

Express Terms  
Title 13, Division 1, Chapter 1  
Article 3.7 – Autonomous Vehicles

**§ 227.02. Definitions.**

As used in this article the following definitions apply:

(a) “Areas of operation” means the areas in which an autonomous vehicle is designed to operate. An area of operation is one of the following:

(1) Urban, which for the purposes of this article is any developed contiguous area in which there are more than 10,000 residents.

(2) Rural, which for the purposes of this article is all other areas of the state not included in urban areas, except for a Freeway/highway.

(3) Freeway/highway, which for the purposes of this article means “freeway” as defined in Vehicle Code section 332.

~~(a)~~(b) “Autonomous mode” means an autonomous vehicle, as defined by this article, that is operated or driven without active physical control by a natural person sitting in the vehicle’s driver’s seat. An autonomous vehicle is operating or driving in autonomous mode when it is operated or driven with the autonomous technology engaged.

(c) “Autonomous test vehicle” is an autonomous vehicle that is operated for testing purposes.

~~(b)~~(d) “Autonomous vehicle” means any vehicle equipped with technology that has the capability of operating or driving the vehicle without the active physical control or monitoring of a natural person, whether or not the technology is engaged, excluding vehicles equipped with one or more systems that enhance safety or provide driver assistance but are not capable of driving or operating the vehicle without the active physical control or monitoring of a natural person.

~~(c)~~(e) “Autonomous vehicle test driver” means a natural person seated in the driver’s seat of an autonomous vehicle during testing, whether the vehicle is in autonomous mode or conventional mode, who possesses the proper class of license for the type of vehicle being driven or operated, and is capable of taking over active physical control of the vehicle at any time.

(f) “Behavioral Competency” means the ability of the autonomous vehicle to operate in all of the driving situations that may be encountered by an autonomous vehicle while operating on public roads that the autonomous vehicle must respond to either, by performing a driving maneuver, or requiring the operator to take control.

~~(d)~~(g) “Conventional mode” means the vehicle is under the active physical control of a natural person sitting in the driver’s seat operating or driving the vehicle with the autonomous technology disengaged.

(h) “Critical driving error” means a dangerous driving maneuver that presents a risk to the motoring public, including, but not limited to, a driving maneuver that requires an emergency disengagement by the driver or evasive action by another vehicle or pedestrian.

~~(e)~~(i) “Designee” means the natural person identified by the manufacturer to the department as a person authorized by the manufacturer to drive or operate the manufacturer’s autonomous vehicles on public roads during testing.

(j) “Dynamic driving task” means all of the real-time functions required to operate a vehicle in on-road traffic, excluding the selection of destinations and stopping points, and including without limitation: object and event detection, recognition, and classification; object and event response; maneuver planning; steering, turning, lane keeping, and lane changing, including providing the appropriate signal for the lane change or turn maneuver; and acceleration and deceleration.

(k) “Event data recorder” is a mechanism or device installed in an autonomous vehicle to record technical information about the status and operation of the vehicle’s autonomous technology sensors for 30 seconds prior to a collision in addition to specifications for those devices under Title 49 Code of Federal Regulations, Part 563.

(l) “Functional Safety Plan” is the process and procedures implemented by a manufacturer to identify and assess hazards associated with the operation of an autonomous vehicle’s technology, and to develop and implement hazard mitigation strategies.

(m) “Hazard” means a potential source of harm caused by malfunctioning behavior of a vehicle’s autonomous technology.

(n) “Hazard Mitigation” is the procedure implemented by a manufacturer to identify the hazards associated with the operation of a vehicle’s technology, the strategies to mitigate those hazards, and the testing conducted by the manufacturer to demonstrate that the autonomous vehicle functions in the areas of operation for which it is designed.

~~(f)~~(o) “Manufacturer” means a manufacturer of autonomous technology as defined in Vehicle Code section 38750 subdivision (a)(5) and includes a vehicle manufacturer as defined in Vehicle Code section 672 that produces an autonomous vehicle from raw materials or new basic components; and, a person, as defined in Vehicle Code section 470, who modifies any vehicle by installing autonomous technology.

(p) “Operator” is the person who possesses the proper class of license for the type of vehicle being operated, has direct control over the operation of an autonomous vehicle, and has engaged the autonomous technology while sitting in the driver seat of the vehicle.

~~(g)~~(q) “Public road” means “highway” as defined in Vehicle Code section 360, “offstreet public parking facility” as defined in Vehicle Code section 4000, and “street” as defined in Vehicle Code section 590.

(r) “Third-Party Testing Organization” means the independent entity authorized by the manufacturer to conduct the vehicle demonstration test of the manufacturer’s autonomous vehicles.

NOTE: Authority cited: Sections 1651 and 38750, Vehicle Code. Reference: Sections 360, 470, 590, 672, 4000, and 38750, Vehicle Code.

**§ 227.44. Reporting Accidents.**

A manufacturer whose autonomous vehicle is in any manner involved in an accident originating from the operation of the autonomous vehicle on a public road that resulted in the damage of property or in bodily injury or death shall report the accident to the department, within 10 days after the accident, on Report of Traffic Accident Involving an Autonomous Vehicle, form (OL 316 (REV 11/2015)) which is hereby incorporated by reference. The manufacturer shall identify on the form, by name and current address, if available, all person involved in the accident, and a full description of how the accident occurred.

NOTE: Authority cited: Sections 1651 and 38750, Vehicle Code. Reference: Section 38750, Vehicle Code.

