirement is adopted to ensure the safety of first responders while interacting with autonomous heavy-duty vehicles in testing and deployment operations.

Former Subdivision (e) (2) is renumbered to Subdivision (h) (3), and is amended to change the requirement for the manufacturer to review the First Responder Interaction Plan no less than annually to on a quarterly basis, requiring the manufacturer to update the plan based on incidents involving interactions with first responders, including, but not limited to, traffic stops and emergency response scenes that occur on public roads, and as changes are needed. The manufacturer is required to continually update the First Responder Interaction Plan to ensure safety of first responders while interacting with autonomous vehicles in testing and deployment operations.

Former Subdivision (e) (3) is renumbered to Subdivision (h) (4) and is amended to replace reference to Law Enforcement Interaction Plan with First Responder Interaction Plan and specify that the First Responder Interaction Plan shall be submitted via email to the California Highway Patrol within 10 business days. This change reflects updated terminology used in the regulations. California Highway Patrol will need to have the approved plan within 10 business days of the application being approved to ensure the safety of first responders interacting with autonomous vehicles in testing and deployment operations.

Former Subdivision (e) (4) is renumbered to Subdivision (h) (5) and is amended to add the requirement for the manufacturer to provide the department and all law enforcement agencies and first responders in the vicinity of the operational design domain with a copy of the most current version First Responder Interaction Plan, which replaces reference to Law Enforcement Interaction Plan, no later than 10 business days prior to commencing testing. First responders will need to have the approved plan prior to the autonomous vehicle operating on

public roads. This provides time for first responder personnel to include the plan into their operations (e.g., dispatch). This requirement is adopted to ensure the safety of first responders interacting with autonomous vehicles in testing and deployment operations.

Subdivision (h) (6) is adopted to require the manufacturer to submit a revised First Responder Interaction Plan to the department and all other law enforcement and first responders within the operational design domain prior to adopting any changes to the autonomous vehicle or testing operations that include a material change to how law enforcement and other first responders interact with the autonomous vehicle. This requirement is added to ensure that changes to the First Responder plan are reviewed prior to implementation. The manufacturer is required to continually update the First Responder Interaction Plan to ensure safety of first responders while interacting with autonomous vehicles in testing and deployment operations.

Former Subdivisions (f), (f) (1), and (f) (2) are removed and is now incorporated into Sections 227.38 and 227.40.

Subdivision (i) is adopted to set forth requirements for applying for a Driverless Testing Permit.

Subdivision (i) (1) is adopted to require the manufacturer to certify that the automated driving system is able to positively recognize and respond to each type of emergency vehicle (e.g., law enforcement, fire department, emergency medical personnel) that travels in the operational design domain(s) in which the autonomous vehicle is authorized to operate. This requirement is added to ensure that the unique emergency vehicles associated with a jurisdiction are recognized by the automated driving system. This requirement ensures the safe operation of autonomous vehicles on public roads.

Subdivision (i) (2) is adopted to require the manufacturer to describe how the automated driving system, at any given moment, is able to positively recognize and respond to an active emergency vehicle, e.g., via line-of-sight only, audio only, or both line-of-sight and audio. This requirement is added to ensure that the unique emergency vehicles associated with a jurisdiction are recognized by the automated driving system. An emergency vehicle may approach using lights, sirens or both. The manufacturer will be required to indicate how the automated driving system positively identifies these vehicles. This requirement ensures the safe operation of autonomous vehicles on public roads.

Subdivision (i) (3) is adopted to require the manufacturer to provide at what distances and positions at which the automated driving system is able to

positively recognize and respond to an active emergency vehicle's location. This requirement is added to ensure that the unique emergency vehicles associated with a jurisdiction are recognized by the automated driving system. An emergency vehicle may approach using lights, sirens or both. The manufacturer will be required to indicate how the automated driving system positively identifies these vehicles. This requirement ensures the safe operation of autonomous vehicles on public roads.

Subdivision (i) (4) is adopted to require the manufacturer to describe how testing in simulation, on private roads, and/or on public roads is used to validate that the automated driving system is able to recognize and respond to all probable interactions involving an active emergency vehicle or in traffic-controlled situations (e.g., where first responders are directing traffic) in the operational design domain(s) in which the autonomous vehicle is authorized to operate. This shall include testing methods, testing models, testing results, and number of tests conducted prior to application to conduct driverless testing. This requirement is added to ensure that the unique emergency vehicles associated with a jurisdiction are recognized by the automated driving system. An emergency vehicle may approach using lights, sirens or both. The manufacturer will be required to indicate how the automated driving system positively identifies these vehicles. This requirement ensures the safe operation of autonomous vehicles on public roads.

Subdivision (i) (5) is adopted to require the manufacturer to describe how the automated driving system is designed to respond to an approaching emergency vehicle, as necessary to comply with applicable provisions of the Vehicle Code. This requirement is added to ensure that the unique emergency vehicles associated with a jurisdiction are recognized by the automated driving system. An emergency vehicle may approach using lights, sirens or both. The manufacturer will be required to indicate how the automated driving system positively identifies these vehicles. This requirement ensures the safe operation of autonomous vehicles on public roads.

Subdivision (i) (6) is adopted to require the manufacturer to describe how the autonomous vehicle is able to avoid obstructing an active emergency vehicle and the zones where emergency vehicles enter, exit, or are parked, as necessary to comply with applicable provisions of the Vehicle Code. This requirement is added to ensure that the unique emergency vehicles associated with a jurisdiction are recognized by the automated driving system. An emergency vehicle may approach using lights, sirens or both. The manufacturer will be required to indicate how the automated driving system positively

identifies these vehicles. This requirement ensures the safe operation of autonomous vehicles on public roads.

Subdivision (i) (7) is adopted to require the manufacturer to describe how the automated driving system and remote assistant and/or remote driver recognizes, responds to, and complies with the lawful directions of individuals authorized to direct traffic, as necessary to comply with applicable provisions of the Vehicle Code. This requirement is added to ensure that the automated driving system and remote operators are able to understand directions from authorized representatives directing traffic. This requirement ensures the safe operation of autonomous vehicles on public roads.

Subdivision (i) (8) is adopted to require the manufacturer to describe how the automated driving system is capable of complying with first responders directing traffic without posing any risk to safety or impediment to first responders when (i) at, or near, an active emergency response scene, (ii) on any roadway where operating a motor vehicle is prohibited by first responders, or (iii) near an emergency vehicle being operated under the provisions of the Vehicle Code Section 21055. This requirement is adopted to ensure the safety of first responders while interacting with autonomous vehicles in testing and deployment operations along with the safe operation of autonomous vehicles on public roads.

Subdivisions (i) (9) and (i) (10) are adopted to require regular training and the maintenance of a training program so the manufacturer will continue to engage with local first responders on training associated with the interaction of the manufacturer's autonomous vehicle. The manufacturer is required to continually provide updates and training to first responders to ensure safety of these personnel while interacting with autonomous vehicles in testing and deployment operations.

Former Subdivision (g) is removed. The department will receive the manufacturer's safety case as defined in section 227.02 (oo), which will provide the manufacturer's approach to safety relative to designing, testing and validating the automated driving system.

Former Subdivision (h) is renumbered to Subdivision (j) and amended to clarify language. This is a non-substantive change.

Subdivision (k) is adopted to require a manufacturer to describe how the automated driving system achieves a minimal risk condition, and how the vehicle uses a failure mitigation strategy to bring the vehicle to a controlled stop in the event of a system failure in which the automated driving system is unable

to perform the dynamic driving task fallback and achieve a minimal risk condition. This requirement includes additional details surrounding the automated driving system achieving a minimal risk condition and provides greater context regarding the safe operation of the autonomous vehicle. This regulation requires the manufacturer to describe the process by which the autonomous vehicle comes to a controlled stop to ensure the safe operation of the vehicle on public roads. The regulation references processes described in SAE J3016 (APR2021).

Subdivision (i) is renumbered to Subdivision (l).

Subdivision (j) is renumbered to Subdivision (m) and amended to reference the requirements specified in section 227.28 (c) for the manufacturer to implement and process any change to contact information.

Subdivision (k) is renumbered to Subdivision (n), and amended to remove reference of form OL 318, replacing with Driverless Testing Permit Application, form OL 318 (Rev. 2/2025).

Subdivisions (n) (1), (n) (2), (n) (4) are amended to remove the phrase "and/or in addition to." This amendment removes unclear language.

Subdivision (n) (3) is amended to specify a manufacturer is required to submit a revised Driverless Testing Permit Application to increase the maximum speed of the vehicle by more than 15 miles per hour above that on the approved permit. This amendment provides clarity for the manufacturer and specifies that the modification is above what has previously been approved.

Subdivision (n) (5) is adopted to require a manufacturer to submit a revised Driverless Testing Permit Application, form OL 318 (Rev. 2/2025), to modify the days of the week or hours of operation that were identified on the approved permit. This regulation has been adopted to ensure that the department and first responders are aware of any changes to the operation of the autonomous vehicle on public roads.

Subdivision (n) (6) is adopted to require a manufacturer to submit a revised Driverless Testing Permit Application, form OL 318 (Rev. 2/2025), to remove or modify any restricted conditions that were identified on the approved permit. This regulation has been adopted to ensure that the department and first responders are aware of any changes to the operation of the autonomous vehicle on public roads.

Subdivision (n) (7) is adopted to require a manufacturer to submit a revised Driverless Testing Permit Application, form OL 318 (Rev. 2/2025), when

implementing any change on how law enforcement and other first responders interact with autonomous vehicles. This requirement is adopted to ensure the safety of first responders while interacting with autonomous vehicles in testing and deployment operations.

Subdivision (n) (8) is adopted to require a manufacturer to submit a revised Driverless Testing Permit Application, form OL 318 (Rev. 2/2025), to add vehicle make and/or model different than the vehicle(s) identified on the approved permit. This regulation is adopted to require the manufacturer to provide the department with evidence that demonstrates the manufacturer has tested and validated that the subject vehicle platform is safe to operate on public roads in the intended operational design domain.

Subdivision (n) (9) is adopted to require a manufacturer to submit a revised Driverless Testing Permit Application, form OL 318 (Rev. 2/2025), to make changes to the training program, as described in sections 227.38 (c) (5) and 227.40 (c) (5). This regulation is adopted to ensure that the department is aware of any changes on how remote operations personnel support the autonomous vehicle on public roads. This is necessary to ensure the safe operation of autonomous vehicles on public roads.

Subdivision (n) (10) is adopted to require a manufacturer to submit a revised Driverless Testing Permit Application, form OL 318 (Rev. 2/2025), to make changes to remote driver or remote assistant licensing information. This regulation is adopted to ensure that the manufacturer notifies the department of any changes to a remote driver's or remote assistant's licensing qualifications to operate an autonomous vehicle on public roads. This is necessary to ensure the safe operation of autonomous vehicles on public roads.

Subdivision (n) (11) is adopted to require a manufacturer to submit a revised Driverless Testing Permit Application, form OL 318 (Rev. 2/2025), to make changes to vehicle registration information (e.g., replacing license plates that are lost or stolen, converting registration from auto to commercial). This regulation is adopted to ensure that each autonomous test vehicle operating under a manufacturer's permit maintains valid registration at all times and that the manufacturer notifies the department prior to processing any registration changes to a vehicle identified on the permit. This is necessary to ensure the safe operation of autonomous vehicles on public roads.

Subdivision (n) (12) is adopted to require a manufacturer to submit a revised Driverless Testing Permit Application, form OL 318 (Rev. 2/2025), to add any vehicles, remote drivers, or remote assistants that were not identified in the original Driverless Testing Permit Application and issued a permit by the

department. This regulation is adopted to ensure that each vehicle and remote driver or remote assistant complies with the applicable eligibility requirements and is authorized by the department to operate under the manufacturer's permit. This is necessary to ensure the safe operation of autonomous vehicles on public roads.

Subdivision (n) (13) is adopted to require a manufacturer to submit a revised Driverless Testing Permit Application, form OL 318 (Rev. 2/2025), to remove any vehicles from the Driverless Testing Permit. This regulation is adopted to ensure that the manufacturer notifies the department prior to implementing any such permitting changes.

Subdivision (n) (14) is adopted to require a manufacturer to submit a revised Driverless Testing Permit Application, form OL 318 (Rev. 2/2025), to remove any remote drivers from the Driverless Testing Permit. This regulation is adopted to ensure that the manufacturer notifies the department prior to implementing any such permitting changes.

Subdivision (n) (15) is adopted to require a manufacturer to submit a revised Driverless Testing Permit Application, form OL 318 (Rev. 2/2025), to remove any remote assistants from the Driverless Testing Permit. This regulation is adopted to ensure that the manufacturer notifies the department prior to implementing any such permitting changes.

Former Subdivision (l) is removed and has been moved to subdivision (n).

§ 227.44. Refusal of Autonomous Vehicle Testing Permit or Testing Permit Renewal.

Former Section 227.40 is renumbered to Section 227.44. This is a non-substantive change.

Section 227.44 is amended to remove reference of Manufacturer's Testing Permit, replacing with Drivered Testing Permit, form OL 315 (Rev. 9/2024) and reference of Manufacturer's Testing Permit - Driverless Vehicles, replacing with Driverless Testing Permit, form OL 315A (Rev. 10/2023).

No amendments are made to Subdivision (a).

Subdivision (b) is amended to authorize the department to deny an original or renewal testing application for any act or omission of manufacturer, agent, employee, contractor or designees which cause the department to find the operation of autonomous vehicles on public roads in California poses an unreasonable risk of accident, death, injury, or exacerbating injury. This requirement provides greater clarity associated with the term unreasonable risk,

further aligns with the US DOT NHTSA's standard of investigating defects involving unreasonable risk of accident, death, or injury, and provides additional direction to the regulated public.

Subdivision (c) is adopted to allow the department to leverage any other reasonable findings giving the department good cause to find that the operation of autonomous vehicles on public roads in California poses an unreasonable risk of accident, death, injury, or exacerbating injury, that warrants the department to deny an original or renewal testing application. This requirement provides the regulated public with more information on how the department may make the determination to refuse an application.

Former Subdivision (c) is renumbered to Subdivision (d) and is amended to specify the department shall provide a written notice of denial to issue a Drivered Testing Permit, form OL 315 (Rev. 9/2024) or Driverless Testing Permit, form OL 315A (Rev. 10/2023. This amendment references definitions described in Section 227.02.

§ 227.46. Restriction of Autonomous Vehicles Testing Permit.

Section 227.46 is adopted.

Subdivision (a) is adopted to allow the department to leverage incremental enforcement measures, including operational restrictions, that do not require a full suspension or revocation. The department's current enforcement authority provides for only a complete cessation of operation on public roads. The restriction provides the department with an additional enforcement mechanism short of complete cessation. This benefits manufacturers while allowing the department to ensure manufacturers are addressing deficiencies.

Subdivision (b) is adopted to describe the types of operational restrictions. These restrictions focus on incremental aspects of a manufacturer's operations and enforcement that can be segmented based on geographic location, time of day, weather, fleet size in order to address the specific deficiency.

Subdivision (c) is adopted to allow the department to issue an immediate restriction when the autonomous vehicle poses an imminent hazard. Imminent hazard is defined in Section 227.02

Subsection (d) is adopted to describe the process by which the manufacturer can request lifting the restriction. This requirement formalizes a process by which the manufacturer can address the deficiencies that led to the enforcement action.

§ 227.48. Suspension, Revocation, or Restriction of Autonomous Vehicle Testing Permit.

Section 227.42 is renumbered to Section 227.48.

Section 227.48 is amended to add "Restriction" of the permit to the header. This requirement formalizes the department's enforcement authority related to operational restrictions described in Section 227.46.

Subdivision (a) is amended to authorize the department to impose operational restrictions on a Drivered Testing Permit, and to remove reference of Manufacturer's Testing Permit, replacing with Drivered Testing Permit. This requirement adds terms defined in Section 227.02.

No amendments are made to Subdivisions (a) (1) and (a) (2).

