

**Transport Refrigeration Unit Regulation  
Draft Regulatory Language for Stakeholder Review  
March 12, 2020**

This document contains draft regulatory language for California Air Resources Board (CARB) staff's updated concept to further reduce emissions and health risk from transport refrigeration units (TRU).

TRUs are used to control the environment of temperature sensitive products transported in trucks, trailers, shipping containers, and railcars. They emit emissions while in transit and during stationary operation at refrigerated warehouses, distribution centers, grocery stores, seaports, intermodal railyards, and other locations that are often in close proximity to sensitive receptors, such as schools, hospitals, elder care facilities, and residential neighborhoods.

TRUs are subject to the existing Airborne Toxic Control Measure (ATCM) for In-Use Diesel-Fueled TRUs, TRU Generator Sets, and Facilities where TRUs Operate (title 13, California Code of Regulations, section 2477). CARB staff is undertaking a rulemaking process to replace the existing TRU ATCM to further reduce emissions and health risk from TRUs, scheduled for Board consideration in December 2020.

CARB staff recognizes that TRU owners have made investments to transition to cleaner models under the existing TRU ATCM and there has been a significant emission reduction from TRUs operating in California. Despite the progress made, the emission reductions achieved under the existing TRU ATCM are not sufficient to meet the current health based ambient air quality standards across California, protect communities from near-source pollution impacts, or meet the State's climate goals.

The new TRU Regulation addresses the increase in less than 25 horsepower units, includes refrigerant requirements, and begins to transition to zero-emission technology, as well as increase the installation of electric fueling and charging infrastructure that will be needed for those technologies. It is designed to reduce criteria pollutants, toxic air contaminants, greenhouse gas emissions, as well as community and regional air pollution.

Please [submit comments](#) on the updated concept or draft regulatory language by Friday, March 27, 2020.

NOTE: This preliminary discussion draft of the Transport Refrigeration Unit Regulation is provided for review purposes only. The draft is subject to ongoing revisions and refinement.

**DRAFT REGULATION ORDER**

Amend title 13, California Code of Regulations, Division 3, Chapter 9, Article 8, Section 2477, and

Adopt, title 13, California Code of Regulations, Division 3, Chapter 9, Article 8, new section 2478 to read as follows:

(Note: The proposed amendments to title 13, section 2477 93118.3 are shown in underline to indicate additions and strikeout to indicate deletions from the existing regulatory text. The symbol “\*\*\*” means that intervening text not amended is not shown. The entire text of sections 2478 through XXX set forth below is new language in “normal type” proposed to be added to title 13, CCR.)

**Section 2477. Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units and Transport Refrigeration Unit Generator Sets, and Facilities Where Transport Refrigeration Units Operate [2477 to be struck entirely]**

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**Section 2478. Transport Refrigeration Unit Regulation**

On December 31, 2021, the requirements of this regulatory measure for transport refrigeration units (TRU) will supersede the requirements of sections xxxxxx through xxxxxx, title xx, California Code of Regulations. However, if sections XXX through XXX collectively are repealed or deemed invalid in their entirety by a final court decision, the requirements of section 93118.3 of title 1 of the California Code of Regulations shall again become operative.

**2478.1 Purpose**

The purpose of this regulation is to reduce oxides of nitrogen (NO<sub>x</sub>), particulate matter (PM), and greenhouse gas (GHG) emissions from TRUs.

NOTE: Authority cited: sections [#####, ##### and #####], Health and Safety Code. Reference: section[s] [#####] [,#####] [, \_\_\_\_\_ and \_\_\_\_\_ ], Health and Safety Code.

**2478.2 Invalid Section Backstop**

If any of the following sections of title 13, California Code of Regulations, Division 3, Chapter 9, Article 8, new section 2478 (identified in Table 1: Column 1) are repealed or deemed invalid by a final court decision, the requirements of existing sections (identified

in Table 1: Column 2) within title 13, California Code of Regulations, Division 3, Chapter 9, Article 8, Section 2477 will still stand according to 2478 Table 1.