**§ 227.48. Test Vehicle Registration and Certificates of Title.**

(a) A person shall not drive, move, or leave standing an autonomous test vehicle upon public roads unless the department has been notified of its use pursuant to section 227.16 of this Article.

(b) In addition to the requirements set forth in Vehicle Code section 4150, an application for original registration of an autonomous vehicle shall include:

- (1) The certificate of ownership or certificate of origination from the vehicle manufacturer as defined in Vehicle Code section 672.
- (2) A written description of the autonomous technology or features integrated into the vehicle and the functional capabilities made possible by this technology.
- ~~(3) A Brake and Light Adjustment Certificate issued by an entity licensed by the California Bureau of Automotive Repair.~~
- ~~(4) An Emissions Certification issued by an entity licensed by the California Bureau of Automotive Repair or a permit issued pursuant to Health and Safety Code section 43014.~~

(c) In addition to the requirements set forth in Vehicle Code section 5902, an application for transfer of ownership of an autonomous vehicle shall include: a written description of the autonomous technology or features integrated into the vehicle.

- ~~(1) A written description of the autonomous technology or features integrated into the vehicle.~~

~~(2) A Brake and Light Adjustment Certificate issued by an entity licensed by the California Bureau of Automotive Repair.~~

~~(3) An Emissions Certification issued by an entity licensed by the California Bureau of Automotive Repair or a permit issued pursuant to Health and Safety Code section 43014.~~

(d) An autonomous vehicle shall be identified as such on the face of the registration card and any certificate of ownership and the Autonomous Vehicle Testing (AVT) Program Test Vehicle Permit, form OL 313 (NEW 9/2013), which is incorporated by reference, issued by the department pursuant to this Article.

NOTE: Authority cited: Sections 1651 and 38750, Vehicle Code. Reference: Section 43014, Health and Safety Code; Sections 672, 4150, 5902, 9255.1 and 38750, Vehicle Code.

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

No person shall offer for sale, sell, transfer, or dispose of an autonomous test vehicle, or major component parts for such a vehicle that has been used for testing purposes on public roads except as follows:

(a) To a manufacturer holding a valid autonomous vehicle Manufacturer's Testing Permit.

(b) The manufacturer disposing of the vehicle has obtained a Nonrepairable Vehicle Certificate ensuring that the vehicle is not retitled or resold, and ownership of the vehicle is transferred to an auto dismantler.

(c) Transfer of ownership to an educational or research institution or a museum where it would be appropriate for display or study.

NOTE: Authority cited: Sections 1651 and 38750; Vehicle Code. Reference: Section 38750; Vehicle Code.

**§227.52. Vehicles Excluded from Testing and Deployment.**

(a) The following vehicles shall not be approved for testing or deployment as autonomous vehicles on public roads:

(1) Trailers as defined in Vehicle Code section 242 (camp trailer), section 324 (fifth-wheel travel trailer), and section 635 (trailer coach).

(2) Motorcycles as defined in Vehicle Code section 400.

(3) Motor vehicles with interstate operating authority pursuant to Vehicle Code sections 8050 through 8058.

(4) A vehicle with a gross vehicle weight rating of 10,001 or more pounds.

(5) Vehicles that are capable of operation without the presence of an operator inside the vehicle.

NOTE: Authority cited: Sections 1651 and 38750, Vehicle Code. Reference: Sections 242, 324, 400, 635, 8050, 8052, 8053, 8054, 8055, 8056, 8057, 8058 and 38750, Vehicle Code.

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

(a) An autonomous vehicle may be deployed on public roads for non-testing use only when the manufacturer of the vehicle meets all of the following requirements:

(1) The manufacturer has in place and has provided the department with evidence of the manufacturer's ability to respond to a judgment or judgments for damages for personal injury, death, or property damage arising from collisions or accidents caused by the autonomous vehicles produced by the manufacturer in the form of an instrument of insurance, a surety bond, or proof of self-insurance.

(2) A surety bond, as specified in subsection (a) shall meet the requirements of Section 227.10 (a), (b), (c), (d), and (f) and shall be submitted to the department with the Autonomous Vehicles Manufacturer Deployment Program Surety Bond, form OL 317A (New 6/2014).

(3) The manufacturer has in place an instrument of insurance that meets the requirements of Section 227.08.

(4) A proof of self-insurance shall meet the requirements of Section 227.14 (b) and (c) and shall be submitted to the department on an Autonomous Vehicle Manufacturer's Deployment Program Application for Certificate of Self-Insurance, form OL 319A (New 5/2015), which is hereby incorporated by reference.

(A) If the application is complete and the manufacturer meets all requirements for issuance, the department shall issue the manufacturer a certificate reciting that the manufacturer has permission from the department to satisfy the requirements of Vehicle Code section 38750, subdivision (c)(3), by self-insurance. The department will reject any Autonomous Vehicle Manufacturer's Deployment Program Application for Certificate of Self-Insurance that is incomplete or insufficient.

(B) In the event the department receives information suggesting that the manufacturer no longer meets the requirements for permission to satisfy the requirements of Vehicle Code section 38750 subdivision (c)(3) by self-insurance, the department may require additional evidence of the manufacturer's ability to respond to a judgment or judgments for damages, and the manufacturer shall be required to provide additional evidence.