Subdivision (a) (3) is adopted to authorize the department to suspend, revoke, or restrict a Drivered Testing Permit for any act or omission of the manufacturer or one of its agents, employees, contractors, or designees which causes the department to find operation of autonomous vehicles on public roads in California poses an unreasonable risk of accident, death, injury, or exacerbating injury. This requirement provides greater clarity associated with the term unreasonable risk, further aligns with the US DOT NHTSA's standard of investigating defects involving unreasonable risk of accident, death, or injury, and provides additional direction to the regulated public.

Subdivision (a)(4) is adopted to authorize the department to suspend, revoke, or impose operational restrictions on a Drivered Testing Permit if the manufacturer failed to respond to a Request for Information issued by the department or failed to respond in the manner specified. This requirement has been added to enforce the department's need to inquire into incidents occurring on public roads and to ensure traffic safety.

Subdivision (a)(5) is adopted to authorize the department to suspend, revoke, or impose operational restrictions on a Drivered Testing Permit if the United States Department of Transportation number associated with an autonomous vehicle is placed on the list of Out-of-Service Orders by the Federal Motor Carrier Safety Administration for any of the reasons defined in the Title 49 Code of Federal Regulations, Parts 385.13, 386.72, and 386.83. This requirement aligns with sanctions that are imposed on commercial motor vehicles when placed out of service by the Federal Motor Carrier Safety Administration and ensures traffic safety.

Subdivision (a)(6) is adopted to authorize the department to suspend, revoke, or impose operational restrictions on a Drivered Testing Permit if the Motor Carrier Permit associated with an autonomous heavy-duty commercial motor vehicle has been suspended by the department for any of the reasons defined in Division 14.85. This requirement aligns with motor carrier permit sanctions imposed on commercial motor vehicles by the department and ensures for traffic safety.

Subdivision (a)(7) is adopted to allow the department to leverage any other reason giving the department good cause to find the conduct of autonomous vehicle testing on public roads by the manufacturer an unreasonable risk of accident, death, injury, or exacerbating injury, and to, therefore, suspend, revoke, or impose operational restrictions on a Drivered Testing Permit. This requirement provides greater clarity associated with the term unreasonable risk, further aligns with the US DOT NHTSA's standard of investigating defects involving unreasonable risk of accident, death, or injury, and provides additional direction to the regulated public.

Subdivision (b) is amended to authorize the department to impose operational restrictions on a Drivered Testing Permit, and to remove reference of Manufacturer's Testing Permit – Driverless Vehicles, replacing with Driverless Testing Permit. This amendment establishes the authority to enforce operational restrictions upon a Driverless Testing Permit. Driverless Testing Permit is defined in 227.02.

No amendments are made to Subdivisions (b)(1) and (b)(2).

Subdivision (b) (3) is amended to remove reference to Section 227.38, replacing with reference to Section 227.42. This is a non-substantive change.

Subdivision (b) (4) is amended to remove reference to Section 227.38 (i), replacing with reference to Section 227.42 (m). This is a non-substantive change.

Subdivisions (b) (5) is amended, and is the same reason prescribed in Subdivisions (a) (3) for suspension, revocation, or restriction of a Drivered Testing Permit.

Subdivision (b) (6) through (b) (9) are adopted, and are the same reasons adopted in

Subdivisions (a) (4) through (a) (7) for suspension, revocation, or restriction of a Drivered Testing Permit.

Subdivision (c) is amended to enable the department to immediately suspend, revoke, or impose operational restrictions on a Drivered Testing Permit and Driverless Testing Permit if the testing poses an imminent hazard. The regulation is adopted to provide clarity for incidents requiring more immediate enforcement action and aligns with thresholds established by the United States Department of Transportation.

§ 227.50. Demand for Hearing.

Section 227.44 is renumbered to Section 227.50.

Subdivision (a) is amended to remove reference of Manufacturer's Testing Permit, replacing with Drivered Testing Permit and Driverless Testing Permit. These terms are defined in Section 227.02.

No amendments are made to Subdivision (b).

§ 227.52. Reinstatement of Testing Permit.

Section 227.46 is renumbered to Section 227.52.

Section 227.52 is amended to impose the restriction of a Drivered or Driverless Testing Permit to remain in effect, or, in the case of a suspension or revocation, the manufacturer shall cease all testing of autonomous vehicles on public roads, until the department determines that the manufacturer has submitted data to the department describing how the deficiencies precipitating the restriction, suspension, or revocation have been addressed. This is necessary to prevent the operation of an autonomous vehicle until it has been established that such operation may be accomplished safely.

§ 227.54. Reporting Collisions.

Section 227.48 is renumbered to Section 227.54.

This regulation is amended to require a manufacturer operating under a Drivered Testing Permit or a Driverless Testing Permit to provide the full National Highway Traffic Safety Administration Standing General Order crash report, including full content of the report, within the timeframes specified pursuant to the National Highway Traffic Safety Administration Standing General Order (MAY2023). In support of the department's role related to monitoring and tracking the safe operation of autonomous vehicles on public roads; the adopted regulations expand required data reporting for testing operations. The following adopted section expands data reporting and aligns crash reporting with the United Sates Department of Transportation, National Highway Traffic Safety Administration's Standing General Order (SGO) for autonomous vehicle

crash reporting. California first created autonomous vehicle crash reporting requirements in 2014. The reporting requirements apply only to testing operations and manufacturers have to provide two separate reports that have similar data. Frequent data reporting will increase public transparency of autonomous vehicle operations. The Standing General Order has been in place since 2021; however, it has not been incorporated into federal regulations. If the Standing General Order is rescinded, subdivision (a) will be applicable.

Subdivision (a) is adopted to provide the department with collision reports within 24 hours and 10 calendar days based on the incident. For collisions resulting in bodily injury or death, the manufacturer is required to submit the report to the department within 24 hours. For collisions resulting in property damage, the manufacturer is required to submit the report to the department within 10 calendar days. Receiving a collision report within 24 hours for more serious incidents allows the department to respond appropriately with enforcement action, if necessary. The 10-day reporting requirement mirrors existing autonomous vehicles collision reporting requirements as well as accident reporting described in Vehicle Code 16000 et seq. This regulation is adopted to ensure that collisions continue to be reported to the department if the federal Standing General Order is rescinded. The regulation preserves the department's original authority to receive reports and expands the timing of those reports to align the 24-hour reporting requirement with the Standing General Order. For collisions resulting in an injury or death, the department needs the report in order to take any enforcement action, as necessary for the safe operation of autonomous vehicles.

Subdivision (b) is adopted to enable the department to require the manufacturer to provide supplemental information at any time in connection with the collision report. This may include, but is not limited to, technical information, images, video and depictions about the status and operation of the vehicle's sensors recorded 30 seconds prior to the time of the collision, including, but not limited to, plots of the distance and the speed difference relative to the relevant targets in the collision path, the speed and acceleration of the host vehicle and the acceleration, braking and steering commands that were issued by the automated driving system, and camera footage with target tracking representations. This regulation is adopted to provide the department with further understanding of the incident and is necessary for ensuring the safe operation of autonomous vehicles operating on public roads.

Subdivision (c) is adopted pursuant to Vehicle Code 38750 and requires that an autonomous vehicle has a separate mechanism, in addition to, and separate from, any other mechanism required by law, to capture and store the

autonomous technology sensor data for at least 30 seconds before a collision occurs between the autonomous vehicle and another vehicle, object, or natural person while the vehicle is operating in autonomous mode. The autonomous technology sensor data shall be captured and stored in a read-only format by the mechanism so that the data is retained until extracted from the mechanism by an external device capable of downloading and storing the data. The data shall be preserved for three years after the date of the collision. This regulation is adopted to align with the vehicle code and ensures the safe operation of autonomous test vehicles on public roads.

§ 227.56. Reporting Disengagement of Autonomous Mode.

Section 227.50 is renumbered to Section 227.56. This is a non-substantive change.

The disengagement reporting is being amended to standardize disengagement reporting and provide a framework for reporting whereby manufacturers utilize consistent categories when reporting. Disengagement reporting requirements were created in 2014, amended in 2018 and are now further clarified. Disengagement reporting is required for manufacturers conducting testing and provides a data point that can inform the department of potential challenges the automated driving system encounters with the driving environment. The original requirement included an annual reporting frequency. The requirement is now amended to create a monthly frequency will provide the department with more near real time information regarding on road operations. The department will continue to utilize the disengagement reporting to facilitate conversations with manufacturers regarding development and remediation. The reports will also be used during a manufacturer's application for driverless testing to summarize testing efforts.

Subdivision (a) is amended to specify reporting of all disengagements involving operation of an autonomous vehicle under a Drivered Testing Permit and Driverless Testing Permit, irrespective of the results of simulations that predict the likelihood of crashes, except any expected disengagements associated with a planned test or reaching the geographic boundary of the operational design domain. If no disengagement occurred during the reporting period, the manufacturer shall report such to the department. In addition, subdivision (a) removes references of Manufacturer's Testing Permit, replacing with Drivered Testing Permit and Driverless Testing Permit. This regulation will provide data for all disengagements that occur during testing, even those that occur, and the manufacturer later determines through simulation that no disengagement was necessary. This data will enable the department to track incidents and evaluate future testing and deployment applications.

Subdivisions (a)(1) through (a)(1)(D) establishes specific disengagement reporting requirements for drivered testing. The manufacturer is required to report any disengagement that results in: (A) A deactivation of the autonomous mode when an anomalous behavior of the automated driving system is detected by the automated driving system; (B) A deactivation of the autonomous mode when the autonomous vehicle test driver determines it to be appropriate; (C) A deactivation of the autonomous mode to avoid operating outside the operational design domain of the automated driving system; (D) The automated driving system performs a dynamic driving task fallback maneuver to achieve a minimal risk condition. This regulation provides standardized categories manufacturers can use to report, which will enable the department to effectively review, and track incidents related to the safe operation of autonomous vehicles on public roads.

Subdivisions (a)(2) through (a)(2)(B)(v) is adopted to establish specific disengagement reporting requirements for driverless testing. During driverless operation, an ADS can remain engaged while becoming immobilized and when achieving a minimal risk condition. The regulation provides specific categories that capture instances where a disengagement of the driverless vehicle occurs, and manual intervention is needed. This regulation provides clarity to the regulated public on required reporting. This regulation provides standardized categories manufacturers can use to report, which will enable the department to effectively review, and track incidents related to the safe operation of autonomous vehicles on public roads.

Subdivisions (b) (1) and (2) establish a monthly frequency which will provide the department with more near real time information regarding on road operations. This will enable the department to effectively review, and track incidents related to the safe operation of autonomous vehicles on public roads. The report shall be submitted by the first business day on or after the fifteenth day to allow manufacturers time to reconcile the reporting from the previous month.

Former Subdivision (A) is removed, and information is captured in Subdivision (b) (3) (A) (iii).

Subdivisions (b) (3) (A) through (b) (3) (E) are adopted to provides clarity to the regulated public on required reporting. This regulation provides standardized reporting elements manufacturers can use to report, which are necessary to enable the department to effectively review, and track incidents related to the safe operation of autonomous vehicles on public roads.

Subdivision (b) (3) (F) is adopted to provide the department with specific information related to the post-disengagement action. This regulation provides

standardized reporting elements manufacturers can use to report, which are necessary to enable the department to effectively review, and track incidents related to the safe operation of autonomous vehicles on public roads.

Subdivision (b) (4) is amended to require the monthly disengagement report to include total mileage tested in autonomous mode, subdivided by testing permit type (drivered and driverless) for manufacturers that hold both permits. This regulation is established to provide the department with incidents related to each permit type and enables the department to effectively review, and track incidents related to the safe operation of autonomous vehicles on public roads.

Subdivision (c) is amended to change the reporting timeline for disengagements and mileage in testing from annually to monthly, change the form name to Monthly Report of Autonomous Vehicle Disengagements, form OL 311R (Rev. 7/2020), and allow manufacturers to submit the form electronically via the department's web portal. This regulation is established to provide the department with more near real time information regarding on road operations, and enables the department to effectively review, and track incidents related to the safe operation of autonomous vehicles on public roads.

Subdivision (d) is adopted to establish that the department may require supplemental information in connection with a disengagement report, at any time. This regulation is adopted to provide the department with further understanding of the incident and is necessary for ensuring the safe operation of autonomous vehicles operating on public roads.

§ 227.58. Reporting Vehicle Immobilizations.

The vehicle immobilization reporting is being established to create a reporting requirement for immobilizations under the Driverless Testing Permit. Section 227.58 is adopted to support the department's effort related to monitoring and tracking the safe operation of autonomous vehicles on public roads. As driverless vehicles began operating more frequently in 2021 and 2022, the department received reports of autonomous vehicles being stopped in the public roadways. The National Highway Traffic Safety Administration opened a preliminary investigation on Cruise LLC on December 12, 2022 (PE22014) which reviewed immobilization events occurring on public roads. These events are not currently required to be reported to the department and occur when an autonomous vehicle cannot continue the driving task. In many instances these stops are resolved by the autonomous vehicle communicating with a remote assistant, but a percentage are not, and the manufacturer needs to manually retrieve the vehicle. The department will utilize the instances where the vehicle cannot continue and needs to be retrieved. These immobilizations provide

information into challenges within the operational design domain and the department will engage with the manufacturer to understand how the incident is being addressed. Frequent data reporting will increase public transparency of autonomous vehicle operations and will also be used in testing summaries when a manufacturer is applying for deployment authorization.

Subdivision (a) is adopted to require every manufacturer with an authorized Driverless Testing Permit to prepare and submit to the department a monthly report summarizing occurrences of vehicle immobilizations and be submitted by the first business day on or after the fifteenth day of the following month. Frequent data reporting will increase public transparency of autonomous vehicle operations and will also be used in testing summaries when a manufacturer is applying for deployment authorization. The report shall be submitted by the first business day on or after the fifteenth day to allow manufacturers time to reconcile the reporting from the previous month.

Subdivisions (b) (1) through (5) are adopted to establish reporting requirements for vehicle immobilizations. This regulation provides standardized reporting elements manufacturers can use to report, which are necessary to enable the department to effectively review, and track incidents related to the safe operation of autonomous vehicles on public roads.

Subdivision (1) is adopted to require manufacturer to provide date and time of the occurrence. This regulation is established to provide the department with near real time information regarding on road operations, and enables the department to effectively review, and track incidents related to the safe operation of autonomous vehicles on public roads.

Subdivision (2) is adopted to require manufacturer to provide longitude and latitude coordinates of the location. This regulation is established to provide the department with near real time information regarding on road operations, and enables the department to effectively review, and track incidents related to the safe operation of autonomous vehicles on public roads.

Subdivision (3) is adopted to require manufacturer to provide license plate or vehicle identification number. This regulation is established to provide the department with near real time information regarding on road operations, and enables the department to effectively review, and track incidents related to the safe operation of autonomous vehicles on public roads.

Subdivision (4) is adopted to require manufacturer to provide length of time (in minutes) the vehicle was stopped before it was cleared from the travel lane and removed from the roadway. This regulation is established to provide the

department with near real time information regarding on road operations, and enables the department to effectively review, and track incidents related to the safe operation of autonomous vehicles on public roads.

Subdivision (5) is adopted to require manufacturer to provide the actions taken to remove the vehicle from where it stopped in the travel lane: driven by the autonomous test vehicle driver; driven by the remote driver; moved by command issued by the remote assistant; driven by first responder; driven by manufacturer's designee dispatched to stop location; towed away; or other actions taken. This regulation is established to provide the department with near real time information regarding on road operations, and enables the department to effectively review, and track incidents related to the safe operation of autonomous vehicles on public roads.

§ 227.60. Test Vehicle Registration and Certificate of Title.

Section 227.52 is renumbered to Section 227.60. This is a non-substantive change.

No amendments are made to Subdivisions (a), (b), (b) (1), (b) (2), and (c).

Subdivision (d) is amended to add that a driverless autonomous test vehicle shall be identified on the Driverless Testing Permit. This term is defined in Section 227.02.

§ 227.62. Transfers of Interest or Title for an Autonomous Test Vehicle.