Table 1: Invalid 2478 Replacement Section

Column 1 New regulation 2478	Column 2 Existing regulation 2477

NOTE: Authority cited: sections [#####, ##### and #####], Health and Safety Code. Reference: section[s] [#####] [,#####] [, \_\_\_\_\_ and \_\_\_\_\_ ], Health and Safety Code.

**2478.3 Definitions**

(a) For the purposes of sections 2478.X through 2478.X, the following definitions apply:

“Applicable Facility” is any of the following facilities if one or more TRUs Operate within the legal property boundary of the facility:

- (1) A Refrigerated Warehouse or Distribution Center with a building size greater than or equal to 20,000 square feet; or
- (2) A Grocery Store with a building size greater than or equal to 15,000 square feet; or
- (3) A Port as defined in this section; or
- (4) An Intermodal Railyard as defined in this section.

A TRU is not considered to Operate within the boundaries of an Applicable Facility if it is Non-operational, as defined in this section.

“Applicable Facility Geofence” means the Geofence defining the geographic area of an Applicable Facility’s property boundary. For Applicable Facilities leasing all or part of a building, the Applicable Facility Geofence shall define the usable area of the facility, as specified in the lease agreement.

“Applicable Facility Operator” means any person who leases, operates, controls, or supervises an Applicable Facility. An Applicable Facility may have more than one Applicable Facility Operator.

“Applicable Facility Owner” means the person legally holding title (or its equivalent) to an Applicable Facility. An Applicable Facility may have more than one Applicable Facility Owner. An Applicable Facility Owner may designate another Person to be Applicable Facility Owner for purposes of this regulation by identifying a Designated Applicable Facility Owner in its Applicable Facility Information report to CARB, as described in section 2478.X(a)(1).

“Class I Railroad” is a freight railway based on large revenues (\$250 million or more) in comparison to the revenues of Class II (which ranges from greater than \$20 million but less than \$250 million) and Class III (less than \$20 million) railways, as defined by the Surface Transportation Board.

"Driver" has the same meaning as defined in California Vehicle Code section 305.

“Electric Utility” is a business or public entity that provides electricity to users. Includes any utility that supplies electricity to a California Seaport.

“Electronic Telematics System (ETS)” is a device that is installed on TRUs that allows the collecting, sending, receiving, and storing of TRU operational and location data.

"Emergency" means one of the following:

- (1) A failure or loss of normal power service that is not part of an “Interruptible Service Contract” as defined in this section.
- (2) A failure of a facility’s internal power distribution system, provided the failure is beyond the reasonable control of the operator.
- (3) When an affected facility is placed under an involuntary “rotating outage” as defined in this section.
- (4) When the President of the United States or the Governor of the State of California declares a state of emergency related to any type of disaster where TRU-equipped trucks or trailers provide foodservice to victims, shelters, and incident responders located in the State of California, including but not limited to, forest fires and earthquakes.
- (5) When the National Interagency Fire Center dispatches mobile catering service businesses with TRU-equipped trucks or trailers to provide foodservice to victims, shelters, and incident responders located in the State of California.
- (6) When the Executive Officer has determined that an emergency event has occurred that requires the immediate temporary operation of TRUs.

“Executive Officer” means the Executive Officer of the California Air Resources Board or his or her delegate.

“Fleet” means all TRUs owned by a Person that are operated in the State of California and are subject to this regulation. A fleet may consist of one or more TRUs. A fleet does not include TRUs that do not operate in the State of California.

“Freight Contractor” means any Person involved in a transaction that requires the operation of a TRU in the State of California. This includes but is not limited to a shipper, receiver, carrier, broker, or any other intermediary party.

"Geofence" means a virtual fence or perimeter around a real-world geographical area. For the purposes of this regulation, a geofence consists of lines or curves connecting a

series of points defined by latitude and longitude in a specific order, with the final point connecting to the first.