(C) The department shall cancel a certificate of self-insurance for any of the following reasons:

1. The holder of the certificate has not provided the additional evidence required by subsection (c)(2).

2. Inability, refusal, or failure of the holder of the certificate to submit the required financial statements and supporting documentation.

3. The submission of fraudulent or incomplete documents.

(b) Any cancellation of the permission to satisfy the requirements of Vehicle Code section 38750, subdivision (c)(3), shall be subject to the hearing requirements provided in these regulations for the suspension or revocation of permits or authorizations.

(c) The manufacturer's evidence of financial responsibility as required by Vehicle Code section 38750, subdivision (c)(3), is in addition to that required by Vehicle Code section 38750, subdivision (b)(3), and does not absolve any vehicle owner of the requirement to be able to show, at all times, evidence of financial responsibility in the amounts specified in Vehicle Code section 16056.

NOTE: Authority cited: Sections 1651, and 38750, Vehicle Code. Reference: Section 995.010, Code of Civil Procedure; Sections 11110 through 11113, Government Code; Section 16056, and Section 38750, Vehicle Code.

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

(a) Except for testing as provided in section 227.24, an autonomous vehicle shall not be deployed on any public road in California until the manufacturer has submitted and the department has approved an Application for a Permit to Deploy Autonomous Vehicles on Public Streets, form OL 318 (New 12/2015), which is hereby incorporated by reference.

(1) The manufacturer shall identify in the application the make and model of the vehicles intended for public deployment (the "subject autonomous vehicle"). The manufacturer may include like vehicle models on the same application. For purposes of this section, "like vehicle models" are defined as vehicles with the same vehicle platform and body style and are equipped with the same autonomous technology system.

(2) The manufacturer shall identify in the application the areas of operation in which the subject autonomous vehicles are designed to operate and certify that the vehicles are incapable of operating in the autonomous mode in areas outside of the disclosed areas of operation.

(3) The manufacturer shall identify any commonly-occurring or restricted conditions, including but not limited to: snow, fog, black ice, wet road surfaces, construction zones, and geo-fencing by location or road type, under which the vehicles are incapable of operating in the autonomous mode and certify that the vehicles are incapable of operating in autonomous mode under those conditions.

(4) The manufacturer shall submit the fee of Thirty Three Thousand – Fifty Thousand dollars (\$33,000 - \$50,000) for the processing of the application. The department may also require the manufacturer to reimburse the department for all costs incurred for consultants or contractors retained by the department to provide services the department may deem necessary to review the application.

(5) The manufacturer must provide on the application the number of the Distributor, Manufacturer, or Remanufacturer's License issued by the department pursuant to Vehicle Code section 11701.

(6) The manufacturer shall certify in the application that the subject autonomous vehicles are equipped with an event data recorder that captures and stores autonomous technology sensor data for all vehicle functions that are controlled by the autonomous technology at least 30 seconds before a collision with another vehicle, person, or other object while the vehicle is operating in autonomous mode.

(A) The event data recorder must comply with the requirements of Title 49 Code of Federal Regulations, Part 563.

(B) The data captured and stored by the event data recorder, in a read only format, must be capable of being accessed and retrieved by a commercially available tool.

(7) The manufacturer shall certify that the subject autonomous vehicles comply with all relevant Federal Motor Vehicle Safety Standards, Title 49 Code of Federal Regulations, Part 571, and the California Vehicle Code, Division 12 (Equipment of Vehicles).

(b) The manufacturer shall submit with the application all of the following:

(1) Certification that the subject autonomous vehicles perform the behavioral competencies specified in the form OL 318, Part B.

(2) Certification that the manufacturer adheres to an established functional safety plan for the design and development of the subject autonomous vehicles. The functional safety plan shall, at a minimum, cover each area of operation and behavioral competency, identified in the form OL 318, Part B that includes all of the following:

(A) A process for identification of hazards;

(B) A process for the assessment of the identified hazards;

(C) The development of requirements that reduce and eliminate those hazards;

(D) The development of a comprehensive testing program that ensures effective verification and validation of the hazard mitigation measures;

(E) An internal process to continually review and monitor for hazards.

(3) Results of the third-party vehicle demonstration test conducted pursuant to Sections 227.58 and 227.60 which shall include the following:

(A) Certification that the selected third-party testing organization meets all of the qualifications and requirements specified in Section 227.60.

(B) A copy of the third-party testing organization's final test report that has been prepared according to the requirements of Section 227.58.

(C) The completed Third-Party Testing Organization for Autonomous Vehicle Demonstration Test, form OL 318A (New 12/2015), which is hereby incorporated by reference.

(4) Certification that the autonomous vehicle's autonomous technology is designed to detect and respond to roadway situations in compliance with all provisions of the California Vehicle Code and local regulation applicable to the operation of motor vehicles.

(5) A consumer or end user education plan, which covers each area of operation and behavioral competency, and which shall also include the following:

(A) The identification of any and all restrictions of the autonomous technology in the subject autonomous vehicles and an explanation of the educational materials that will be provided to end users of the autonomous vehicles produced by the manufacturer.

(B) A copy of the sections of the vehicle owner's manual, or an equivalent vehicle operator instruction guide or pamphlet that provides information on the following:

1. The mechanism to engage and disengage the autonomous technology showing that the mechanism is easily accessible to the vehicle operator.

2. The visual indicator inside the vehicle's cabin to indicate when the autonomous technology is engaged.

3. The operator's responsibility to monitor the safe operation of the vehicle at all times.

4. How to override unauthorized or spurious commands received by the autonomous technology in the event of a cyber-attack.