Section 227.54 is renumbered to Section 227.62.

Subdivision (a) amended to remove reference of Manufacturer's Testing Permit and Manufacturer's Testing Permit – Driverless Vehicles, replacing with Drivered Testing Permit and Driverless Testing Permit. This term is defined in Section 227.02.

No amendments are made to subdivisions (b), (c), and (d).

Subdivision (e) is adopted to prohibit the sale, transfer, or disposal of an autonomous vehicle except where an original manufacturer, as defined in Vehicle Code 470, of a vehicle which has been used for testing submits to the department a Statement of Facts (REG 256) certifying that the vehicle has been returned to its original factory specifications and is not an autonomous vehicle as defined in this Article. The prohibition on selling an AV test vehicle to the public protects the public from buying a base vehicle that has been modified with hardware and software that makes it capable of operating as an autonomous vehicle. This regulation removes the prohibition of selling an AV used for testing where the original equipment manufacturer certifies that after

testing the vehicle has returned to the factory specifications. This regulation is adopted for public protection.

§ 227.64. Reporting Braking Events.

Section 227.64 is adopted, to require a manufacturer to report to the department any automated driving system braking event exceeding 0.5g where a drop in speed of 7 mph occurs in one (1) second occurring during the operation of an autonomous vehicle in autonomous mode on public roads. The report shall include the following:

(1) Date and time of the braking event.

(2) Vehicle identification number of autonomous test vehicle.

(3) Latitude and longitude coordinates where braking event was initiated by the autonomous test vehicle.

(4) The target object that triggered the braking action (e.g., another vehicle, vulnerable road user, object on the road, roadside object or no recognized object).

(5) The range and the closing rate (i.e., speed difference) between the autonomous vehicle and the object at the time that triggered the braking event.

(6) Magnitude and duration of the braking event.

Subdivision (b) is adopted to require the manufacturer to report if no applicable braking event occurred during the reporting period.

Subdivision (b)(1) is adopted to require that the first report shall cover the period from 30 days after issuance of the Drivered Testing Permit or a Driverless Testing Permit. A manufacturer that holds both a Drivered Testing Permit and a Driverless Testing Permit may submit a single report that makes clear which braking events occurred under each type of testing permit.

Subdivision (b)(2) is adopted to require that after the first report, subsequent monthly reports shall be submitted by the fifteenth day of the following month.

This regulation supports the department's efforts related to monitoring and tracking the safe operation of autonomous vehicles on public roads. The department will utilize these braking event reports to evaluate applications and review incidents with manufacturers. In developing the thresholds for the braking event reporting, the department reviewed existing academic studies and insurance industry reporting. Feng, et.al (2023) indicated "the occurrence of a

hard-braking event typically indicates a shortfall in reaction time for the driver, suggesting the presence or upcoming danger of a conflict." Insurance companies utilize telematic data such as hard braking to develop safety and risk scores for human drivers. For example, American Family Insurance through their DriveMyWay program has found that "drivers with more hard brakes have a greater risk of getting in an accident." Kamla et.al. (2018) conducted a literature review of previous studies and found hard braking thresholds generally converge around .5g for passenger cars in urban environments. In 2021, Mao et.al conducted an analysis with National Academy Sciences Transportation Research Board Strategic Highway Research Program data and demonstrated that .47g was the optimal threshold to predict the maximum number of problematic drivers. Additionally, some manufacturers have developed safety scores to assess the driving behavior of their vehicles, which include metrics on hard braking.

§ 227.66. Notice of Autonomous Vehicle Noncompliance.

This Section is adopted pursuant to the Vehicle Code section 38752 and creates the Notice of Autonomous Vehicle Noncompliance, form OL 325 (Rev. 12/2024). The manufacturer shall report the notice to the department, within 72 hours of issuance or a timeframe otherwise determined by the department, by a peace officer, which is hereby incorporated by reference. This regulation clarifies "a time otherwise determined by the department" to include when a peace officer observes that the autonomous vehicle exhibited driving behavior which presented a clear or potential danger or risk of injury to others. The priority review requires a manufacturer to submit the notice within 24 hours of issuance.

The Notice of Autonomous Vehicle Noncompliance, form OL 325 (Rev. 12/2024), will require vehicle information, safety driver or fallback ready user information, remote assistant information, disposition of vehicle, observed driving behavior and issuing agency information. These elements of the form are a necessity to the issuing law enforcement officer filling out the Notice of Autonomous Vehicle Noncompliance, form OL (Rev. 12/2024), to accurately describe the driving behavior of the autonomous vehicles and how it is allegedly in violation of a traffic violation. These elements are also essential to be described for the department to conduct an investigation of the alleged traffic violation and any further actions that need to be taken on the permit.

The adopted section is pursuant to the passing of Assembly Bill 1777 (AB 1777) and the adoption of the Vehicle Code section 38752. Approved by Governor Newsom on September 27, 2024, AB 1777 creates a framework for interactions between first responders and the autonomous vehicle/manufacturer. New

statutory language, specifically section 227.68, is adopted to create a mechanism for law enforcement to issue a notice of autonomous vehicle noncompliance when an alleged traffic violation is observed. The statute requires a notice to be submitted to the department within 72 hours or within a timeframe determined by the department. For incidents a law enforcement officer deems "priority review," a manufacturer shall submit the autonomous vehicle noncompliance notice to the department within 24 hours of issuance. These incidents include situations that "led the officer to believe the operation presented a clear or potential danger or risk of injury to others". These incidents could involve a vulnerable road user, vehicle immobilization in a lane of traffic or human error by remote assistant or remote driver leading to a traffic violation. The 24-hour notice is required due to the heightened risk of danger or injury to others and will allow the department to receive notification of this potential risk sooner.

Subdivision (a) is adopted to establish that commencing July 1, 2026, a notice of Autonomous Vehicle Noncompliance (Autonomous Vehicle Noncompliance OL 325 Rev. 12/2024), which is hereby incorporated by reference, may be issued by a peace officer that observes an alleged violation of this code, or an alleged violation of local traffic ordinance adopted pursuant to this code.

Subdivision (b) is adopted to establish that a manufacturer shall provide the notice to the department, issued by a peace officer, within 72 hours. Form OL 325 may be submitted electronically to the department via the department's web portal or to AVIncident@dmv.ca.gov.

Subdivision (c) is adopted to establish that a peace officer may indicate a need for priority review of the form if the officer observes that the autonomous vehicle exhibited driving behavior which reasonably led the officer to believe that the operation presented a clear or potential danger or risk of injury to others. If a priority review is marked on the form, the manufacturer shall submit the notice within 24 hours of issuance.

Subdivision (d) is adopted to establish that the peace officer shall identify on the Notice of Autonomous Vehicle Noncompliance form at minimum the following adopted subdivisions:

(1) Confirmation that the autonomous technology was engaged.

(2) The alleged violation of the Vehicle Code or violation of the local ordinance observed.

(3) The date the alleged violation occurred.

(4) The time the alleged violation occurred.

(5) The location the alleged violation occurred.

(6) The AV license plate number

These elements provide standardized categories law enforcement can use to report incidents, which will enable the department to effectively review, investigate and track incidents related to the safe operation of autonomous vehicles on public roads.

Subdivision (e) is adopted to establish the department may require supplemental information from the manufacturer in connection with the issuances of a Notice of Autonomous Vehicle Noncompliance. This may include but is not limited to technical information about the status and operation of the vehicle's sensors, audio and video data recorded during the initiation of the stop through the conclusion of the peace officer interaction and receipt of the Notice of Autonomous Vehicle Noncompliance. This data may include but is not limited to plots of the distance and the speed difference relative to the relevant targets in the collision path, the speed and acceleration of the host vehicle and the acceleration, braking and steering commands that were issued by the automated driving system, and camera footage with target tracking representations. This regulation is adopted to provide the department with further understanding of the incident and is necessary for ensuring the safe operation of autonomous vehicles operating on public roads.

Subdivision (f) is adopted to establish that pursuant to Sections 227.44, 227.46, and 227.48, Article 3.7, the department may choose restriction, revocation, suspension, or denial of any license or any approval under a deployment permit, the manufacturer may request lifting of the operational restriction by submitting data to the department describing the operational improvements which remediate any deficiencies identified by the investigation. This regulation is adopted to reference the department's enforcement authority ensuring the safe operation of autonomous vehicles operating on public roads.

§ 227.68. Preliminary Information Notice.

The adopted "Preliminary Information Notice" section is necessary to further define the department's processes for obtaining information from a manufacturer on severe incidents involving the operation of their autonomous vehicles on California public roads during testing operations. Depending on the severity of an incident, preliminary information would be required from manufacturers within 24-72 hours, with failure to comply serving as a basis for a permit suspension, revocation, or restriction. Preliminary information would

further the department's processes of reviewing whether the manufacturer has taken steps to appropriately respond to severe incidents. This regulation is adopted to provide the department with immediate information related to an incident occurring on public roads as these incidents may require enforcement action to protect the public.

Subdivisions (a), and (a) (1) through (a) (6) are adopted to establish requirements for the manufacturer to respond to a Preliminary Information Notice in a manner that provides all information solicited by the department within 72 hours of the time the Notice is transmitted by email. When appropriate, the department may require the manufacturer provide information within 24 hours. Incidents requiring a response within 24 hours may include, but are not limited to, collisions involving a fatality or serious injury, unsafe driving behaviors (e.g., running through a red light), or any other incidents indicating a potential safety risk. The department may issue a Preliminary Information Notice to the manufacturer to obtain specific information about any incident, including, but not limited to, the following:

(1) Violation of the Vehicle Code or the requirements of Article 3.7.

(2) Operation in a manner that was not approved by the department under the authorized Drivered Testing Permit or Driverless Testing Permit.

(3) Operation outside of a known operational design domain constraint and/or upon operational design domain exit.

(4) Receipt of a Notice of Autonomous Vehicle Noncompliance, form OL 325 (Rev. 12/2024).

(5) Operation of autonomous vehicles on public roads in California posing an unreasonable risk of injury or exacerbation of injury.

(6) Any credible report to the department by local, state, or federal agencies or the public, and or on publicly accessible platforms.

This regulation is adopted to provide the regulated public with instances that necessitate a preliminary information report and represent incidents that may pose an imminent hazard or unreasonable risk of accident, injury or death. This regulation is necessary for the safe operation of autonomous vehicles on public roads.

Subdivision (b) is adopted to require the manufacturer to make a good faith effort to provide all information requested by the department, which may include, but is not limited to, the following: identification of all incidents of the type described; full description of the incident(s), including all contributing

factors that led to or caused the incident; visual evidence, such as photographs, videos, or other documentation; date and time of the incident; latitude and longitude coordinates; vehicle identification number; software version number of the automated driving system equipped to the vehicle; other vehicles and/or road users involved; measures taken to resolve the incident; and any remediation to mitigate risk of future occurrence of the incident. This regulation is adopted to provide the department with further understanding of the incident in order to determine if additional investigation is needed or enforcement action is necessary.

§ 227.70. Request for Information.

The adopted "Request for Information" section is necessary to further define the department's processes for obtaining information from a manufacturer on any applicable/relevant incidents involving the operation of their autonomous vehicles on California public roads during testing operations, and for reviewing whether the manufacturer has taken steps to address the cause of any incidents. The Request for Information process facilitates engagement with the manufacturer and ensures the manufacturer has the opportunity to provide information relevant to a particular incident. A manufacturer's failure to comply with the request could serve as a basis for a permit suspension, revocation, or restriction. This regulation is adopted to provide the department with in-depth information related to an incident occurring on public roads as these incidents may require enforcement action to protect the public.

Subdivisions (a), (a) (1) through (a) (12) are adopted to establish requirements for the manufacturer to respond to a Request for Information in a manner that provides all information solicited by the department within 10 business days of the date the Request for Information is transmitted by email, however the manufacturer may request in writing for additional time to respond when the request involves a complex issue or a request that is large in scope. The types of incidents listed in subdivisions (a)(1)- (12) necessitate review to determine whether or not the department needs to take enforcement action and receipt of this information in a timely manner is critical to the department's role in investigating incidents. The regulation includes a provision allowing the manufacture to request additional time depending on the request. The department may issue a Request for Information to the manufacturer to obtain specific information on incidents involving operation of an autonomous vehicle on public roads that led to or caused, but is not limited to, the following:

(1) Operation of autonomous vehicles on public roads in California poses an unreasonable risk of accident, death, injury, or exacerbating injury.

(2) Violation of the Vehicle Code or the requirements of Article 3.7.

(3) Operation in a manner that was not approved by the department under the authorized Deployment Permit.

(4) Operation outside of a known operational design domain constraint and/or upon operational design domain exit.

(5) Occurrence of a dynamic driving task performance-relevant system failure(s).

(6) Traffic collision as defined in section 227.54.

(7) Posing any risk to traffic safety or other road users, traffic delay, or impediment to first responders.

(8) Actions that do not comply with verbal and/or non-verbal directions from first responders.

(9) Obstruction of an active emergency vehicle and the zones where emergency vehicles enter, exit, or are parked.

(10) Operation at, near the vicinity, or in the direction of travel of an active emergency response scene, avoidance area, or any emergency roadway scenario whereby operating a motor vehicle is prohibited by first responders, and an emergency vehicle being operated under the provisions of the Vehicle Code section 21055.

(11) Receipt of a Notice of Autonomous Vehicle Noncompliance, form OL 325 (Rev. 12/2024).

(12) Any other incident reported to the department by local, state, or federal agencies or the public, and or on publicly accessible platforms.

This regulation is adopted to provide the regulated public with instances that necessitate a request for information report and represent incidents that may pose an unreasonable risk of accident, injury or death. The 10-day reporting requirement will enable the department to gather information in a timely manner in order to take enforcement action, as necessary to ensure the safe operation of autonomous vehicles on public roads. The department appreciates that there may be complex situations where the manufacturer needs additional time to gather the necessary information and will allow the manufacturer to request additional time in writing.

Subdivision (b) is adopted to require the manufacturer to provide all information requested by the department, which may include, but is not limited to, the

following: identification of all incidents of the type described; full description of the incident(s), including all contributing factors that led to or caused the incident; visual evidence, such as photographs, videos, or other documentation; date and time of the incident; latitude and longitude coordinates; vehicle identification number; software version number of the automated driving system equipped to the vehicle; other vehicles and/or road users involved; measures taken to resolve the incident; and any remediation to mitigate risk of any future occurrence of the incident. This regulation is adopted to provide the department with all the information necessary in order to determine if enforcement action is necessary and supports the safe operation of autonomous vehicles.

227.72 Confidential Business Information

Section 227.72 is adopted to identify and protect a manufacturer's confidential business information. The department pursuant to the Public Record Act Request receives requests for information submitted by manufacturers that may be deemed by the manufacturer as confidential business information. This regulation requires the manufacturer to provide unredacted and redacted versions of an application or other data reporting, as appropriate.

Subdivision (a) is adopted to require the manufacturer, when submitting applications or other data requested by the Department pursuant to Articles 3.7 and 3.8, to provide a redacted version of the information to protect Confidential Business Information (CBI).

Subdivision (b) is adopted to inform the manufacturer when submitting a redacted version of information, the information may be subject to disclosure under the California Public Records Act.

Subdivision (c) is adopted to require the manufacturer to clearly identify the information considered CBI and provide justification for the redactions in accordance with applicable regulations. This regulation is adopted to allow the department to receive all information required in Articles 3.7 and 3.8 while protecting confidential business information as determined by the manufacturer. This regulation will also streamline public requests for information and reduce the risk of inadvertently releasing confidential business information.

Article 3.8 - Deployment of Autonomous Vehicles

§ 228.02. Definitions.

The purpose of Section 228.02 is to identify the commonly used terms within the Autonomous Vehicles Program. The following definitions enable the regulated

public to better understand terms used throughout Article 3.8. To provide greater clarity on the definition of terms, the department is aligning definitions to the Society of Automotive Engineers (SAE) International's Taxonomy and Definitions for Terms Related to Driving Automation Systems for On-Road Motor Vehicles, standard J3016 (SAE J3016 APR 2021) which is the leading standards document for driving automation systems and is codified in vehicle code Division 16.6.