"Global Warming Potential value" or "GWP value" means, for the purpose of this regulation, the following:

- (1) For a compound, the 100-year GWP value first published by the Intergovernmental Panel on Climate Change (IPCC) in its Fourth Assessment Report (AR4) (IPCC, 2007); or if a 100-year GWP value was not specified in the IPCC AR4, it means the 100-year GWP value published by the IPCC in its Fifth Assessment Report (AR5) (IPCC, 2014); or if a 100-year GWP value was not specified in the IPCC AR5, then the GWP value will be determined by the Executive Officer based on data, studies and/or good engineering or scientific judgment; or
- (2) For a blend or a mixture, the average GWP values of its constituent compounds (as determined in the above bullet) weighted by their respective mass fractions.

"Grocery Store" means establishments commonly known as supermarkets, food stores, grocery stores, and food warehouses, engaged in the retail sale of a wide variety of grocery store merchandise, such as frozen foods, fresh fruits and vegetables, fresh and prepared meats, or fish and poultry.

"Intermodal Railyard" means any transportation facility owned or operated by a Class I Railroad that conducts intermodal rail operations where cargo is transferred to or from a train and any other form of conveyance, such as train to ship, ship to train, train to truck, or truck to train.

"Interruptible Service Contract" means any arrangement in which a nonresidential electrical customer agrees to reduce or consider reducing its electrical consumption during periods of peak demand or at the request of the System Operator in exchange for compensation, or assurances not to be blacked out or other similar non-monetary assurances.

"Level 3 Verified Diesel Emission Control Strategy" (VDECS) means an emissions control strategy designed primarily for the reduction of diesel particulate matter emissions that has been verified per the Verification Procedure, Warranty and In-Use Compliance Requirements for In-Use Strategies to Control Emissions from Diesel Engines (13 CCR Sections 2700-2710) to achieve Level 3 diesel PM reductions (85 percent or greater).

"Military Tactical Support Equipment" means equipment that meets military specifications, owned by the U.S. Department of Defense and/or the U.S. military services, and used in combat, combat support, combat service support, tactical or relief operations, or training for such operations

"Motor Carrier" is the same as defined in California Vehicle Code section 408.

“Non-operational” means one of the following:

- (1) Any TRU that is removed or separated from the truck, trailer, shipping container, or railcar on which it was originally mounted. This does not include TRU Gen Sets that are not attached to a shipping container or trailer chassis.
- (2) Any Trailer TRU housing that remains attached to a trailer, but the fuel tank and battery have been removed and a label with the word “NONOPERATIONAL” has been affixed or attached to the housing in letters that contrast sharply with the color of the TRU housing and can be seen from 50 feet during daylight hours when the vehicle is stationary.
- (3) Any Truck TRU housing that remains attached to a truck, but the positive and negative battery cables, fuel supply and return lines, and condensate drain line have been removed so that there are no visible ancillary connections to the TRU housing and a label with the word “NONOPERATIONAL” has been affixed or attached to the housing in letters that contrast sharply with the color of the TRU housing and can be seen from 50 feet during daylight hours when the vehicle is stationary.
- (4) Any TRU that has no engine or fuel injection system installed, making the engine incapable of being started and a label with the word “NONOPERATIONAL” has been affixed or attached to the housing in letters that contrast sharply with the color of the TRU housing and can be seen from 50 feet during daylight hours when the vehicle is stationary.
- (5) TRU Gen Sets that have been quarantined in a designated area that is separated from compliant TRU Gen Sets by a cordon or barrier with signs that read “NONCOMPLIANT – DO NOT OPERATE IN CALIFORNIA”. Bright red tags shall be affixed to the TRU Gen Set control panel at all times while in the State of California that read: “NONCOMPLIANT – DO NOT OPERATE IN CALIFORNIA”. TRU Gen Sets may be stored in a shipping container in lieu of being quarantined in a cordoned area.