(C) A course description and outline of the behind the wheel training program developed pursuant to Section 227.84.

(D) An explanation how end users will receive education after purchasing a previously-owned vehicle.

(6) A description of how the vehicle will safely come to a complete safe stop when there is an autonomous technology failure and the operator does not or is unable to take manual control of the vehicle, including but not limited to, all of the following:

(A) Activation of the emergency/hazard lights.

(B) Moving the vehicle as far from the travel lanes as possible.

(C) Alerting emergency services.

(7) A copy of the written disclosure required by section 227.76.

(8) A certification that the subject autonomous vehicle satisfies each requirement of Vehicle Code section 38750, subdivision (c)(1).

(9) A certification that the manufacturer is aware of its responsibilities to register with the National Highway Traffic Safety Administration and that it is aware of its responsibilities to comply with federal motor vehicle safety requirements.

(10) A certification that the subject autonomous vehicles have self-diagnostic capabilities that meet current industry best practices and are capable of detecting and responding to cyber-attacks, unauthorized intrusions, and false or spurious messages and alert the operator. In the event of such an alert, the operator's commands shall override the commands generated by the autonomous technology.

(c) The requirements identified in subsection (b) of this section shall be submitted as follows:

(1) Documents shall be submitted on business letterhead and clearly identify the party completing the plan or report.

(2) Each plan or report shall contain at least a two page summary including the contents and conclusion of the plan or report. Charts, graphs or other visual or audio materials may be included as attachments to the summary.

(3) Each page shall be sequentially numbered, and contain the name of the party completing the plan or report, and shall name or identify the subject autonomous vehicles covered by the technology in the plan or report.

(4) Each plan or report shall be signed and dated under penalty of perjury, certifying the correctness of its contents.

(d) The manufacturer shall also submit a sample copy of the certification stickers, as specified in section 227.78, to be affixed to the manufacturer's vehicles and a certification that the subject vehicles' autonomous technology does not make inoperative or adversely impact any Federal Motor Vehicle Safety Standards, other federal regulations, or California vehicle or emission standards for the vehicle's model year.

NOTE: Authority cited: Sections 1651, and 38750, Vehicle Code. Reference: Sections 322, 11701, and 38750, Vehicle Code, Title 49 Code of Federal Regulation, Part 563.

### **§ 227.58. Third-Party Vehicle Demonstration Test.**

(a) Prior to applying for a permit to deploy autonomous vehicles on public roads, a manufacturer shall submit their autonomous vehicle to a third-party testing organization for a vehicle demonstration test.

(b) The manufacturer shall select a third-party testing organization that meets the requirements and qualifications specified in Section 227.60.

(c) The manufacturer shall submit test data to the third-party testing organization demonstrating that the manufacturer's autonomous technology has been tested for all known behavioral competencies associated with driving the subject autonomous vehicles in the areas of operation and conditions for which the autonomous technology has been designed and intended for use,

including but not limited to, the behavioral competencies specified in the form OL 318, Part B. The submitted test data shall include:

(1) The number of vehicle miles and vehicle hours of test driving conducted while the autonomous vehicle was in autonomous mode, separately reported for each area of operation in which the autonomous vehicle is intended to operate, and further subdivided into:

(A) Overall testing throughout the autonomous technology development process;

(B) Testing of the final version of the subject autonomous vehicles that is intended for deployment on public streets.

(2) The Vehicle Identification Number, make, model, and model year of the autonomous test vehicles used in the testing.

(3) The number of times when the autonomous technology was not able to successfully complete its driving tasks during testing, leading to an emergency disengagement by the test driver, an automatic transfer from the autonomous mode to the test driver, or an automatic transition to a safe stop, but excluding any intentionally planned and induced fault conditions in the test program.

(A) These events should be classified based on their causes, including specific vehicle faults and specific driving conditions outside system capabilities.

(B) For the purposes of this section, an emergency disengagement is one that requires braking at 0.2 g or greater and/or a change in the lateral acceleration greater than 0.2 g.

(C) These events should be subdivided into the cases that occurred during overall testing throughout the autonomous technology development process and during testing of the final version of the subject autonomous vehicles that is intended for deployment.

(4) The location and conditions of the testing environment.

(5) A report on any collisions that occurred while the autonomous vehicle was in autonomous mode, including a list of collisions that have been reported pursuant to section 227.44 of this article.

(d) The third-party vehicle demonstration test shall be conducted in a manner that meets each of the following requirements:

(1) The third-party vehicle demonstration test shall cover the intended area of operation for the subject autonomous vehicles and include, but not be limited to, testing on the behavioral competencies identified in in the form OL 318, Part B, and ensure that the vehicle is incapable of operating outside of the intended area of operation.

(2) The third-party vehicle demonstration test shall be conducted on the autonomous technology and vehicle intended for deployment.

(3) Once the subject autonomous vehicle has been submitted for the third-party vehicle demonstration test, the manufacturer shall not make any further changes to the autonomous vehicle's autonomous technology, except to correct any deficiencies identified by the third-party testing organization during the third-party vehicle demonstration test.

(4) The third-party vehicle demonstration test shall be conducted in a manner that tests the vehicle's ability to operate in the diversity of operating conditions that will be encountered in the intended area of operation, including but not limited to:

(A) Roadway type

(B) Time of day (including traffic congestion and lighting conditions)

(C) Seasonal (including varying weather conditions and temperature)

(D) Traffic environment (including traffic density, vehicles, pedestrians, signage, irregular situations, complex intersections/merges, regional variations in road design, and traffic control devices).