No amendments are made to Subdivision (a).

Former subdivision (b) is removed. The definition of autonomous vehicle has been moved to 227.02 and applies to both Articles 3.7 and 3.8.

Former subdivision (c) is renumbered to subdivision (b) and amended to clarify the term "deployment" is the operation of an autonomous vehicle on public roads outside of a testing program authorized by the department pursuant to Article 3.7. This regulation is amended to define unclear language. The existing definition was overly long and complex and is being simplified to ensure that the regulated public understands the distinction between testing and operations outside of a testing program.

Subdivision (c) is adopted to define the term "deployment permit" as a Permit to Deploy Autonomous Vehicles on Public Streets, form OL 321A (Rev. 12/2024), that is issued by the department to a manufacturer. This regulation is adopted to provide the regulated public authorized to deploy with a form that aligns with the OL 315 (Rev.9/2024), which is the testing permit. This permit serves as the evidence of the department's approval to deploy autonomous technology on public roads.

Subdivision (d) is adopted to define the term "deployment permit application" as an Application for a Permit to Deploy Autonomous Vehicles on Public Streets, form OL 321 (Rev. 2/2025), that is submitted by the manufacturer and must be approved by the department in order to issue a Deployment Permit. The deployment authorization is the final stage of permitting of autonomous vehicles and the manufacturer has conducted testing of the autonomous technology throughout their intended operational design domain and developed a safety case which demonstrates the safe operation of the automated driving system. Manufacturers seeking to apply for or amend a deployment permit must submit a fee of $3,275. Amendments to an existing deployment permit include, but are not limited, to make the vehicle capable of operation at a SAE International level that is different than the level in the approved permit, make the vehicle capable of operation on a roadway type that is different than those in the approved permit, increase the maximum speed of the vehicle by more than 15

miles per hour above that on the approved permit, make the vehicle capable of operation in geographic areas different than those in the approved permit, remove any commonly-occurring or restricted conditions that were identified on the approved permit, add a vehicle make and/or model different than the vehicle(s) identified on the approved permit, modify the days of the week or hours of operation that were identified on the approved permit, change how law enforcement and other first responders interact with the autonomous vehicle, and change how law enforcement and other first responders interact with the autonomous vehicle.

Form OL 321 has been amended to include:

An additional check box has been added for Deployment Amendment where the manufacturer intends to change any of the following:

1) Make the vehicle capable of operation at a SAE International level that is different than the level in the approved permit.

(2) Make the vehicle capable of operation on a roadway type that is different than those in the approved permit.

(3) Increase the maximum speed of the vehicle by more than 15 miles per hour above that on the approved permit.

(4) Make the vehicle capable of operation in geographic areas different than those in the approved permit.

(5) Remove any commonly occurring or restricted conditions that were identified on the approved permit.

(6) Add a vehicle make and/or model different than the vehicle(s) identified on the approved permit.

(7) Modify the days of the week or hours of operation that were identified on the approved permit.

(8) Change how law enforcement and other first responders interact with the autonomous vehicle.

These changes will enable the department to track whether the amendment requested is a basic update or one that will require more substantive review. Basic updates include changes to address or adding/removing vehicles or remote drivers/assistants. Changes to the ODD and vehicle platform require a substantive review prior to approval.

Section 1 – Autonomous Vehicle Manufacturer Information

Section added where Commercial Motor Vehicle manufacturers can provide a U.S. Department of Transportation Number and Carrier Identification Number to allow both light-duty and heavy-duty manufacturers to use the same form. The United States Department of Transportation identification number is required for intrastate and interstate commerce and will allow the department to track the United States Department of Transportation identification number safety score through the Federal Motor Carrier Safety Administration as well as any suspensions or out of service orders.

Section 2 – Autonomous Vehicles No change

Section 3 – Remote Drivers/Remote Assistants

Amended to include the addition/removal of remote drivers and remote assistants. The role of these assistants and/or drivers is critical to supporting the safe operation of the autonomous vehicle. The requirement represents the department's experience regulating autonomous vehicles as well as align with industry best practices. Due to the critical role of a remote operator, the department will require the manufacturer to identify each remote assistant and remote driver at the time of application. Each remote operator will be issued a permit.

Section 4 - Applicant Acknowledgement

Section 4 has been amended to simplify the form and ensure that the manufacturer certifies that they will adhere to all regulations outlined in 3.7 and 3.8 for the safe operation of autonomous vehicles on public roads.

Section 5 – Attachments

Section 5 has been amended to simplify the form and ensure that the manufacturer certifies that they will adhere to all regulations outlined in 3.7 and 3.8 for the safe operation of autonomous vehicles on public roads.

Subdivision (e) is adopted to define the term “dynamic driving task performance relevant system failure" as a malfunction in an automated driving system and/or other vehicle system that prevents the automated driving system from reliably performing its portion of the dynamic driving task on a sustained basis, including the complete dynamic driving task that it would otherwise perform. The term is used to establish consistency with accepted standards as defined in SAE International’s J3016 (APR 2021).

Subdivision (f) is adopted to define the term “fallback-ready user” means the natural person physically located in the driver’s seat of a vehicle, who is able to operate the vehicle and is receptive to a request to intervene, and to evident

dynamic driving task performance-relevant system failures in the vehicle notifying the natural person to perform the dynamic driving task fallback when necessary. The term is used to establish consistency with accepted standards as defined in SAE International's J3016 (APR 2021).

§ 228.04. Financial Requirements for a Permit to Deploy Autonomous Vehicles on Public Roads.

Subdivision (a) is amended to specify how manufacturers of either drivered or driverless vehicles may satisfy the requirements to Vehicle Code 38750, subsection (c) (3).

No amendments to subdivisions (a) (1) and (a) (2).

Subdivision (a) (3) is amended to specify that the manufacturer may provide evidence of insurance policy.

Subdivision (a) (4) is amended to remove "shall."

Subdivision (b) is amended to clarify that any cancellation to insurance permissions that do not satisfy the requirements to Vehicle Code 38750, subsection (c) (3) are subject to the hearing requirements provided in these regulations for the suspension or revocation of permits or authorizations.

No amendments to subdivisions (c).

§ 228.06. Requirements, Qualifications and Training for Remote Drivers and Remote Assistants.

Section 228.06 is adopted to establish requirements for a manufacturer that provides remote support, either through remote drivers and/or remote assistants, to an autonomous vehicle authorized for deployment. A manufacturer that provides remote support to an autonomous vehicle authorized for deployment shall adhere to the requirements set forth in 227.38 and 227.40 of Article 3.7. This regulation is adopted and cross references the training, requirements and qualifications for remote drivers and remote assistants outlined in Article 3.7 Sections 227.38 and 227.40. This regulation is necessary to ensure safe operation of autonomous vehicles on public roads in testing and deployment.

§ 228.08. Application for a Permit for Post-Testing Deployment of Autonomous Vehicles on Public Roads.

Section 228.06 is renumbered to Section 228.08. This is a non-substantive change.

Subdivision (a) is amended to replace references to section 227.30 with section 227.28 and section 227.38 with section 227.42, remove reference to a Permit to

Deploy Autonomous Vehicles on Public Streets, form OL 321 (Rev. 2/2025), replacing with Deployment Permit. Subdivision (a) is amended to allow a manufacturer submitting an original or amendment to the Deployment Application to submit the form electronically via the department's portal. The term Deployment Permit is defined Section 228.02 (e).

Subdivision (a) (1) is adopted to set forth requirements for an original Deployment Permit.

Subdivision (a) (1) (A) is adopted to require a manufacturer, except a manufacturer of autonomous heavy-duty commercial motor vehicles, as described in (B), to test a minimum of 50,000 autonomous miles on public roads throughout the intended operational design domain with a valid Drivered Testing Permit for vehicles that require a driver physically located in the driver's seat of the vehicle or with a valid Driverless Testing Permit for vehicles that are capable of operating without the presence of a driver physically located in the driver's seat of the vehicle. A manufacturer operating a low-speed autonomous vehicle shall test a minimum of 10,000 autonomous miles on public roads throughout the intended operational design domain with a valid Drivered Testing Permit for vehicles that require a driver physically located in the driver's seat of the vehicle or with a valid Driverless Testing Permit for vehicles that are capable of operating without the presence of a driver physically located in the driver's seat of the vehicle. The department has determined through prior experience that these minimum thresholds establish that the manufacturer has demonstrated sufficient experience to apply for a Deployment Permit. The department will not solely rely on this minimum threshold. The regulations establish minimum threshold requirements, and all other requirements described in Article 3.8. All determinations are made on a case-by-case basis based on the totality of each unique application.

Subdivision (a) (1) (A) (i) is adopted to require the manufacturer to provide the department with the results of an assessment, of operational data from testing with a valid Testing Permit, appropriate for the type of driving configuration, under the testing parameters in Article 3.7. The manufacturer's safety case shall include evidence demonstrating the operation of the subject automated driving system does not pose an unreasonable risk of accident, death, injury, or exacerbating injury, and explain why that evidence supports the claim. This regulation is established to provide the department with operational data which supports the manufacturer's safety claim that the autonomous vehicle can operate safely within the operational design domain. The manufacturer's safety claims must indicate that the automated driving system performs the driving task in a manner that does not pose an unreasonable risk of accident, death, injury

or exacerbating injury. This requirement provides greater clarity associated with the term unreasonable risk and further aligns with the US DOT NHTSA's standard of investigating defects involving unreasonable risk of accident, death, or injury, and provides additional direction to the regulated public. The data presented by the manufacturer must support this claim to ensure safe operation on public roads.

Subdivision (a) (1) (A) (i) (aa) is adopted to allow the department to request additional information from the manufacturer that it deems necessary to assess the safety of operating an autonomous vehicle on public roads. This regulation is adopted to provide the department with further understanding of incidents and data submitted pursuant to the Deployment application and is necessary for ensuring the safe operation of autonomous vehicles operating on public roads.

Subdivision (a) (1) (B) is adopted to require a manufacturer of autonomous heavy-duty commercial motor vehicles to test a minimum of 500,000 autonomous miles on public roads throughout the intended operational design domain and in all conditions under which the subject automated driving system is intended to operate with a valid Drivered Testing Permit and a valid Driverless Testing Permit. Up to 400,000 of these miles on either the Drivered or Driverless Testing Permit may occur in other jurisdictions contingent upon the manufacturer providing all the reports that California requires to cover that out-of-state testing (i.e., crash reports from that jurisdiction; disengagements and remediations; braking events and remediation). 100,000 miles on either the Drivered or Driverless Testing Permit must occur within the intended operational design domain in California. This requirement establishes a minimum threshold of fleet testing miles in the operational design domain. The threshold is higher than light duty vehicle due to the speed and use case of these heavy-duty vehicles, which generally travel at higher speeds and over longer distances. The department appreciates that manufacturers are already conducting testing of autonomous heavy-duty vehicles on public highways in other jurisdictions and therefore will allow the manufacturer to provide this evidence assuming the operational design domains (e.g., single lane use case, interstate, freeway) are similar. If the manufacturer provides testing from other jurisdictions, they still need to provide the data reporting requirements for California testing miles to demonstrate safe operation during testing. Given California's unique traffic and roadway conditions on freeways (e.g., Los Angeles, Long Beach, Bay Area) the manufacturer must conduct a minimum number of miles on California public roads. This approach strikes a balance between supporting traffic safety and innovation. The department has determined that 100,000 miles is a sufficient

minimum threshold for miles in California due to the size and speed of autonomous heavy duty commercial motor vehicles. The department will not solely rely on this minimum threshold. The regulations establish minimum threshold requirements, and all other requirements described in Article 3.8. All determinations are made on a case-by-case basis based on the totality of each unique application.

Subdivision (a) (1) (B) (i) is adopted to require a manufacturer to provide the department with the results of an assessment, of operational data from testing with a valid Testing Permit, appropriate for the type of driving configuration, under the testing parameters in Article 3.7. The manufacturer's safety case shall include evidence demonstrating the operation of the subject automated driving system does not pose an unreasonable risk of accident, death, injury or exacerbating injury, and explain why that evidence supports the claim. The manufacturer's safety claims must indicate that the automated driving system performs the driving task in a manner that does not pose an unreasonable risk of accident, death, injury or exacerbating injury. This requirement provides greater clarity associated with the term unreasonable risk and further aligns with the US DOT NHTSA's standard of investigating defects involving unreasonable risk of accident, death, or injury, and provides additional direction to the regulated public. The data presented by the manufacturer must support this claim to ensure safe operation on public roads.

Subdivision (a) (1) (B) (i) (ii) is adopted to allow the department to request additional information from the manufacturer that it deems necessary to assess the safety of operating an autonomous heavy-duty commercial motor vehicle on public roads. This regulation is adopted to provide the department with further understanding incidents and data submitted pursuant to the Deployment application and is necessary for ensuring the safe operation of autonomous vehicles operating on public roads.

Subdivision (C) is adopted to provide the regulated public with the specific elements associated with an assessment of operational data. The regulation includes requirements for SAE J3016 Level 3, 4 and 5 ADS features.

Subdivision (C) (i) is adopted to create requirements for SAE J3016 Level 3 ADS features. These are systems that are designed for a fallback ready user in the vehicle and testing is conducted solely with a Drivered Testing Permit. The data elements align with testing data appropriate for the Drivered Testing Permit.

Subdivision (C) (i) (aa) is adopted to request the total number of miles pursuant to Subdivisions (a) (1) (A) and (a) (1) (B).

Subdivision (C) (i) (bb) is adopted to request collisions reported pursuant to Article 3.7 Section 227.54. Based on prior experience in evaluating applications, the department has determined that data from the 12 months preceding the application is sufficient to ensure that the manufacturer has addressed incidents most recently occurring during the testing of autonomous vehicles on public roads.

Subdivision (C) (i) (cc) is adopted to request braking events reported pursuant to Article 3.7 Section 227.64. Based on prior experience in evaluating applications, the department has determined that data from the 12 months preceding the application is sufficient to ensure that the manufacturer has addressed incidents most recently occurring during the testing of autonomous vehicles on public roads.

Subdivision (C) (i) (dd) is adopted to request disengagements reported pursuant to Article 3.7 Section 227.56 (a) (1). Based on prior experience in evaluating applications, the department has determined that data from the 12 months preceding the application is sufficient to ensure that the manufacturer has addressed incidents most recently occurring during the testing of autonomous vehicles on public roads.

Subdivision (C)(ii) is adopted to create requirements for SAE J3016 Level 4 and 5 ADS features. These are systems that are designed when there is no driver physically located in the driver's seat and conducted with a Driverless Testing Permit. The data elements align with testing data appropriate for the Driverless Testing Permit.

Subdivision (C) (ii) (aa) is adopted to request the total number of miles pursuant to Subdivisions (a) (1) (A) and (a) (1) (B).

Subdivision (C) (ii) (bb) is adopted to request collisions reported pursuant to Article 3.7 Section 227.54. Based on prior experience in evaluating applications, the department has determined that data from the 12 months preceding the application is sufficient to ensure that the manufacturer has addressed incidents most recently occurring during the testing of autonomous vehicles on public roads.

Subdivision (C) (ii) (cc) is adopted to request braking events reported pursuant to Article 3.7 Section 227.64. Based on prior experience in evaluating applications, the department has determined that data from the 12 months preceding the application is sufficient to ensure that the manufacturer has addressed incidents most recently occurring during the testing of autonomous vehicles on public roads.

Subdivision (C) (ii) (dd) is adopted to request disengagements reported pursuant to Article 3.7 Section 227.56 (a) (1). Based on prior experience in evaluating applications, the department has determined that data from the 12 months preceding the application is sufficient to ensure that the manufacturer has addressed incidents most recently occurring during the testing of autonomous vehicles on public roads.

Subdivision (C) (ii) (ee) is adopted to request vehicle immobilizations reported pursuant to Article 3.7 Section 227.58. Based on prior experience in evaluating applications, the department has determined that data from the 12 months preceding the application is sufficient to ensure that the manufacturer has addressed incidents most recently occurring during the testing of autonomous vehicles on public roads.