“Operate” means to start, cause to function, program the temperature controller, select an operating program or otherwise control, fuel, monitor to assure proper operation, or keep in operation. A TRU that is operational (i.e. capable of being operated) shall be considered to operate if it is in the State of California.

“Operational and Efficiency Strategies” means technologies, techniques, or measures that an Applicable Facility uses to confirm that Trailer TRUs and TRU Gen Sets meet a Stationary Operating Time Limit of 15 minutes (e.g. scheduling systems, advanced logistics movement systems; work force changes; cargo handling equipment changes).

“Original Equipment Manufacturer (OEM)” means any person that originally manufactured new equipment for sale in commerce. This does not include a dealer who receives new equipment for sale in commerce.

“Person” has the meaning of Health and Safety Code section 39047.

“Port” means any port or independent marine terminal in California that receives an ocean-going vessel including:

- (1) Landlord ports where the port owns the wharves which it rents or leases to a terminal operator;
- (2) Operational ports where the port functions as a terminal operator; and
- (3) Independent marine terminals.

“Railcar TRU” means a TRU designed to control the environment of temperature-sensitive products in a railcar, when that railcar is located on an active rail line.

“Refrigerated Warehouse or Distribution Center” means a facility used for the reception and storage of commodities with cold storage. This includes but is not limited to packing houses, cross-dock facilities, and 3<sup>rd</sup> Party Logistic centers.

“Responsible Official” is an individual with the authority to certify that the Applicable Facility or TRU complies with the requirements of this regulation. An Applicable Facility or TRU fleet may only have one Responsible Official.

“Restricted Area” means any real property zoned for individual or multifamily housing units, schools, hotels, motels, hospitals, senior care facilities or child care facilities, that has one or more of such units on it.

“Rotating Outage” means a controlled involuntary curtailment of electrical power service to consumers as ordered by any one of the several organizations that control energy in the State of California.

"Square Footage" means for properties owned and operated by one business entity, the Square Footage of all buildings on that property, as calculated from the building floor plan(s) or blueprint(s) archived by the local permitting agency or records office. For businesses leasing all or part of a building, the Square Footage shall be the usable area, as specified in the lease agreement.

"Stationary Operation" means the diesel engine of a Trailer TRU or TRU Gen Set is running but the trailer or shipping container it is providing refrigeration to is not moving.

“Stationary Operating Time Limit (SOTL)” is the amount of time that a Trailer TRU or TRU Gen Set may operate in a mode other than Zero-Emission Operation after the Trailer TRU or TRU Gen Set has entered the Applicable Facility Geofence and is stationary. If the Trailer TRU or TRU Gen Set changes location with respect to the Applicable Facility Geofence, the SOTL restarts at 0, permitting an additional period of time in which the Trailer TRU or TRU Gen Set may operate in a mode other than Zero-Emission Operation. A change in location requires sufficient movement of the Trailer TRU or TRU Gen Set to register as a distinct location by an Electronic Telematics System.

“System Operator” means one of the several organizations that control energy in California. System operators include, but are not limited to, the California Independent System Operator, the Los Angeles Department of Water and Power, the Imperial Irrigation District, the Sacramento Municipal Utility District.

"Tier 4 Nonroad/Off-Road Emission Standards" means the emission standards and associated procedures promulgated by U.S. Environmental Protection Agency in "Control of Emissions of Air Pollution from Nonroad Diesel Engines 14 and Fuel; Final Rule" (Vol. 69, No. 124 Fed.Reg. pp. 38957-39273 (June 29, 2004).

“Transport Refrigeration Unit (TRU)” means a refrigeration system designed to control the environment of temperature-sensitive products transported in trucks, trailers, domestic shipping containers, or railcars. For the purposes of sections 2478.X through 2478.X and unless otherwise indicated, TRU includes Truck TRUs, Trailer TRUs (and Domestic Shipping Container TRUs), Railcar TRUs, and TRU Gen Sets.