(5) The third-party vehicle demonstration test shall be conducted in the state of California. The third-party vehicle demonstration test shall be conducted on public roads, except for testing of hazard conditions or other driving maneuvers where conducting such testing would present a risk to the safety of the public.

(6) During the third-party vehicle demonstration test, the third-party testing organization shall monitor for any instances when the subject autonomous vehicles perform a critical driving error as defined in the form OL 318, Part C. If a critical driving error occurs, the test sequence shall be declared a failure and the third-party vehicle demonstration test stopped immediately. The third-party vehicle demonstration test shall not be resumed until the manufacturer has taken appropriate action to correct the deficiencies that caused the failure. Upon the resumption of the third-party vehicle demonstration test, the third-party testing organization shall repeat the entire demonstration test on the modified autonomous vehicle, including a full retesting of all behavioral competencies previously passed.

(e) The third-party testing organization shall document the results of the third-party vehicle demonstration test into a final test report and complete the Third-Party Testing Organization for Autonomous Vehicle Demonstration Test, form OL 318A. The vehicle demonstration test report shall include:

(1) Certification by the third-party testing organization that the third-party vehicle demonstration test was completed pursuant to the requirements of this Section.

(2) Test data demonstrating that the manufacturer's subject autonomous vehicles have been tested for all known behavioral competencies associated with driving the subject autonomous vehicles in the area of operation and conditions for which the autonomous technology has been designed and intended for use. The data shall include:

(A) Description of the autonomous technology and autonomous vehicle that was tested, including hardware and software version numbers and any other identifying information needed to specify the system so that it can be distinguished from other systems that were not tested.

(B) Description of test scenarios and test plan, including the vehicle behavioral competencies tested and operating variables.

(C) Description of performance of the subject autonomous vehicles compared to the specified requirements during the battery of tests that was used to assess behavioral competency.

(D) Identification of any failures of the subject autonomous vehicles to meet performance requirements during the final battery of tests, with descriptions of their causes and their consequences if failures occurred during regular public operation.

(3) Certification by the third-party testing organization that the subject autonomous vehicles perform the behavioral competencies specified in the form OL 318, Part B.

(4) Certification by the third-party testing organization that the subject autonomous vehicles adequately performed the dynamic driving task during the third-party vehicle demonstration test.

(5) Certification by the third-party testing organization that the subject autonomous vehicles demonstrated the ability to detect and respond to roadway situations in compliance with the California Vehicle Code during the third-party vehicle demonstration test.

(6) Certification that the third-party testing organization meets the standards and qualifications identified in section 227.60.

(f) The third-party testing organization shall retain all records associated with the third-party vehicle demonstration test, including test plans, test data, test results, all data submitted to it by a manufacturer pursuant to section 227.58 subdivision (c), and video recordings of vehicle behavior, for a period of three years following the completion of the third-party vehicle demonstration test. Upon the request of the department, the third-party testing organization shall make all records available to the department.

(g) The requirements identified in subsection (e) of this section shall be submitted as follows:

(1) Documents shall be submitted on business letterhead and clearly identify the party completing the report.

(2) Each section of the report shall contain at least a two page summary including the contents and conclusion of the section. Charts, graphs, or other visual or audio materials may be included as attachments to the report.

(3) Each page shall be sequentially numbered, and contain the name of the party completing the plan or report, and shall name or identify the subject autonomous vehicles covered by the technology in the plan or report.

(4) The report shall be signed and dated under penalty of perjury, certifying the correctness of its contents.

NOTE: Authority cited: Sections 1651, and 38750, Vehicle Code. Reference: Section 38750, Vehicle Code.

**§ 227.60. Third-Party Testing Organization Qualifications.**

A manufacturer shall not allow any entity to act as a third-party testing organization for a vehicle demonstration test unless all of the following requirements have been met:

(a) The third-party testing organization has knowledge and experience in the following areas associated with vehicle system development and testing and autonomous vehicle concepts, functions, and technology:

(1) Knowledge of autonomous vehicle levels, functions, and technologies

(2) Experience in safety practices in vehicle testing, vehicle test procedures and parameters, vehicle driving experiments and field testing, and test data collection, processing, and analysis

(3) Knowledge of California Vehicle Code, traffic rules, driving etiquette, driving behavior, and driving hazards

(4) Knowledge of California Vehicle Code Section 38750, and California Code of Regulations Title 13, Division 1, Chapter 1, Article 3.7

(b) The manufacturer and the third-party testing organization shall each certify to their mutual independence. For the purposes of this section, the manufacturer and third-party testing organization must meet the following requirements in order to be considered mutually independent:

(1) Neither organization has a financial or ownership interest in the other.

(2) The organizations are independently owned and operated, and are not owned by a common entity.

(3) The third-party testing organization has not participated in the design or development of any autonomous technology with the manufacturer (other than independent third-party testing).

(c) Pursuant to sections 227.20 and 227.26 of this Article, the manufacturer has identified to the department all employees of the third-party testing organization who have been qualified as Autonomous Vehicle Test Drivers pursuant to section 227.22 and who will be conducting the vehicle demonstration test on public roads as designees of the manufacturer.