Subdivision (a) (2) is adopted to set forth requirements for an amendment to an existing Deployment Permit.

The minimum mileage requirements associated with the amendment are based on the presumption that the manufacturer has gone through the initial original application requirements and has provided the department with a comprehensive safety case as well as testing assessment. The amendment builds upon the original application.

Subdivision (a) (2) (A) is adopted to require a manufacturer, except a manufacturer of autonomous heavy-duty commercial motor vehicles as described in (B), to test a minimum of 25,000 autonomous miles with either a valid Drivered or Driverless Testing Permit on public roads throughout the intended operational design domain. A manufacturer operating a low-speed autonomous vehicle shall test a minimum of 10,000 autonomous miles with either a valid Drivered or Driverless Testing Permit on public roads throughout the intended operational design domain. The department has determined through prior experience that these minimum thresholds establish that the manufacturer has demonstrated sufficient experience to apply for a Deployment Permit. The department will not solely rely on this minimum threshold. The regulations establish minimum threshold requirements, and all other requirements described in Article 3.8. All determinations are made on a case-by-case basis based on the totality of each unique application.

Subdivision (a) (2) (B) is adopted to require a manufacturer of an autonomous heavy-duty commercial motor vehicle to test a minimum of 250,000 autonomous miles either under an existing valid Drivered or Driverless Testing Permit on public roads throughout the intended operational design domain. Up to 200,000 of these miles on either the Drivered or Driverless Testing Permit may

occur in other jurisdictions contingent upon the manufacturer providing all the reports that California requires to cover that out-of-state testing (i.e., crash reports from that jurisdiction; disengagements and remediations; braking events and remediation). 50,000 miles on either the Drivered or Driverless Testing Permit must occur within the intended operational design domain in California. This requirement establishes a minimum threshold of testing miles in the operational design domain for an amendment application. The minimum mileage requirements associated with the amendment are based on the presumption that the manufacturer has gone through the initial original application requirements and has provided the department with a comprehensive safety case as well as testing assessment. The amendment builds upon the original application.

Former Subdivision (a) (1) is renumbered to Subdivision (a) (3) and is amended to add the term Deployment Permit Application and amended to clarify that the manufacturer shall certify that the vehicles are designed to be incapable of operating in autonomous mode outside of the identified operational design domain. The term Deployment Permit Application is defined in Section 228.02 (f). The additional amendment to this subdivision clarifies unclear language that was too narrow in scope. The term operational design domain is defined in Article 3.7 Section 227.02 (gg) and includes geographic areas as well as other operating conditions.

Subdivision (a) (3) (A) is adopted to limit manufacturers conducting deployment of autonomous heavy-duty commercial motor vehicles to operating within an operational design domain that allows operation only on specified routes legal for the size, weight and loading of the vehicle or vehicle combination. Operation on local roads with a posted speed limit of 25 miles per hour or less is prohibited unless those roads are part of the shortest route to freeways from hubs, motor carrier and shipper facilities, distribution centers, fueling and charging stations and end points. Manufacturers shall use arterial roadways, wherever possible, and shall provide the specific routes associated with the operational design domain. Autonomous heavy-duty commercial motor vehicles will be prohibited from operating on local roads with a posted speed limit of 25 miles per hour or less due to the complexity associated with these roadway types (e.g., urban core, residential, school zones) and may only use a local road to access their operational design domain. Manufacturers and affiliate of a manufacturer shall provide the specific routes associated with the operational design domain. This requirement allows the department to evaluate the ODD at the time of application and to monitor operations during the term of the permit for purposes of compliance. This Subdivision also sets forth specific

requirements should circumstances arise which conflict with the aforementioned limitations.

Subdivision (a) (3) (A) (i) is adopted to require, when a driver is not present with the vehicle, a remote assistant, or remote driver to assume control of the vehicle and follow direction given by first responders, traffic control personnel and/or devices when conditions on the predesignated-specified routes require a detour or alternate route for commercial motor vehicles. This requirement is adopted for traffic safety and to set forth specific requirements depending on circumstances where the route for the autonomous heavy duty commercial motor vehicle deviates from the operational design domain limitations described in subdivision (a) (3) (A).

Subdivision (a) (3)(A) (ii) is adopted to require, when a designated detour or alternate route conflicts with the Vehicle Code or a local ordinance for compliance with maximum height, maximum length, or maximum weight limits, as recognized or limited by the operational design domain, the manufacturer shall ensure the vehicle can be legally parked and an assessment made confirming the legality and physical capability of the commercial motor vehicle to safely travel on the detour or alternate route. This requirement is adopted for traffic safety and to set forth specific requirements depending on circumstances where the route for the autonomous heavy duty commercial motor vehicle deviates from the operational design domain limitations described in subdivision (a) (3) (A).

Subdivision (a) (3) (A) (iii) is adopted to prohibit alternate routing decisions made by a driver, remote assistant, or remote driver using only commercially available mapping programs which do not reflect legal access for the type or configuration of commercial motor vehicle being operated. Subdivision (a) (3) (A) (iii) is adopted to prohibit an alternate routing decision made by a driver, remote assistant, or remote driver using only commercially available mapping programs (e.g., Google maps and Apple maps) which do not reflect legal access for the type or configuration of commercial motor vehicle being operated. Commercial motor vehicle drivers use additional tools such as commercial subscription-based map services to determine roads appropriate for size and weight. CalTrans quick map, has specific filters for size and weight and provides travel updates, as well. This requirement is adopted for traffic safety and to set forth specific requirements depending on circumstances where the route for the autonomous heavy duty commercial motor vehicle deviates from the operational design domain limitations described in subdivision (a)(3)(A).

Subdivision (a) (3) (A) (iv) is adopted to require an alternate route to be utilized when there is a necessity to continue the movement of an autonomous heavy-duty commercial motor vehicle for the purpose of safety and not for the purpose of continuing the movement for a commercial reason. This requirement is adopted for traffic safety and to set forth specific requirements depending on circumstances where the route for the autonomous heavy duty commercial motor vehicle deviates from the operational design domain limitations described in subdivision (a) (3) (A).

Former Subdivision (a) (2) is renumbered to Subdivision (a) (4), and is amended to remove snow, fog, black ice, wet road surfaces, construction zones as commonly-occurring or restricted conditions, replacing with inclement weather conditions, a description of how inclement weather affecting performance in a manner that requires achieving a minimal risk condition is identified, traffic, roadway characteristics, and other known domain constraints, and to remove the requirement from this provision to state the mechanism for safely disengaging out of autonomous mode in the event of experiencing conditions outside of its operational design domain. This regulation establishes the requirement for the manufacturer to provide specific information on how the autonomous vehicle will operate in inclement weather. Autonomous vehicles in California are exposed to a variety of inclement conditions including, but not limited to, rainstorms, wind and fog and weather conditions can change rapidly. This regulation is established to ensure the safe operation of autonomous vehicles on public roads.

Subdivision (a) (5) is adopted to require the manufacturer to notify local authorities where the subject autonomous vehicles are subject to operate in deployment. This regulation is adopted to align with notification requirements in Article 3.7 Section 227.42 (d) and ensures that local jurisdictions are appropriately aware of autonomous vehicle operations. This regulation is established to ensure the safe operation of autonomous vehicles on public roads.

Former Subdivision (a) (3) is renumbered to Subdivision (a) (6), and is amended to require the manufacturer to specify how the automated driving system shall react when the vehicle is outside of its operational design domain, including, but not limited to, the driver or remote driver performing the dynamic driving task fallback, with or without the automated driving system issuing a request to intervene, the remote driver and/or remote assistant requests that the automated driving system achieves a minimal risk condition. This regulation is amended to further describe how the automated driving system will react when reaching an operational design domain limitation. This regulation is amended

to provide the department with information related to the safe operation of autonomous vehicles on public roads.

Former Subdivision (a) (4) is renumbered to subsection (a) (7).

Former Subdivision (a) (5) is renumbered to subsection (a) (8) and is amended to add reference to Deployment Permit Application. The term Deployment Permit Application is defined in Section 227.08 (f).

Former Subdivision (a) (6) is renumbered to Section (a) (9) and is amended to add reference to Deployment Permit Application, to replace the term autonomous technology with automated driving system, and to require the manufacturer to preserve data captured and stored by the data recorder at least 30 seconds prior to a collision while the vehicle is operating in autonomous mode for three years after the date of the collision. This regulation is adopted to align to statute of limitations of three years for physical damage to private property described in California Code of Civil Procedure Section 338 (j).

Former Subdivision (a) (7) has been renumbered to subsection (a) (10) and is amended to require the manufacturer to provide to the department and law enforcement, upon request, evidence of any Federal Motor Carrier Safety Administration exemption. This regulation is amended to align with light duty autonomous vehicles that require exemptions from the US DOT NHTSA and ensures that the vehicle is authorized to operate on public roads. The amendment includes a requirement for the manufacturer to provide any FMCSA exemption to law enforcement upon request, which aligns with current commercial motor vehicle operation on public roads.

Former Subdivision (a) (8) is renumbered to subsection (a) (11) and is amended to replace the term autonomous technology with automated driving system. The definition of automated driving system aligns with SAE J3016 (APR 2021).

Former Subdivision (a) (9) is renumbered to subsection (a) (12), and is amended to remove the term autonomous technology, replacing with automated driving system. The definition of automated driving system aligns with SAE J3016 (APR 2021).

Subdivision (a) (12) (A) is amended to require the manufacturer to certify to that it will make updates to the automated driving system that improve safety and comply with any amendments to the applicable Vehicle Code and local ordinance. As necessary, to ensure the safe operation of the autonomous vehicle, this regulation is amended to require more frequent updates. The prior regulation required an update at least annually.

Subdivision (a) (12) (B) is amended to require manufacturers to certify they have established processes and procedures that include consideration of reliable public information, when appropriate, and will make updates to location and mapping information utilized or referenced by the automated driving system for the safe operation of the vehicle in the operational design domain on a continual basis consistent with changes to the physical environment and physical infrastructure captured by the maps, and vehicle's sensors. This regulation is amended to require a manufacturer to identify processes to obtain available updates from publicly available information to ensure mapping in the autonomous vehicle is up to date. This is amended for the safe operation of autonomous vehicles.

No substantive amendments are made to Subdivision (a) (12) (C).

Subdivision (a) (12) (D) is adopted to prohibit manufacturers from operating on public roads until available safety-related or safety-critical software updates are enabled. This regulation is adopted to ensure that the end user cannot use the automated driving system feature until the appropriate updates are accepted. This regulation is adopted for the safe operation of autonomous vehicles.

Former Subdivision (a) (10) is renumbered to subdivision(a) (13). This is a non-substantive change. No other amendments are made.

Subdivision (a) (14) is adopted to require the manufacturer to provide the complete set of core safety information elements and related safety metrics for the subject autonomous vehicle for deployment on public roads in the intended operational design domain. Within 10 business days of the adoption of any material modifications to the core safety information elements, the manufacturer shall provide the department with the modified version, including a summary of the modifications made. The safety case is a critical component to understanding the manufacturer's approach to the safe design, development and validation of the autonomous vehicle. The safety case includes both the manufacturer's approach to safety, safety measures as well as how the manufacturer incorporates updates and changes. The department will utilize this important artifact in the assessment of applications as well as reviewing incidents occurring on public roads. For traffic safety, the department must have an up-to-date safety case and core safety elements.

Former Subdivision (a) (11) is renumbered to subdivision(a) (15). This is a non-substantive change. No other amendments are made.

Subdivision (b) (1) is amended to require the manufacturer to certify that the autonomous vehicle is equipped with a communication link that enables the

autonomous vehicle to seek and receive remote support, as applicable, and includes communication of information on the vehicle's location and status. For autonomous vehicles designed for passenger service, there is a method to enable two-way communication for purposes of providing remote operations support to any passengers if the vehicle experiences any failures or other conditions that would endanger the safety of the vehicle's passengers or other road users, or otherwise prevent the vehicle from functioning as intended without a driver physically located in the driver's seat of the vehicle. Prior language requiring that there is a communication link "between the vehicle and the remote operator to provide information on the vehicle's location and status and allow two-way communication between the remote operator and any passengers if the vehicle experiences any failures that would endanger the safety of the vehicle's passengers or other road users, or otherwise prevent the vehicle from functioning as intended, while operating without a driver" is removed. This amendment specifies the purpose of the communication link and clarifies that the communication link will include the ability for the autonomous vehicle to request (seek) and receive remote support. In addition, the communication link will allow for the remote operator to support any passengers in the vehicle, as applicable.

Subdivision (b) (1) (A) is amended to require the manufacturer to certify it has a system and process, which includes use of a redundant communications network to continuously monitor the status and functionality of the vehicle and that a two-way communication link is maintained, while operating the vehicle without a driver physically located in the driver's seat of the vehicle. This requirement is added for safety purposes and to ensure that the manufacturer has designed the communications infrastructure to include redundancies, which mitigates risk of degraded communication.

Subdivision (b) (1) (B) is amended to require the manufacturer's certification to include a description of how the manufacturer will continuously monitor the status of the vehicle and communication link, and what type of data will be monitored. The department is amending this requirement to specify that the monitoring must be continuous while the autonomous vehicle is operating on public roads.

Subdivision (b) (1) (C) is adopted to require the manufacturer's certification to include a description of what redundancies and automated driving system capabilities are in place if there is a loss or degradation of the communication link. This requirement is added for safety purposes and to ensure that the manufacturer has designed the communications infrastructure to include redundancies, which mitigates risk of degraded communication. Should the

autonomous vehicle experience a loss or degradation of the communication link, the manufacturer must describe how the vehicle will be supported.

Subdivision (b) (1) (D) is adopted to require the manufacturer's certification to include a description of how the manufacturer will support the vehicle in situations including, but not limited to, when the automated driving system executes an automated fallback to a minimal risk condition, a minimal risk condition is triggered by a remote driver or remote assistant, the communication network fails or is degraded, vehicle hardware or software failures. The description should include, but not be limited to, response time, number of personnel, location of personnel, and roles and responsibilities of personnel. This requirement is added for safety purposes and to ensure that the manufacturer has a process in place to support the autonomous vehicle. This process will be reviewed by the department and referenced when evaluating incidents occurring on public roads.

Subdivision (b) (1) (E) is adopted to require the manufacturer's certification to include a description and photographic evidence of the type of control output (e.g., screens, speakers, haptic feedback, etc.) and input devices (e.g., steering wheels, joysticks, keyboards, microphones, etc.) utilized to provide remote operations support, as applicable. The description of these devices allows the department to understand how the remote assistant or remote driver interacts and supports the autonomous vehicle, particularly during on-road incidents. The department can develop questions surrounding remediation efforts and review incidents for any regressions.

Subsection (b)(1)(F) has been adopted to require the autonomous vehicle has an indicator inside the cabin that is visible and interpretable to first responders and identifies when the vehicle is operating in autonomous mode, when the vehicle is operating in conventional mode, and when the vehicle will remain stopped. This language is adopted to ensure first responders are able to interpret through a visual indicator the operating mode of the autonomous vehicle. This is important for first responder safety as well as other road users when a first responder is approaching an autonomous vehicle during traffic stops or other emergency situations. This language implements, interprets and makes specific language pursuant to Vehicle Code 38750 (c) (1) (B).

Subdivision (b)(3) is amended to require any autonomous heavy-duty commercial motor vehicle that does not comply with all applicable Federal Motor Vehicle Safety Standards to provide the department with evidence of an exemption that has been approved by the Federal Motor Carrier Safety Administration. This regulation is adopted to align with requirements for light

duty autonomous vehicles and ensures the safe operation of autonomous vehicles on public roads.

Subdivision (c) is amended to set forth requirements for the Deployment Permit Application. The term Deployment Permit Application is defined in Section 228.02.

Subdivision (c) (1) is amended to set forth requirements for what shall be included in the consumer or end user education plan for autonomous vehicles to be sold or leased to persons other than the manufacturer and adds the term automated driving system. The definition of automated driving system aligns with SAE J3016 (APR 2021).