“TRU Generator Set (TRU Gen Set)” means a non-integrated, or detachable, internal combustion engine-powered generator designed to provide electric power to electrically-driven refrigeration units of any kind.

“TRU Operator” means any person that operates a TRU. A TRU operator includes the driver transporting a TRU-equipped truck, trailer, shipping container, or railcar.

“TRU Owner” means the person legally holding title (or its equivalent) to the TRU, or either the person as defined in this section registered as the owner or lessee of a vehicle by the California Department of Motor Vehicles or its equivalent in another state, province, or country, as evidenced on the vehicle registration document carried in the vehicle or trailer to which the TRU is attached. In the case where more than one owner or lessee exists, all owners or lessees are equally responsible for the requirements of this regulation.

“Trailer TRU” means a TRU mounted on or in a trailer or domestic shipping container that can be attached and detached to a tractor, commonly referenced together as a “tractor-trailer.”

“Trailer TRU Operator” means a TRU Operator of a Trailer TRU.

“Trailer TRU Owner” means a TRU Owner of a Trailer TRU.

“Truck TRU” means a TRU mounted on or in a truck cargo box permanently attached to a truck with a Gross Vehicle Weight Rating (GVWR) of 14,001 or greater, in contrast to a detachable trailer.

“Truck TRU Operator” means a TRU Operator of a Truck TRU.



“Truck TRU Owner” means a TRU Owner of a Truck TRU.

“Vehicle Owner” means the Person as defined in this section registered as the owner or lessee of a vehicle by the California Department of Motor Vehicles or its equivalent in another state, province, or as evidenced on the vehicle registration document carried in the vehicle to which the TRU is attached. For example, the Owner of the truck or tractor pulling a TRU equipped trailer or container.

“Zero-Emission Fuel” means electricity, hydrogen, or nitrogen or other cryogenic fuel, that powers a TRU in zero-emission operation or a zero-emission TRU.

“Zero-Emission Fueling Infrastructure” means a fueling system at an Applicable Facility that provides the appropriate fuel type to power a TRU in zero-emission operation or a zero-emission TRU. To qualify as zero-emission fueling infrastructure, the fueling system cannot be powered by or rely on backup power by a local (on-site or near-site) internal combustion engine or internal combustion generator.

“Zero-Emission Operation” means operation of a TRU that results in zero exhaust emissions of any criteria pollutant (or precursor pollutant) or greenhouse gas. If a vehicle, locomotive, or other fossil fuel engine is providing power to the TRU during TRU zero-emission operation, then that engine shall also have zero exhaust emissions of any criteria pollutant (or precursor pollutant) or greenhouse gas during that time.

“Zero-Emission Transport Refrigeration Unit (ZE TRU)” means a TRU whose operation results in zero exhaust emissions of any criteria pollutant (or precursor pollutant) or greenhouse gas at all times. The TRU may draw power from the vehicle or locomotive in a manner that results in a decrease in fuel efficiency of the vehicle or locomotive only if the vehicle or locomotive produces zero exhaust emissions while operating. If the TRU draws power from a stored energy source, then that source may be recharged in a manner that results in a decrease in fuel efficiency of the vehicle or locomotive only if the vehicle or locomotive produces zero exhaust emissions while operating. Weight of the stored energy source does not alone qualify as “a decrease in fuel efficiency” for purposes of this definition. For example, a ZE TRU may draw power from a battery that in turn is charged by a solar cell or a hydrogen fuel cell so long as the ZE TRU does not also draw power from the vehicle engine alternator.

“Zero-Emission Truck TRU” means any Truck TRU that meets the definition of a ZE TRU.

NOTE: Authority cited: sections [#####, ##### and #####], Health and Safety Code. Reference: section[s] [#####] [,#####] [, \_\_\_\_\_ and \_\_\_\_\_ ], Health and Safety Code.