NOTE: Authority cited: Sections 1651, and 38750, Vehicle Code. Reference: Section 38750, Vehicle Code.

**§227.62. Review of Application.**

(a) The department shall review the Application for a Permit to Deploy Autonomous Vehicles on Public Streets and notify the manufacturer within thirty (30) business days of receipt whether the application is determined to be incomplete. After notification by the department, manufacturers may submit materials necessary to complete the application up to one year after the date of the original submission of the application.

(b) Applications deemed complete will be reviewed for approval, except as required by the timeframes set forth in Vehicle Code section 38750.

(c) The department shall issue a notice of correction to manufacturers whose applications are deemed deficient in content details within thirty (30) business days of receipt. The manufacturer may resubmit the application with the corrections required by the notice of correction within one year of the original submission of the application.

(d) Pending applications that have not been approved by the department after notice of incompleteness under subsection (a) or notice of correction under subsection (c) shall expire one year from the original date of submission to the department.

(e) The department shall approve the application if the manufacturer has:

(1) submitted all the information and certifications required by sections 227.54 and 227.56 and 227.58; and,

(2) based on the submitted information and certifications, conducted testing necessary to satisfy the department that the subject autonomous vehicles are safe to operate on public roads.

NOTE: Authority cited: Sections 1651, and 38750, Vehicle Code. Reference: Section 38750, Vehicle Code.

**§227.64. Amendment of Application.**

(a) Within ten (10) days of any change to the contact information provided on the Application for a Permit to Deploy Autonomous Vehicles on Public Streets a manufacturer shall notify the department in writing on the manufacturer's letterhead of the change, including changes in contact names, telephone numbers, or mailing address.

(b) A manufacturer shall submit a new application for public deployment and a revised vehicle demonstration test report whenever the manufacturer intends to deploy a material change in the capabilities or performance of an autonomous vehicle previously approved by the department for public deployment. For the purposes of this section, a material change is defined as any hardware, software, or other change to the autonomous vehicle's autonomous technology that:

(1) Enables a new area of operation.

(2) Enables a new behavioral competency.

(3) Removes system restrictions noted in the initial application such as time of day, lighting conditions, weather conditions, or geographical limitations.

(c) A manufacturer shall not deploy the material change to the autonomous vehicle or autonomous technology until the new application has been approved by the department.

NOTE: Authority cited: Sections 1651, and 38750, Vehicle Code. Reference: Section 38750, Vehicle Code.

**§227.66. Reporting Safety Defects.**

A manufacturer who identifies a safety-related defect in their autonomous technology shall submit to the department a copy of the report prepared in compliance with the timeframe and requirements specified in Part 573, Title 49 of the Code of Federal Regulations.

NOTE: Authority cited: Sections 1651, and 38750, Vehicle Code. Reference: Section 38750, Vehicle Code; Part 573, Title 49, Code of Federal Regulations.

**§227.68. Conditions Related to the Term of Provisional Permit.**

(a) Every Permit to Deploy Autonomous Vehicles on Public Streets issued under this article shall be valid for a period of three years from the date of issuance or until such time that it is suspended or revoked by the department pursuant to section 227.74 or surrendered by the manufacturer.

(b) A manufacturer shall only allow the deployment of vehicles by the general public for the period of time that the Permit to Deploy is valid as specified in subdivision (a) of this section.

(c) During the term of the permit the manufacturer's autonomous vehicles shall only be operated by the manufacturer or made available to the general public on no more than a leased basis.

(d) During the term of the permit a manufacturer shall gather data regarding the performance, usage and operation of each autonomous vehicle that it originally manufactured, equipped with autonomous technology, or on any vehicle that was not originally manufactured with autonomous technology but has been modified by the installation of autonomous technology to convert it to an autonomous vehicle. The data required by this section shall include all of the following:

(1) Safety related disengagements of the autonomous technology, including:

(i) Autonomous system related disengagements where the autonomous technology identified an internal fault or an external condition that it could not diagnose or handle correctly.

(ii) Operator initiated disengagements where the autonomous technology was disengaged because of imminent safety concerns.

(2) Total usage of the vehicle in autonomous mode, including:

(i) Total hours of operation.

(ii) Total miles of operation.

(3) Any accidents involving the autonomous vehicle while the vehicle was operating in the autonomous mode.

(4) All incidents in which the vehicles' self-diagnostic capabilities detected a cyber-attack or an unauthorized intrusion of false or spurious vehicle commands.

(e) A manufacturer shall submit a monthly report to the department summarizing the data gathered by the manufacturer as required by this section.

NOTE: Authority cited: Sections 1651, and 38750, Vehicle Code. Reference: Section 38750, Vehicle Code.

**§227.70. Refusal of an Application for a Permit to Deploy**

The department may refuse an Application for a Permit to Deploy Autonomous Vehicles on Public Streets and may suspend or revoke such a Permit for any of the following:

(a) If a manufacturer violates any provision of Vehicle Code section 38750, subdivision (c), or this Article.

(b) For any act or omission of the manufacturer or one of its agents, employees, contractors, or designees which the department determines creates a safety risk to the public.

NOTE: Authority cited: Sections 1651, and 38750, Vehicle Code. Reference: Section 38750, Vehicle Code.

**§227.72. Demand for Hearing on Refusal of Permit.**

(a) Upon refusal by the department to issue a Permit to Deploy Autonomous Vehicles on Public Streets, a manufacturer shall be entitled to request in writing a hearing before the director or his or her representative. Such request must be delivered to the department within 60 days after the notice of refusal is issued.