Subdivision (c) (1) (A) is amended to require the manufacturer to certify that it shall provide the end user with an agreement which the end user must accept prior to initial operation of the automated driving system feature(s). This agreement shall certify that the end user is fully aware of and understands any and all capabilities and restrictions of the automated driving system feature(s) and shall explain the educational materials that will be provided to end users of the autonomous vehicles produced by the manufacturer. The department is amending this regulation, so the manufacturer understands the additional requirements of an end user education plan. These requirements are added to enhance traffic safety.

Subdivision (c) (1) (B) is adopted to require the manufacturer to notify the operator, registered owner, or lessee on how to access updates to the automated driving system and a description of the process by which updates will occur (e.g., over-the-air communication, manual process requiring an end-user to physically bring the vehicle to a service center for updates, etc.). The department adopted this regulation, so the manufacturer understands the requirements associated with notifications surrounding updates to the automated driving system. These requirements are added to enhance traffic safety.

Former Subdivision (c) (1) (B) is renumbered to (c) (1) (C). This is a non-substantive change.

Subdivision (c) (1) (C) (i) is amended and the phrase "autonomous technology" has been removed and replaced with the phrase "automated driving system feature(s)". The term automated driving system feature is defined in Article 3.7 Section 227.02 (c).

Subsection (c) (1) (C) (ii) is amended and the phrase "autonomous technology" has been removed and replaced with the phrase "automated driving system

feature(s)". The term automated driving system feature is defined in Article 3.7 Section 227.02 (c).

Subsection (c) (1) (C) (iii) is amended and the phrase "automated driving system feature(s)" has been added. The term automated driving system feature is defined in Article 3.7 Section 227.02 (c).

Former subsection (c) (1) (C) is renumbered to (c) (1) (D). This is a non-substantive change.

Former subsection (c) (1) (D) is removed and incorporated into Subsection (c) (2).

Subsection (c) (1) (E) is adopted to require an explanation that the use of autonomous vehicles, or vehicles equipped with automated driving system service, is subject to the manufacturer of the automated driving system possessing and maintaining a valid Deployment Permit. This regulation is adopted to ensure that appropriate notifications are made to the end user regarding the manufacturer's maintenance of a valid Deployment Permit.

Subsection (c) (1) (F) is adopted to require an explanation of the first responder interaction plan described in 227.42 (h). This regulation is adopted to ensure that the end-user understands the manufacturer's stated first responder interaction plan. This accounts for autonomous vehicles that may be owned by individuals other than the manufacturer, particularly those that operate at SAE J3016 levels 4 and 5. This regulation is adopted for the safe operation of autonomous vehicles.

Former subsection (c) (1) (D) is renumbered to subsection (c) (2), and amended to establish requirements that manufacturers are required to provide an internet web site address where copies of the end user education plan may be accessed and shall be provided at no cost to first responder agencies located within the operational design domain of the vehicles, and the manufacturer shall provide the internet website to the California Highway Patrol at the e-mail address provided in Section 227.42 (h) (4) of Article 3.7. This regulation clarifies that the manufacturer is required to provide copies of these plans to first responders and is necessary for traffic safety and the safe operation of autonomous vehicles on public roads.

Former subsection (c) (2) is renumbered to subsection (c) (3) and amended to require description of how a vehicle that meets the definition of an autonomous vehicle will safely come to a controlled stop when there is an automated driving system failure that would endanger the safety of the vehicle's occupants or others. This requirement includes additional details surrounding the automated

driving system achieving a minimal risk condition and provides greater context regarding the safe operation of the autonomous vehicle. This regulation requires the manufacturer to describe the process by which the autonomous vehicle comes to a controlled stop to ensure the safe operation of the vehicle on public roads. The regulation references processes described in SAE J3016 (APR2021).

Former subsection (c) (2) (A) is renumbered to subsection (c) (3) (A) and amended to add the word "active" to create the phrase active travel lanes. This regulation requires the manufacturer to describe the process by which the autonomous vehicle comes to a controlled stop to ensure the safe operation of the vehicle on public roads.

Former subsection (c) (2) (B) is renumbered to subsection (c) (3) (B) and amended to remove the word "complete," replacing with the word "controlled" to create the controlled stop. The regulation references processes described in SAE J3016 (APR2021).

Former subsection (c) (3) has been renumbered to subsection (c)(4) and amended to change the term "law enforcement interaction plan" to "First Responder Interaction Plan," which shall meet all requirements of Section 227.42 (h) of Article 3.7, replacing reference to the former Section 227.38 (f). The term First Responder is defined in Article 3.7 227.02. This regulation references requirements in Article 3.7 and ensures traffic safety and the safe operation of autonomous vehicles on public roads.

Subsection (c) (5) is adopted to require that for a SAE International level 3 automated driving system that requires the presence of a fallback-ready user in the driver's seat, the following components shall be provided to law enforcement agencies and first responders located within the intended operational design domain where deployment is being conducted. The following components will be made available via a publicly accessible website. This regulation is adopted to ensure that manufacturers provide components of a First Responder Plan applicable to vehicles deployed with automated driving feature that meets SAE International J3016 Level 3 where there is a fallback ready user located in the vehicle. The term fall back ready user is defined in Article 3.7 Section 227.02. This regulation is adopted to ensure traffic safety and the safe operation of autonomous vehicles on public roads.

Subsection (c) (5) (A) is adopted to require a description of the display(s) or indicator(s) that is visible and interpretable to law enforcement which identifies when the vehicle is operating in autonomous mode. This regulation is adopted to ensure traffic safety and the safe operation of autonomous vehicles on public roads.

Subsection (c) (5) (B) is adopted to require a description of the operational design domain of the vehicle. This regulation is adopted to ensure traffic safety and the safe operation of autonomous vehicles on public roads.

Subsection (c) (5) (C) is adopted to require any additional information the manufacturer deems necessary regarding hazardous conditions or public safety risks associated with the operation of the autonomous vehicle. This regulation is adopted to ensure traffic safety and the safe operation of autonomous vehicles on public roads.

Former subsection (c) (4) is renumbered to subsection (c) (6) and amended to replace reference to Section 228.24 with Section 228.28. This is a non-substantive change.

Former subsection (c) (5) is renumbered to subsection (c) (7). This is a non-substantive change.

Former subsection (c) (6) is renumbered to subsection (c) (8). This is a non-substantive change.

Former subsection (c) (7) is moved to subsection 228.08 (a) (1) (C).

Former subsection (c)(7)(A) is moved to subsection 228.08 (a) (1) (C).

Former subsection (c)(7)(B) is amended and moved to subsection 228.08 (a) (1) (C).

Former subsection (c)(7)(C) is moved to subsection 228.08 (a) (1) (C).

Subsection (c) (9) is adopted to require certification that the manufacturer operating an autonomous commercial motor vehicle shall comply with the hours-of-service regulations set forth in Title 49, Code of Federal Regulations, Part 395 for the type of vehicle being driven or operated. This requirement aligns with federal commercial driver requirements. These requirements are essential to ensure autonomous vehicles are operated safely on public roads.

Subdivision (c) (10) is adopted to align with the statutory requirements set forth by AB 1777 which requires autonomous vehicle manufacturers to certify that autonomous vehicles with a gross weight rating less than 10,001 pounds are in compliance with the sanctions imposed to create a framework for interactions between first responders and the autonomous vehicle/manufacturer.

Subdivisions (c) (10) (A) through (G) are adopted pursuant to the Vehicle Code section 38751. There is duplication of statute from Vehicle Code section 38751. The department has determined the duplication necessary to satisfy the clarity standard of Government Code section 11349.1 (a) (3).

Subdivision (c) (10) (A) is adopted to require that there is a dedicated emergency response telephone line available for emergency response officials during all hours when the autonomous vehicle is on a public road and is staffed to ensure calls are picked up within 30 seconds by remote operations personnel who have situational awareness of the autonomous vehicle.

Subsection (c) (10) (B) is adopted to require that there is a two-way voice communication device that enables emergency response officials that are near the vehicle to communicate effectively with remote operations personnel that have situational awareness.

Subsection (c) (10) (C) is adopted to require that an emergency response official is able to reach remote operations personnel within 30 seconds after making a request through the two-way voice communication device.

Subsection (c) (10) (D) is adopted to require that remote operations personnel shall have the ability to immobilize the autonomous vehicle, allow an emergency response official to move the vehicle, or cause the autonomous vehicle to move as directed by emergency response official.

Subsection (c) (10) (E) is adopted to require a manufacturer whose autonomous vehicle is operating under a Deployment Permit to direct its fleet to leave or avoid an identified area within two minutes of receiving an emergency geofencing message from an emergency response official. The avoidance area shall remain in place until it is cleared by the same agency that initiated the request.

Subsection (c) (10) (F) is adopted to require that within 30 business days of receiving a notice that an emergency response official wishes to begin issuing emergency geofencing messages, a manufacturer shall provide the emergency response official with all information necessary for the emergency response official to begin issuing and for the manufacturer to receive and respond to emergency geofencing messages.

Subsection (c)(10)(G) is adopted to require that the autonomous vehicle is equipped with an override system that allows an emergency response official to immobilize or cause the vehicle to move as necessary to address an emergency and require that the manufacturer shall provide training to first responders on the use of the override system. The training shall be reviewed and updated by the manufacturer as changes are needed.

Subsection (d) is adopted to establish requirements that in addition to the requirements of section 228.08, a manufacturer submitting a Deployment Permit Application to deploy an autonomous commercial motor vehicle, or any motor

carrier operating an autonomous commercial motor vehicle authorized to deploy on public roads in California shall adhere to.

Subdivisions (d)(1) through (3) are adopted to require a manufacturer submitting a Deployment Permit Application for an autonomous commercial motor vehicle to adhere to: (1) Compliance with required inspections pursuant to Vehicle Code Sections 2800 and 2813. Autonomous commercial motor vehicles shall be subject to this paragraph notwithstanding the term "driver" when inspection stops are required; (2) The Basic Inspection of Terminals program requirements contained in Vehicle Code Section 34501.12 and periodic vehicle inspection requirements in Vehicle Code Section 34505.5; (3) Applicable safety requirements contained in Title 13, Division 2. The requirements align with human driven commercial motor vehicles, and autonomous vehicles are being required to also adhere to these requirements in order to ensure they are operated safely on public roads. The department may revisit these regulations over time as the technology progresses and use cases expand.

Subsection (d)(3) is adopted to require the manufacturer to ensure that the fallback ready user, operator, or automated diving system complies with all applicable size and weight provisions of the Vehicle Code when using detours or alternate routes. If the commercial motor vehicle is directed to travel off-route due to a detour or uses an alternate route due to the closure of a predesignated route, the manufacturer shall notify the relevant authorities and the Department to the circumstances of the event.

Former subsection (d) is removed and replaced with operational data assessments and the safety case described in Section 228.08 (a) (1) (A) (i) and (a) (1) (B) (i), which are required for the manufacturer to demonstrate their approach to safety.

Subdivision (e) is amended to include subdivision (a) and describes how the manufacturer shall submit the application to the department.

No amendments are made to Subdivisions (e) (1) through (e) (4).

§ 228.10. Review of Application.

Former Section 228.08 is renumbered to 228.10, with subdivisions (a) and (f) amended to cite the new numbering of other sections. This is a non-substantive change.

No amendments are made to Subdivisions (b) through (e).

Subsection (e) (1) has been amended to cite the new numbering of other sections.

Subsection (e) (2) has been amended to remove the phrase, "are safe to operate on public roads," and replaced it with the phrase, the "operation of the subject automated driving system does not pose an unreasonable risk of accident, death, injury, or exacerbating injury." The manufacturer's safety claims must indicate that the automated driving system performs the driving task in a manner that does not pose an unreasonable risk of accident, death, injury or exacerbating injury. This requirement provides greater clarity associated with the term unreasonable risk and further aligns with the US DOT NHTSA's standard of investigating defects involving unreasonable risk of accident, death, or injury, and provides additional direction to the regulated public. The data presented by the manufacturer must support this claim to ensure safe operation on public roads.

§ 228.12. Amendment of Application.

Former Section 228.10 is renumbered to 228.12. This is a non-substantive change.

Subsection (a) is amended to use the term "Deployment Permit", rather than "to Deploy Autonomous Vehicles on Public Streets," as well as remove use of the word "ten" when referring to number days required to inform the department of contact changes and replace with the numerical number "10." This subsection adds the requirement for manufacturers to notify the department in writing on official letterhead of changes to their contact information, including changes in the authorized representative's email address, and any changes to remote drivers or remote assistants. The term deployment permit is defined in Section 228.02 of this article. The department maintains accurate records related to permit holders and needs to be updated with any changes to contact information and remote assistants and remote drivers in a timely manner for the safe operation of vehicles on public roads.

Subsection (b) is amended to establish that any amendment to the Deployment Permit during the term of the permit to implement changes as defined in section 228.12, subsection (b) shall be accomplished by submitting a revised Deployment Permit Application and submitting the fee of $3,275 for the processing of the amendment. This adoption will provide greater clarity to the regulated public regarding the application fee associated with a deployment amendment.

Subsections (b)(1), (b)(2), and (b)(4) are amended to remove incidences of the phase "and/or in addition to." This amendment removes unclear language.

Subsection (b)(3) is amended to include an added phrase, "above that on the approved permit," to clarify when referencing a pre-approved permit. This

amendment provides clarity for the manufacturer and specifies that the amendment is above what has previously been approved.

No amendments are made to Subdivision (b) (5).

Subsections (b)(6) has been adopted to require manufacturers to submit an amended application when a different make/model vehicle is identified on the permit. This regulation is adopted to ensure that autonomous vehicles are appropriately authorized pursuant to this Article and is necessary for the safe operation of autonomous vehicles on public roads.

Subsection (b)(7) has been adopted to require manufacturers to submit an amended application when the days / hours of deployment operations have been modified. This regulation has been adopted to ensure that the department and first responders are aware of any changes to the operation of the autonomous vehicle on public roads. This is necessary for the safe operation of autonomous vehicles on public roads.

Subsection (b)(8) is adopted to require manufacturers to submit amended applications whenever operations change how law enforcement and other first responders interact with the autonomous vehicle. This regulation has been adopted to ensure that first responders are aware of any changes to the operation of the autonomous vehicle on public roads. This is necessary for the safe operation of autonomous vehicles on public roads.

Former subsection (c) is removed and added to subsection (b).

§ 228.14. Reporting Safety Defects.

Former Section 228.12 is renumbered to 227.14, with the section header amended to state, a manufacturer that identifies a safety-related defect shall comply with Part 573, Title 49 of the Code of Federal Regulations and shall submit to the Department a copy of the report prepared in accordance with that part by the deadline specified in that part. This regulation is amended to include requirements for manufacturers to submit a NHTSA safety recall report to the department by the deadline outlined in compliance with the Code of Federal Regulations. This regulation is adopted so the department is aware of up-to-date safety recall information and ensures the safe operation of autonomous vehicles on public roads.

§ 228.16. Conditions Related to the Term of Permit.

Former Section 228.14 is renumbered to 228.16. This is a non-substantive change.

Section 228.16 is amended to use the term "Deployment Permit", rather than "to Deploy Autonomous Vehicles on Public Streets." This term is defined in Section 228.02 (e).

§ 228.18. Refusal of an Application for a Permit to Deploy.

Former Section 228.16 is renumbered to 228.18. This is a non-substantive change.

Section 228.18 has been renamed from "Denial of Application or a Permit to Deploy." to "Refusal of an Application for a Permit to Deploy." to provide clarify that the application has been reviewed and refused contrary to an instant denial of the Deployment Application.

Section 228.18 is amended to use the term "Deployment Permit", rather than "to Deploy Autonomous Vehicles on Public Streets." This term is defined in Section 228.02 (e).

Subdivision (a) is amended to include violations of not only 38750, but the newly added 38751 and 38752 as well as any violations of Articles 3.7 and 3.8. This regulation is amended to ensure the regulated public is aware of violations that may result in the refusal of a deployment application. This regulation is amended for the safe operation of autonomous vehicles on public roads.