#### **2478.4 Applicability**

Except as noted in section 2478.4, this regulation applies to the following:

- (a) Any Person that owns, operates, leases, hires, sells, manufactures, or rents a TRU operating in the State of California.
- (b) Any Applicable Facility Operator or Applicable Facility Owner for an Applicable Facility located in the State of California.
- (c) Manufacturers of Electronic Telematics Systems sold in or intended for sale or use in the State of California
- (d) Installers of Electronic Telematics Systems sold in or intended for sale or use in the State of California.
- (e) Manufacturers of TRUs sold in or intended for sale in the State of California.
- (f) Freight Contractors who are involved in any transaction that requires the operation of a TRU in the State of California.
- (g) Drivers of TRU equipped trucks or tractors pulling TRU equipped trailers or containers operating in the State of California.
- (h) Vehicle Owners of trucks or tractors pulling TRU equipped trailers or containers operating in the State of California.
- (i) Electric Utilities that provide service to one or more Applicable Facility.
- (j) Any person engaged in the business of selling to an ultimate purchaser, or renting or leasing new or used TRUs in the State of California, including, but not limited to, manufacturers, distributors, and dealers.

#### **2478.5 Exemptions**

This regulation does not apply to:

- (a) Military tactical support equipment.
- (b) TRUs operating under an Emergency as defined in section 2478.3.
- (c) A Non-Operational Trailer TRU, as defined in section 2478.3.
- (d) Non-compliant TRUs traveling under a safe passage permit, as described in section 2478.23
- (e) Non-compliant TRUs on refrigerated railcars that are not operated while traveling through California under a compliance plan, as described in section 2478.23.

NOTE: Authority cited: sections [#####, ##### and #####], Health and Safety Code. Reference: section[s] [#####] [,#####] [, \_\_\_\_\_ and \_\_\_\_\_ ], Health and Safety Code.

**2478.6 Refrigerant Requirements**

- (a) This section applies to TRU Original Equipment Manufacturers (OEM), TRU Owners, and TRU Operators. The term TRU as used in this section refers only to Truck TRUs, Trailer TRUs, {and Railcar TRUs}. TRU Gen Sets are exempt from the requirements of this section.
  - (1) On or after December 31, 2021, TRU OEMs shall not manufacture for sale or use in the State of California a TRU unless that TRU uses a refrigerant with a GWP value less than or equal to 2,200, or uses no refrigerant at all.
    - (A) Refrigerant labels for model year 2022 and newer TRUs shall be visible at all times and include the following: “THIS UNIT CONTAINS REFRIGERANT WITH A GWP LESS THAN OR EQUAL TO 2,200 AND IS COMPLIANT FOR USE IN THE STATE OF CALIFORNIA”
  - (2) On or after December 31, 2021, a TRU Owner or TRU Operator shall not operate or cause to be operated in the State of California a TRU with a manufacture date after December 31, 2021, unless that TRU uses a refrigerant with a GWP value less than or equal to 2,200, or uses no refrigerant at all.

NOTE: Authority cited: sections [#####, ##### and #####], Health and Safety Code. Reference: section[s] [#####] [,#####] [, and ], Health and Safety Code.

**2478.7 TRU Emission Standards**

- (a) This section applies to TRU OEMs, TRU Owners, and TRU Operators. The term TRU as used in this section refers only to Trailer TRUs, Railcar TRUs, and TRU Gen Sets. Truck TRUs are exempt from the requirements of this section.
- (b) On or after December 31, 2023, TRU OEMs shall not manufacture for sale or use in the State of California a TRU unless it is equipped with an engine that meets or outperforms the TRU emission standards for NMHC+NOx, CO, and PM shown in Table 2.
- (c) On or after December 31, 2023, a TRU Owner or TRU Operator shall not operate or cause to be operated in the State of California a TRU with a manufacture date on or after December 31, 2023, unless it equipped with an engine that meets or outperforms the TRU emission standards for NMHC+NOx, CO, and PM shown in Table 2.