(b) The hearing shall be conducted by the director or by a hearing officer appointed by the director from the officers or employees of the department at a time and place designated by the department.

(c) Upon conclusion of the hearing the hearing officer shall make findings and render a determination on behalf of the department and shall notify the manufacturer.

(d) All matters in a hearing not covered by this section shall be governed, as far as applicable, by Chapter 5 (commencing with section 11500) of Part 1 of Division 3 of Title 2 of the Government code.

NOTE: Authority cited: Sections 1651, and 38750, Vehicle Code. Reference: Section 11500 et seq., Government Code; Section 38750, Vehicle Code.

#### **§227.74. Suspension or Revocation of Permit.**

(a) The department may suspend or revoke a Permit to Deploy Autonomous Vehicles on Public Streets for any of the following reasons:

(1) The manufacturer has failed to maintain financial responsibility in the amount required by Vehicle Code section 38750, subdivision (c)(3), and section 227.54 of this Article.

(2) The manufacturer submitted incorrect or misleading information in the Application for a Permit to Deploy Autonomous Vehicles on Public Streets.

(3) The manufacturer fails to report to the department any change to the information or certifications required and provided in the application under section 227.56 within 10 days of the date of the change.

(b) The department will provide a 30 day written notice to the manufacturer before suspending the Permit to Deploy Autonomous Vehicles on Public Streets. The department may immediately suspend the Permit for any of the following reasons:

(1) If a manufacturer's vehicle manufacturer, distributor, or remanufacturer license has been suspended or revoked by the department.

(2) If the manufacturer deploys any vehicle equipped with autonomous vehicle functions that were not disclosed in the manufacturer's Application for a Permit to Deploy Autonomous Vehicles on Public Streets or the manufacturer deploys a vehicle for which it has not submitted a final report of testing from a third-party testing organization.

(3) If the manufacturer has misrepresented any information related to safety of the autonomous technology or the behavioral competency of its vehicles.

(4) If the autonomous technology of the manufacturer's vehicles make inoperative any federally required motor vehicle safety systems.

(5) If the manufacturer's vehicles are subject to an open National Highway Traffic Safety Administration (NHTSA) recall related to the safe operation of the autonomous technology.

(6) Based upon the performance of the vehicles, the department determines the manufacturer's vehicles are not safe for the public's operation.

(c) Upon suspension or revocation by the department of a Permit to Deploy Autonomous Vehicles on Public Streets, a manufacturer shall cease all further deployments of its autonomous vehicles on public streets until the department has verified that the manufacturer has taken appropriate action to correct the deficiencies or complied with the NHTSA recall that led to the suspension or revocation and the suspension has been lifted or the revocation withdrawn by the department.

(d) Upon suspension or revocation by the department of a Permit to Deploy Autonomous Vehicles on Public Streets, a manufacturer shall also notify all operators of its autonomous vehicles that the manufacturer's Permit to Deploy has been suspended or revoked by the department and the reason for the suspension or revocation.

(e) A manufacturer that has received an order of suspension or revocation from the department may request in writing a hearing on the matter as specified in section 227.72. Any hearing shall be conducted by the director or by a hearing officer appointed by the director from the officers or employees of the department.

(1) If a manufacturer wishes to have a hearing before the effective date of the order of suspension or revocation, the request for hearing shall be made within ten days of the receipt of the order of suspension or revocation. The hearing shall be held at a time and place designated by the department.

(2) The department shall hold the hearing before the effective date of the order of suspension or revocation if the request for hearing is received by the by the department on or before ten days after the manufacturer's receipt of the order of suspension or revocation.

(3) The only issues at the hearing on an order of suspension of revocation shall be those listed in subdivisions (a) and (b) of this section.

(4) Upon conclusion of the hearing the hearing officer shall make findings and render a determination of behalf of the department and shall notify the manufacturer. The decision shall take effect as stated in the order of suspension or revocation.

(5) A request for hearing does not stay the order of suspension or revocation. If the department does not conduct a hearing and make a determination before the effective date of the suspension or revocation, the department shall stay the effective date of the order pending the determination.

(f) If a suspension or revocation is effective immediately as specified in subdivision (b) of this section, the manufacturer may request a hearing within five days of receipt of the order of suspension or revocation. The department shall provide for a hearing within a reasonable time not to exceed 21 days after a written request for hearing is filed with the department. A request for hearing does not stay the effective date of the suspension or revocation.

(1) If the order is for a suspension of a permit, at the hearing the manufacturer shall show cause why the suspension should not be continued. Following the hearing the department may terminate the suspension or continue the suspension in effect.

(2) If the order is for a revocation of a permit, at the hearing the manufacturer shall show cause why the permit should not be revoked. Following the hearing the department may sustain the revocation or determine that the permit should be suspended.

(g) All matters in a hearing not covered by this section shall be governed, as far as applicable, by Chapter 5 (commencing with section 11500) of Part 1 of Division 3 of Title 2 of the Government Code.

NOTE: Authority cited: Sections 1651, and 38750, Vehicle Code. Reference: Section 38750, Vehicle Code.

#### **§227.76. Information Privacy.**

(a) The manufacturer shall provide a written disclosure to the operator of an autonomous vehicle that describes the information collected by the autonomous technology that is not necessary for the safe operation of the vehicle.