Subdivisions (b) and (c) have been amended to ensure the regulated public is aware of additional instances which may result in the refusal of a deployment application. These instances include operations that pose an unreasonable risk to accident, death, injury or exacerbating injury. This requirement provides greater clarity associated with the term unreasonable risk and further aligns with the US DOT NHTSA's standard of investigating defects involving unreasonable risk of accident, death, or injury, and provides additional direction to the regulated public. This regulation is amended for the safe operation of autonomous vehicles on public roads.

Former subdivision (c) is renumbered to (d) and is amended to use the term "deployment Permit", rather than "to Deploy Autonomous Vehicles on Public Streets." This term is defined in Section 228.02 (e).

§ 228.20. Demand for Hearing on Refusal of Permit.

Former Section 228.18 is renumbered to 228.20. This a non-substantive change.

Subsection (a) is also amended to use the term "deployment Permit", rather than "to Deploy Autonomous Vehicles on Public Streets." This term is defined in Section 228.02 (e).

No changes to subdivisions (b), (c) and (d).

§ 228.22. Restriction of Autonomous Vehicles Deployment Permit.

Subdivision (a) is adopted to allow the department to leverage incremental enforcement measures that do not require a full suspension or revocation. The department's current enforcement authority provides for only a complete cessation of operation on public roads. The restriction provides the department with an additional enforcement mechanism short of complete cessation. This benefits manufacturers while allowing the department to ensure manufacturers are addressing deficiencies.

Subdivisions (b) through (b) (4) are adopted to describe the types of operational restrictions. These restrictions focus on incremental aspects of a manufacturer's operations and enforcement that can be segmented based on geographic location, time of day, weather, fleet size in order to address the specific deficiency as well as require safety driver or support personnel be in the vehicle.

Subdivision (c) is adopted to allow the department to issue an immediate restriction when the autonomous vehicle poses an imminent hazard. Imminent hazard is defined in Article 3.7 Section 227.02.

Subdivisions (c) (1) through (c) (4) are adopted to describe the types of immediate restrictions the department may impose. These restrictions focus on incremental aspects of a manufacturer's operations and enforcement that can be segmented based on geographic location, time of day, weather, fleet size in order to address the specific deficiency as well as require safety driver or support personnel be in the vehicle.

Subdivision (d) is adopted to describe the process by which the manufacturer can request lifting the restriction. This requirement formalizes a process by which the manufacturer can address the deficiencies that led to the enforcement action.

§ 228.24. Suspension, Revocation or Restriction of Deployment Permit.

Section 228.20 is renumbered to 228.24, with subdivisions (a) and (a)(2), amended to use the term "Deployment Permit", replaces the term "to Deploy Autonomous Vehicles on Public Streets." Additional language is included to clarify "deployment permit" is pursuant to section 228.26.

Subdivision (a) is amended to include that the department may now impose an operational restriction on a Deployment Permit, in addition to suspending or revoking said Deployment Permit. This requirement formalizes the department's enforcement authority related to operational restrictions described in Section 228.22. The term deployment permit is defined in Section 228.02 (e).

No amendments to subdivisions (a)(1).

Subsection (a)(2) is amended to use the term "Deployment Permit," as well as clarify this subdivision is applicable to any other submission to the department. This regulation is added to include instances where a manufacturer may provide misleading or incorrect information in any other submission such as data reports, requests for information or any other data requests. This regulation is amended to ensure the department receives complete and accurate information regarding the safe operation of autonomous vehicles on public roads.

Subsection (a)(3) is amended to correctly cite the new numbering of section 228.12, formerly 228.10. This is a non-substantive change.

No amendments are made to Subdivision (a) (4).

Subsection (a)(5) has been adopted to establish the requirements for occurrences when the manufacturer, fails to respond to a Preliminary Information Request or a Request for Information; or any incidence giving the department reason to believe the permit holders' operation of autonomous vehicle poses an unreasonable risk to public safety. This regulation is adopted to ensure that the manufacturer provides the department with further understanding of incidents in order to determine if additional investigation is needed or enforcement action is necessary. This regulation is adopted to ensure the safe operation of autonomous vehicles on public roads.

Subsection (a)(6) is adopted to allow the department to leverage any other reason giving the department good cause to find the conduct of autonomous vehicle testing on public roads by the manufacturer an unreasonable risk of collision, death, injury, or exacerbating injury, and to, therefore, suspend, revoke, or impose operational restrictions on a Deployment Permit. This requirement is adopted to further align with the US DOT NHTSA's standard of investigating defects involving unreasonable risk of accident, death, or injury, and is necessary for the safe operation of autonomous vehicles on public roads.

Subdivision (b) is amended to state that the department may immediately suspend, revoke, or impose an operational restriction on a Deployment Permit, for any of the following reasons listed in Subdivision (b). This requirement formalizes the department's enforcement authority related to operational restrictions described in Section 228.22.

No amendments are made to Subdivision (b) (1).

Subsection (b)(2) is amended to use the term "deployment Permit". This term is defined in Section 228.02 (e).

Subsections (b)(3), (b) (4) and (b)(5) are amended to replace the term "autonomous technology" with "automated driving system". The term automated driving system is used to establish consistency with accepted standards as defined in SAE International's J3016 (APR 2021).

Subsection (b)(6) is adopted to establish the department may immediately suspend the deployment permit if an autonomous vehicle, that is classified as a commercial motor vehicle, is placed on the list of Out-of-Service Orders by the Federal Motor Carrier Safety Administration for any of the reasons defined in Title 49, Code of Federal Regulations, Parts 385.13, 386.72, and 386.83. This requirement aligns with sanctions that are imposed on commercial motor vehicles when placed out of service by the Federal Motor Carrier Safety Administration and ensures traffic safety.

Subsection (b)(7) is adopted to establish the department may immediately suspend the deployment permit if the Motor Carrier of Property Permit associated with an autonomous vehicle, that is classified as a commercial motor vehicle, has been suspended by the department for any of the reasons defined in Vehicle Code Division 14.85. This requirement aligns with motor carrier permit sanctions imposed on commercial motor vehicles by the department and ensures for traffic safety.

Subsection (b)(8) is amended establish the department may immediately suspend the deployment permit if the department determines deployment of autonomous vehicles pursuant to the manufacturer's permit poses an imminent hazard. The regulation is adopted to provide clarity for incidents requiring more immediate enforcement action and aligns with thresholds established by the United States Department of Transportation. Imminent Hazard is defined in Article 3.7 Section 227.02.

Subsection (c) has been amended to add the term Deployment Permit which is defined in Section 228.02 (e). The regulation also formalizes the department's enforcement authority related to operational restrictions described in Section 228.22. The amendment further clarifies how the manufacturer shall address the deficiencies which led to the suspension, revocation, or restriction. The data submitted by the manufacturer will enable the department to conduct an effective review and is necessary for the safe operation of autonomous vehicles on public roads.

Subsection (d) has been amended to add the term Deployment Permit which is defined in Section 228.02 (e). The regulation ensures that all impacted end users are aware of any restrictions, suspensions or revocations which affect the utilization of the automated driving system feature(s) on public roads.

§ 228.26. Administrative Procedures for a Suspension, Restriction or Revocation of Permit.

Former Section 228.22 is renumbered to 228.26, and the section header has been amended to include the use of the term "Restriction."

Subdivision (a) and subdivision (b) are amended to now include the use of the term "restriction," as well as correctly cite and/or relate back to amended sections 228.20, 228.22, and/or 228.24 respectively. This requirement formalizes the administrative procedures related to the issuance of an operational restriction described in Section 228.22 and 228.24.

Subsections (a)(1) and (a)(5) are amended to correctly cite the subdivisions as pursuant to Section 228.24, 228.26, and/or 228.28 respectively.

Subsection (a)(2) is amended to include the sentence "Nothing herein shall prevent issuance or enforcement of an immediate suspension, restriction, or revocation order pursuant to section 228.26, subsection (b)." This regulation is amended to ensure the safe operation of autonomous vehicles on public roads.

Subsection (a)(3) is amended to update the Section referenced from 228.20 to 228.24. This a non-substantive change.

Subsections (a)(4) and (a)(5) are amended to include the term "restriction."

Prior subsections (b)(1) and (b)(2), previously related to suspension and revocation of a permit prior to 228.26 and 228.28, have been removed.

No amendments to subdivision (c).

§ 228.28. Information Privacy.

Former Section 228.24 is renumbered to 228.28. This is a non-substantive change.

Subsections (a)(1) and (b) is amended to add the term "automated driving system" to replace the term- "autonomous technology." The term automated driving system is used to establish consistency with accepted standards as defined in SAE International's J3016 (APR 2021).

No amendments to subdivision (c).

§ 228.30. Registration of Autonomous Vehicles.

Former Section 228.26 is renumbered to 228.30. This is a non-substantive change.

No amendments to subdivision (a).

No amendments to subdivision (b).

Subdivision (c) is adopted to require that the manufacturer shall not activate an automated driving system service on a vehicle that has been deemed salvage, unless the manufacturer provides the department with a completed Statement of Facts, REG 256 form (REV. 8/2008), signed by the manufacturer certifying that the automated driving system is capable of operating as designed in the intended operational design domain. This regulation is adopted for safety to prevent vehicles that have been determined to be salvage vehicles from operating as an autonomous vehicle, unless they have been evaluated by the manufacturer and deemed acceptable to operate as autonomous vehicles.

Subdivision (d) is adopted to require autonomous commercial motor vehicles entering California shall be a make and model listed on an approved Deployment Permit. Vehicles shall have documentation from the manufacturer indicating that the make and model is approved for use on public roads in California. This regulation is adopted to ensure that the department as well as the California Highway Patrol can clearly identify those vehicles that are authorized to operate on California public roads pursuant to this Article. This regulation is adopted for the safe operation of autonomous vehicles on public roads.

§ 228.32. Statements About Autonomous Technology

Former Section 228.28 is renumbered to 228.32. This is a non-substantive change.

Subsections (a)(1) and (b) have been amended to refer to the term autonomous vehicle defined in Article 3.7 227.02 (h).

No amendments are made to (a) (2).

§ 228.34. Reporting Collisions.

This regulation is adopted to require a manufacturer operating under a Deployment Permit to provide the full National Highway Traffic Safety Administration Standing General Order crash report, including full content of the report, within the timeframes specified pursuant to the National Highway Traffic Safety Administration Standing General Order (MAY2023). In support of the department's role related to monitoring and tracking the safe operation of autonomous vehicles on public roads; the adopted regulations expand required data reporting for deployment operations. The following adopted section expands data reporting and aligns crash reporting with the United Sates Department of Transportation, National Highway Traffic Safety Administration's Standing General Order (SGO) for autonomous vehicle crash reporting. California first created autonomous vehicle crash reporting requirements in 2014. The reporting requirements apply only to testing operations and manufacturers

have to provide two separate reports that have similar data. Frequent data reporting will increase public transparency of autonomous vehicle operations. The Standing General Order has been in place since 2021; however, it has not been incorporated into federal regulations. If the Standing General Order is rescinded, subdivision (a) will be applicable.

Subdivision (a) is adopted to provide the department with collision reports within 24 hours and 10 calendar days based on the incident. For collisions resulting in bodily injury or death, the manufacturer is required to submit the report to the department within 24 hours. For collisions resulting in property damage, the manufacturer is required to submit the report to the department within 10 calendar days. Receiving a collision report within 24 hours for more serious incidents allows the department to respond appropriately with enforcement action, if necessary. The 10-day reporting requirement mirrors existing autonomous vehicles collision reporting requirements as well as accident reporting described in Vehicle Code 16000 et seq. Additionally, this regulation is adopted to ensure that collisions continue to be reported to the department if the federal Standing General Order is rescinded. The regulation preserves the department's original authority to receive reports and expands the timing of those reports to align the 24-hour reporting requirement with the Standing General Order. For collisions resulting in an injury or death, the department needs the report in order to take any enforcement action, as necessary for the safe operation of autonomous vehicles.

Subdivision (b) is adopted to establish the department may request supplemental information at any time from the manufacturer or affiliate in connection with the collision report. This may include, but is not limited to, technical information, images, video and depictions about the status and operation of the vehicle's sensors recorded 30 seconds prior to the time of the collision, including, but not limited to, plots of the distance and the speed difference relative to the relevant targets in the collision path, the speed and acceleration of the host vehicle and the acceleration, braking and steering commands that were issued by the automated driving system, and camera footage with target tracking representations. This regulation is adopted to provide the department with further understanding of the incident and is necessary for ensuring the safe operation of autonomous vehicles operating on public roads.

§ 228.36. Reporting Vehicle Immobilizations

The vehicle immobilization reporting is being established to create a reporting requirement for immobilizations under the Driverless Testing Permit. Section

228.36 is adopted to support the department's effort related to monitoring and tracking the safe operation of autonomous vehicles on public roads. As driverless vehicles began operating more frequently in 2021 and 2022, the department received reports of autonomous vehicles being stopped in the public roadways. The National Highway Traffic Safety Administration opened a preliminary investigation on Cruise LLC on December 12, 2022 (PE22014) which reviewed immobilization events occurring on public roads. These events are not currently required to be reported to the department and occur when an autonomous vehicle cannot continue the driving task. In many instances these stops are resolved by the autonomous vehicle communicating with a remote assistant, but a percentage are not, and the manufacturer needs to manually retrieve the vehicle. The department will utilize the instances where the vehicle cannot continue and needs to be retrieved. These immobilizations provide information into challenges within the operational design domain and the department will engage with the manufacturer to understand how the incident is being addressed. Frequent data reporting will increase public transparency of autonomous vehicle operations and will also be used in testing summaries when a manufacturer is applying for deployment authorization.

Section 228.36 is adopted to require every manufacturer with an authorized Deployment Permit to prepare and submit to the department a monthly report summarizing occurrences of vehicle immobilizations and be submitted by the first business day on or after the fifteenth day of the following month. Frequent data reporting will increase public transparency of autonomous vehicle operations and will also be used in operational summaries when a manufacturer is applying for additional deployment authorization. The report shall be submitted by the first business day on or after the fifteenth day to allow manufacturers time to reconcile the reporting from the previous month.

Subdivision (b) establishes the monthly the report shall include the following:

(1) The date and time of the occurrence. This regulation is established to provide the department with near real time information regarding on road operations, and enables the department to effectively review, and track incidents related to the safe operation of autonomous vehicles on public roads.

(2) The longitude and latitude coordinates of the location. This regulation is established to provide the department with near real time information regarding on road operations, and enables the department to effectively review, and track incidents related to the safe operation of autonomous vehicles on public roads.

(3) License plate or vehicle identification number. This regulation is established to provide the department with near real time information regarding on road operations, and enables the department to effectively review, and track incidents related to the safe operation of autonomous vehicles on public roads.

(4) Length of time (in minutes) the vehicle was stopped before it was cleared from the travel lane and removed from the roadway. This regulation is established to provide the department with near real time information regarding on road operations, and enables the department to effectively review, and track incidents related to the safe operation of autonomous vehicles on public roads.

(5) The actions taken to remove the vehicle from where it stopped in the roadway, if applicable. This regulation is established to provide the department with near real time information regarding on road operations, and enables the department to effectively review, and track incidents related to the safe operation of autonomous vehicles on public roads.

§ 228.38. Reporting Dynamic Driving Task Performance Relevant System Failures

The dynamic driving task performance relevant system failures reporting is being established to create a reporting requirement under the Deployment Permit. Section 228.38 is adopted to support the department's efforts related to monitoring and tracking the safe operation of autonomous vehicles on public roads. Frequent data reporting will increase public transparency of autonomous vehicle operations, as well as enhance conversations and coordination with local governments. The term dynamic driving task performance relevant system failure is defined in Section 228.02 and is used to establish consistency with accepted standards as defined in SAE International's J3016 (APR 2021).

Subdivision (a) is adopted to establish that a manufacturer or affiliate authorized to operate an autonomous vehicle on public roads in deployment, or a manufacturer providing an automated driving system service, upon being made aware of a dynamic driving task performance relevant system failure shall prepare and submit to the department a monthly report summarizing occurrences. The report shall be submitted by the first business day on or after the fifteenth day to allow manufacturers time to reconcile the reporting from the previous month.

Subdivision (b) establishes the monthly report shall include the following:

(1) The date and time of the occurrence. This regulation is established to provide the department with near real time information regarding on road operations,

and enables the department to effectively review, and track incidents related to the safe operation of autonomous vehicles on public roads.

(2) The longitude and latitude coordinates of the location. This regulation is established to provide the department with near real time information regarding on road operations, and enables the department to effectively review, and track incidents related to the safe operation of autonomous vehicles on public roads.

(3) License plate or vehicle identification number. This regulation is established to provide the department with near real time information regarding on road operations, and enables the department to effectively review, and track incidents related to the safe operation of autonomous vehicles on public roads.

(4) A full description of the dynamic driving task performance relevant system failure. This regulation is established to provide the department with near real time information regarding on road operations, and enables the department to effectively review, and track incidents related to the safe operation of autonomous vehicles on public roads.

(5) Length of time (in minutes) the vehicle was stopped before it was cleared from the travel lane and removed from the roadway. This regulation is established to provide the department with near real time information regarding on road operations, and enables the department to effectively review, and track incidents related to the safe operation of autonomous vehicles on public roads.

(6) The actions taken to remove the vehicle from where it stopped in the roadway, if applicable. This regulation is established to provide the department with near real time information regarding on road operations, and enables the department to effectively review, and track incidents related to the safe operation of autonomous vehicles on public roads. These elements provide standardized categories the regulated public can use to report incidents, which will enable the department to effectively review, investigate and track incidents related to the safe operation of autonomous vehicles on public roads.

§ 228.40. Notice of Autonomous Vehicle Noncompliance.

Section 228.40 is adopted to align with statutory requirements set forth by AB 1777 for autonomous vehicle manufacturers operating under their deployment permit receives a Notice of Autonomous Vehicle Noncompliance, form OL 325 (Rev. 12/2024).

The Notice of Autonomous Vehicle Noncompliance, form OL 325 (Rev. 12/2024) will require Vehicle Information, Safety Driver or Fall-Back Ready User Information, Remote Assistant Information, Disposition of Vehicle, Observed Driving Behavior and Issuing Agency Information. These elements of the form are a necessity to the issuing law enforcement officer filling out the Notice of Autonomous Vehicle Noncompliance, form OL (Rev. 12/2024) to accurately describe the driving behavior of the autonomous vehicles and how it is allegedly in violation of a traffic violation. These elements are also essential to be described for the DMV to conduct an investigation of the alleged traffic violation and any further actions that need to be taken on the Autonomous Vehicles Manufacture permit.

The adopted section is pursuant to the passing of Assembly Bill 1777 (AB 1777) and the adoption of CVC 38752. Approved by Governor Newsom on September 27, 2024, AB 1777 creates a framework for interactions between first responders and the autonomous vehicle/manufacturer. New statutory language, specifically section 228.42, is adopted to create a mechanism for law enforcement to issue a notice of AV noncompliance when an alleged traffic violation is observed. The statute requires a notice to be submitted to the department within 72 hours or within a timeframe determined by the department. For incidents a law enforcement officer deems "priority review," a manufacturer shall submit the AV noncompliance notice to the department within 24 hours of issuance. These incidents include situations that "led the officer to believe the operation presented a clear or potential danger or risk of injury to others". These incidents could involve a vulnerable road user, vehicle immobilization in a lane of traffic or human error by remote assistant or remote driver leading to a traffic violation. The 24-hour notice is required due to the heightened risk of danger or injury to others and will allow the department to receive notification of this potential risk sooner.

Subdivision (a) is adopted to establish that commencing July 1, 2026, a notice of Autonomous Vehicle Noncompliance (Autonomous Vehicle Noncompliance OL 325 Rev. 12/2024), which is hereby incorporated by reference, may be issued by a peace officer that observes an alleged violation of this code, or an alleged violation of local traffic ordinance adopted pursuant to this code.

Subdivision (b) is adopted to establish that a manufacturer shall provide the notice to the department, issued by a peace officer, within 72 hours. Form OL 325 may be submitted electronically to the department via the department's web portal or to AVIncident@dmv.ca.gov.

Subdivision (c) is adopted to establish that a peace officer may indicate a need for priority review of the form if the officer observes that the autonomous vehicle exhibited driving behavior which reasonably led the officer to believe that the operation presented a clear or potential danger or risk of injury to others. If a priority review is marked on the form, the manufacturer shall submit the notice within 24 hours of issuance.

Subdivision (d) is adopted to establish that the peace officer shall identify on the Notice of Autonomous Vehicle Noncompliance form at minimum the following adopted subdivisions:

(1) Confirmation that the autonomous technology was engaged.

(2) The alleged violation of the Vehicle Code or violation of the local ordinance observed.

(3) The date the alleged violation occurred.

(4) The time the alleged violation occurred.

(5) The location the alleged violation occurred.

(6) The AV license plate number

These elements provide standardized categories law enforcement can use to report incidents, which will enable the department to effectively review, investigate and track incidents related to the safe operation of autonomous vehicles on public roads.

Subdivision (e) is adopted to establish the department may request supplemental information from the manufacturer in connection with the issuances of a Notice of Autonomous Vehicle Noncompliance. This may include but is not limited to technical information about the status and operation of the vehicle's sensors, audio and video data recorded during the initiation of the stop through the conclusion of the peace officer interaction and receipt of the Notice of Autonomous Vehicle Noncompliance. This data may include but is not limited to plots of the distance and the speed difference relative to the relevant targets in the collision path, the speed and acceleration of the host vehicle and the acceleration, braking and steering commands that were issued by the automated driving system, and camera footage with target tracking representations. This regulation is adopted to provide the department with further understanding of the incident and is necessary for ensuring the safe operation of autonomous vehicles operating on public roads.

Subdivision (f) is adopted to establish that pursuant to Sections 228.22 and 228.24, Article 3.8, the department may choose restriction, revocation, suspension, or denial of any license or any approval under a deployment permit. This regulation is adopted to reference the department's enforcement authority ensuring the safe operation of autonomous vehicles operating on public roads.

Subdivision (g) is adopted to establish that nothing in section 228.44 relieves any person from compliance with any other statutory and/or regulatory reporting requirements.

§ 228.42. Preliminary Information Notice.

The adopted "Preliminary Information Notice" section is necessary to further define the department's processes for obtaining information from a manufacturer on severe incidents involving the operation of their autonomous vehicles on California public roads during testing operations. Depending on the severity of an incident, preliminary information would be required from manufacturers within 24-72 hours, with failure to comply serving as a basis for a permit suspension, revocation, or restriction. Preliminary information would further the department's processes of reviewing whether the manufacturer has taken steps to appropriately respond to severe incidents. This regulation is adopted to provide the department with immediate information related to an incident occurring on public roads as these incidents may require enforcement action to protect the public.

The adopted "Preliminary Information Notice" section is necessary to further define the department's processes for obtaining information from a manufacturer on severe incidents involving the operation of their autonomous vehicles on California public roads during deployment. Depending on the severity of an incident, preliminary information would be required from manufacturers within 24-72 hours, with failure to comply serving as a basis for a permit suspension, revocation, or restriction. Preliminary information would further the department's processes of reviewing whether the manufacturer has taken steps to appropriately respond to severe incidents.

Subsections (a)(1) through (a)(7) are adopted to establish that the department may issue a Preliminary Information Notice to a manufacturer about any incident involving an autonomous vehicle on public roads that led to or caused, but not limited to, the following:

(1) Violation of the Vehicle Code and the requirements of the CCR, Title 13, Division 1, Chapter 1, Article 3.7 and Article 3.8.

(2) Operation in a manner that was not approved by the department under the authorized Deployment Permit.

(3) Operation outside of a known operational design domain (ODD) constraint and/or upon ODD exit.

(4) Occurrence of a dynamic driving task performance-relevant systems failure(s) violation.

(5) Receipt of a Notice of Autonomous Vehicle Noncompliance, form OL 325 (Rev. 12/2024).

(6) Operation of autonomous vehicles on public roads in California posing an unreasonable risk of accident, death, injury or exacerbation of injury.

(7) A credible report to the department about an incident by local, state, or federal agencies or the public, and or on publicly accessible platforms.

This regulation is adopted to provide the regulated public with instances that necessitate a preliminary information report and represent incidents that may pose an imminent hazard or unreasonable risk of accident, injury or death. This regulation is necessary for the safe operation of autonomous vehicles on public roads.

Subdivision (b) is adopted to require the manufacturer, in response to a Preliminary Information Notice, shall provide all information requested by the department, which may include, but is not limited to, the following: identification of all incidents of the type described; description of the incident(s), including any contributing factors that led to or caused the incident; visual evidence, such as photographs, videos, or other documentation; date and time of the incident; latitude and longitude coordinates; vehicle identification number; software version number of the automated driving system equipped to the vehicle; other vehicles and/or road users involved; measures taken to resolve the incident; and any remediation to mitigate risk of any future occurrence of the incident. This regulation is adopted to provide the department with further understanding of the incident in order to determine if additional investigation is needed or enforcement action is necessary.

§ 228.44. Request for Information.

Section 228.44 is adopted to further define the department's processes for obtaining information from a manufacturer on any applicable/relevant incidents involving the operation of their autonomous vehicles on California public roads during testing operations, and for reviewing whether the manufacturer has taken steps to address the cause of any incidents. The

Request for Information process facilitates engagement with the manufacturer and ensures the manufacturer has the opportunity to provide information relevant to a particular incident. A manufacturer's failure to comply with the request could serve as a basis for a permit suspension, revocation, or restriction. This regulation is adopted to provide the department with in-depth information related to an incident occurring on public roads as these incidents may require enforcement action to protect the public.

Subdivision (a) is adopted to establish the manufacturer shall respond to a Request for Information by responding to the request within at least 10 business days. However, the manufacturer may request in writing for additional time to respond when the request involves a complex issue or a request that is large in scope.

Subsections (a)(1) through (a)(12) are adopted to establish that the department may issue a Request for Information to a manufacturer to obtain specific information on incidents involving an autonomous vehicle on public roads that led to or caused, but not limited to, the following.

(1) Violation of the Vehicle Code or the requirements of the CCR, Title 13, Division 1, Chapter 1, Article 3.7 and Article 3.8.

(2) Operation in a manner that was not approved by the department under the authorized Deployment Permit.

(3) Operation outside of a known ODD constraint and/or upon ODD exit.

(4) Occurrence of a dynamic driving task performance-relevant systems failure(s) violation.

(5) Traffic collision as defined in CCR, Title 13, Division 1, Chapter 1, Article 3.8, Section 228.38.

(6) Any risk to traffic safety or other road users, traffic delay, or impediment to first responders.

(7) Actions that do not comply with the verbal and/or non-verbal directions from first responders.

(8) Obstruction of an active emergency vehicle and the zones where emergency vehicles enter, exit, or are parked.

(9) Operation at, near the vicinity, or in the direction of travel of an active emergency response scene, avoidance zone, avoidance area, or any emergency roadway scenario whereby operating a motor vehicle is prohibited

by first responders, and an emergency vehicle being operated under the provisions of the CVC Section 21055.

(10) Receipt of a Notice of Autonomous Vehicle Noncompliance, form OL 325 (Rev. 12/2024).

(11) Noncompliance with Vehicle Code section 38752.

(12) Any other incident reports to the department by local, state, federal agencies or the public, and or on public accessibly platforms.

The types of incidents listed in subdivisions (a)(1)- (12) necessitate review to determine whether or not the department needs to take enforcement action and receipt of this information in a timely manner is critical to the department's role in investigating incidents. This regulation is adopted to provide the regulated public with instances that necessitate a request for information report and represent incidents that may pose an unreasonable risk of accident, injury or death. The 10-day reporting requirement will enable the department to gather information in a timely manner in order to take enforcement action, as necessary to ensure the safe operation of autonomous vehicles on public roads. The department appreciates that there may be complex situations where the manufacturer needs additional time to gather the necessary information and will allow the manufacturer to request additional time in writing.

Subdivision (b) is adopted to require the manufacturer, response to a Request for Information, shall provide all information requested by the department, which may include, but is not limited to, the following: identification of all incidents of the type described; full description of the incident(s), including all contributing factors that led to or caused the incident; visual evidence, such as photographs, videos, or other documentation; date and time of the incident; latitude and longitude coordinates; vehicle identification number; software version number of the automated driving system equipped to the vehicle; other vehicles and/or road users involved; measures taken to resolve the incident; and any remediation to mitigate risk of any future occurrence of the incident. This regulation is adopted to provide the department with all the information necessary in order to determine if enforcement action is necessary and supports the safe operation of autonomous vehicles.

DEPARTMENTAL DETERMINATIONS SUPPORTING GOVERNMENT CODE SECTIONS 11346.2(b)(3) THROUGH (b)(5)

Studies, Reports or Documents – Gov. Code Sec. 11346.2(b)(3)

- The department relied on the following documents in preparing this proposed regulatory action:

  - Jwan, K., Tony, P., & Andrew, D. (2018). Analysing Truck Harsh Braking Incidents to Study Roundabout Accident Risk.

  - H. Mao, et al. (2021). Decision-adjusted driver risk predictive models using kinematics information. Accident and Analysis Prevention.

  - Society of Automotive Engineers. (APR 2021). Taxonomy and Definitions for Terms Related to On-Road Motor Vehicle Automated Driving Systems, standard J3016.

  - American Family Insurance. (24 September 2021). How to Avoid Hard Braking.

  - Automated Vehicle Safety Consortium Best Practice for ADS Remote Assistance Use Case. November 2023.

  - Automated Vehicle Safety Consortium. (April 2024). Best Practice for First Responder Interactions with Fleet-Managed Automated Driving System-Dedicated Vehicles (ADS-DVs).

  - Automated Vehicle Safety Consortium. (May 2024). Best Practice for Core Automated Vehicle Safety Information.

  - S. Feng, et al. (2024). Exploring the correlation between hard-braking events and traffic crashes in regional transportation networks: A geospatial perspective. Multimodal Transportation.

Reasonable Alternatives that Would Lessen Any Adverse Impact on Small Businesses – Gov. Code Sec. 11346.2(b)(4)(B)

- No alternatives have yet been presented that would lessen any adverse impact on small businesses.

Evidence Supporting Determination of No Significant Adverse Economic Impact on Business – Gov. Code Sec. 11346.2(b)(5)

- The department has no evidence that the regulation will have an adverse impact on business and anticipates that these regulations will have a positive economic impact on California businesses as more manufacturers enter the state to develop, test, and deploy autonomous technology.

ECONOMIC AND FISCAL IMPACT DETERMINATIONS

Cost or Savings to Any State Agency

- The department anticipates a fiscal impact of $2.7 million in the implementation year and $2.2 million ongoing.

Other Non-Discretionary Cost or Savings to Local Agencies

- None.

Costs or Savings in Federal Funding to the State

- None.

Cost Impact on Representative Private Persons or Businesses

- The department does not expect any vehicle manufacturers to find the fees prohibitive, as there are no changes to the existing fee structure.

Effect on Housing Costs

- None.

Local Agency/School District Mandates

- The proposed regulatory action will not impose a mandate on local agencies or school districts, or a mandate that requires reimbursement pursuant to Part 7 (commencing with Section 17500) of Division 4 of the Government Code.

Small Business Impact

- This proposed action may impact autonomous vehicle manufacturers that are small businesses.

ECONOMIC IMPACT ASSESSMENT

(Government Code Section 11346.3)

The department has made the following determinations when assessing the economic impact associated with this proposed regulation:

This proposed action may lead to 1) the creation of jobs within the State of California, and 2) the expansion of businesses currently doing business in California. The department has determined this action is unlikely to impact the creation or elimination of existing businesses within California.

The department has also determined that the proposed regulatory action is not likely to impact the health and safety of workers, assurance of safety to the

general public when technology manufacturers and researchers are developing, testing, and deploying automated vehicle driving systems on public roadways.