(b) The manufacturer shall obtain the written approval of the operator of an autonomous vehicle to collect any information by the autonomous technology that is not necessary for the safe operation of the vehicle.

NOTE: Authority cited: Sections 1651, and 38750, Vehicle Code. Reference: Section 38750, Vehicle Code.

#### **§227.78. Registration of Vehicle Modified with Autonomous Technology.**

(a) In addition to the requirements set forth in Vehicle Code section 4150, an application for registration of an autonomous vehicle previously titled in California prior to the incorporation of autonomous technology shall include:

(1) The certificate of ownership or certificate of origination from the vehicle manufacturer as defined in Vehicle Code section 672.

(A) The certificate of origination shall clearly indicate when a vehicle has been equipped with autonomous technology by including a field designated as "MISC", followed by "AV" as an abbreviation for autonomous vehicle.

(2) An indication that the certification label pursuant to section 227.78 is present on a Verification of Vehicle (REG 31).

(b) An autonomous vehicle so modified shall be identified as such on the face of the registration card and any certificate of ownership.

NOTE: Authority cited: Sections 1651, and 38750, Vehicle Code. Reference: Section 43014, Health and Safety Code; Section 672, 4150, 5902, and 38750, Vehicle Code.

**§227.80. Vehicle Labeling Requirements and Content.**

(a) A manufacturer of a new autonomous motor vehicle shall affix a certification label on each vehicle with the following characteristics:

(1) Manufacturer or Business Name

(2) Manufactured Date (month and year)

(3) Vehicle Identification Number

(4) The following statement: “The manufacturer of this autonomous vehicle has certified it conforms to State of California requirements for autonomous vehicles in effect on the date shown above.”

(5) Printed using 12-point or larger font

(6) A minimum length of 4½ inches and a minimum width of 3½ inches.

(b) A manufacturer that installs autonomous technology into a vehicle after its original manufacture so that it qualifies as an autonomous vehicle shall affix a certification label on each vehicle with the following characteristics:

(1) Manufacturer or Business Name

(2) Installation Date (month and year)

(3) Vehicle Identification Number

(4) The following statement: “This vehicle has been modified with the incorporation of autonomous technology that the manufacturer has certified conforms to State of California requirements for autonomous vehicles in effect on the date of manufacture shown above.”

(5) Printed using 12-point or larger font

(6) A minimum length of 4½ inches and a minimum width of 3½ inches.

(c) The autonomous vehicle label shall be affixed to either the hinge pillar, door-latch post, or the door edge that meets the door-latch post, next to the driver's seating position. The location of the label must be such that it is easily readable without moving any part of the vehicle except an outer door.

NOTE: Authority cited: Sections 1651, and 38750, Vehicle Code. Reference: Section 38750, Vehicle Code.

**§227.82. Registration Requirements for Manufactured Autonomous Vehicles.**

(a) All new autonomous vehicles shall be labeled pursuant to section 227.78 (labeling requirements) and shall not be registered unless the label has been verified by the department or a dealer.

(b) In addition to the requirements set forth in Vehicle Code section 4150, an application for original registration of an autonomous vehicle shall include verification that the required certification label is present through either a written statement accompanying the Application For Registration of New Vehicle (REG 397) or an indication the certification label is present on a Verification of Vehicle (REG 31).

(1) The application for registration shall clearly indicate when a vehicle has been equipped with autonomous technology by including a field designated as “MISC”, followed by “AV” as an abbreviation for autonomous vehicle.

(c) An autonomous vehicle shall be identified as such on the face of the registration card and any certificate of ownership issued by the department pursuant to this Article.

NOTE: Authority cited: Sections 1651, and 38750, Vehicle Code. Reference: Section 4150, and 38750, Vehicle Code.

**§227.84. Operator Responsibility.**

(a) A person may not operate an autonomous vehicle unless that person has in his or her immediate possession a valid driver’s license and a certificate issued by the department to permit the operation of autonomous vehicles.

(b) A person may obtain a certificate to operate autonomous vehicles after completing a behind the wheel training program on the operation of the autonomous technology conducted by the manufacturer.

(1) The behind the wheel training program shall include a demonstration of the proper operation of the autonomous technology, including but not limited to: how to engage and disengage the autonomous mode, how to override unauthorized or spurious commands received by the autonomous technology in the event of a cyber-attack, and the operator’s responsibility to monitor the safe operation of the vehicle at all times.

(2) The manufacturer shall provide the operator a written certification that they have completed the behind the wheel training program. The department shall issue a certificate to operate autonomous vehicles upon receipt of the written certification that the operator has completed the manufacturer’s behind the wheel training program.

(c) The operator shall be responsible for monitoring the safe operation of the vehicle at all times and be capable of taking over immediate control of the vehicle in the event of an autonomous technology failure or other emergency.

(d) The operator shall be responsible for all traffic violations that occur while operating the autonomous vehicle.

NOTE: Authority cited: Sections 1651, and 38750, Vehicle Code. Reference: Section 38750, Vehicle Code.

**§227.86. Maintenance of Federal Motor Vehicle Safety Standards.**

(a) Any autonomous vehicle operated on any public road in California shall be maintained to the Federal Motor Vehicle Safety Standards to which it was originally manufactured. The date displayed on the manufacturer certification label required by section 227.78 shall be the definitive source to determine the applicable FMVSS requirements.

NOTE: Authority cited: Sections 1651, and 38750, Vehicle Code. Reference: Section 38750, Vehicle Code.