- (d) On or after December 31, 2023, a TRU Owner or TRU Operator shall not operate or cause to be operated in the State of California a TRU with a manufacture date on or after December 31, 2023, unless it is:
  - (1) Equipped with an engine that meets or outperforms the TRU emission standard for PM shown in Table 2; or
  - (2) Equipped with an engine that meets the Tier 4 Nonroad/Off-Road Emission Standards and a Level 3 Verified Diesel Emission Control Strategy.
- (e) On or after December 31, 2030, a TRU Owner or TRU Operator shall not operate or cause to be operated in the State of California a TRU unless it is equipped with an engine that meets or outperforms the TRU emission standards for NMHC+NOx, CO, and PM shown in Table 2.

Table 2: TRU Emission Standards

NMHC+NOx (g/bhp-hr)	CO (g/bhp-hr)	PM (g/bhp-hr)
3.5	4.1	0.02

- (f) Emissions labels for model year 2024 and newer TRUs shall be visible at all times and include the following: “THIS ENGINE COMPLIES WITH U.S. EPA AND CALIFORNIA REGULATIONS FOR 2024 M.Y. NONROAD AND STATIONARY/OFF-ROAD DIESEL ENGINES.”

NOTE: Authority cited: sections [#####, ##### and #####], Health and Safety Code. Reference: section[s] [#####] [,#####] [, \_\_\_\_\_ and \_\_\_\_\_ ], Health and Safety Code.

**2478.8 Zero-Emission Truck TRUs**

- (a) This section applies to TRU OEMs, TRU Owners, and TRU Operators. The term TRU as used in this section refers only to Truck TRUs. Trailer TRUs, Railcar TRUs, and TRU Gen Sets are exempt from the requirements of this section.
  - (1) On or after December 31, 2023, TRU OEMs shall not manufacture for sale or use in the State of California a Truck TRU unless it is a ZE Truck TRU.
  - (2) On or after December 31, 2023, TRU Owners and TRU Operators shall not operate or cause to be operated in the State of California any Truck TRU in the TRU Owner’s fleet unless the TRU Owner’s fleet includes a percentage of ZE Truck TRUs, as specified in Table 3. The required number of ZE Truck TRUs for a given year shall be calculated using the following formula:

$$\begin{aligned}
 & \text{"Number of ZE Truck TRUs} \\
 & = \text{Required ZE Truck TRU Fleet \% from Table 4} \\
 & \times \text{Total Truck TRUs in Fleet " }
 \end{aligned}$$

Where: Required ZE Truck TRU Fleet % is listed in the second column of Table 3 below.

Table 3: Phase-in Compliance Schedule for ZE Truck TRU Fleets

Compliance Date as of December 31	Required ZE Truck TRU Fleet Percentage
2023	15%
2024	30%
2025	45%
2026	60%
2027	75%
2028	90%
2029 or later	100%

- (A) If the calculated ‘number of ZE Truck TRUs’ calculation is not equal to a whole number, the TRU Owner shall round up to a whole number when the fractional part of the required number of Truck TRUs is equal to or greater than 0.5, and round down if less than 0.5. For example:
1. A fleet consisting of one Truck TRU must contain one ZE Truck TRU by December 31, 2026.
  2. A fleet consisting of two Truck TRUs must contain one ZE Truck TRU by December 31, 2024 and two ZE Truck TRUs by December 31, 2027.

NOTE: Authority cited: sections [#####, ##### and #####], Health and Safety Code. Reference: section[s] [#####] [,#####] [, \_\_\_\_\_ and \_\_\_\_\_ ], Health and Safety Code.

**2478.9 Trailer TRU Zero-Emission Operation Requirements**

- (a) This section applies to TRU OEMs, TRU Owners, and TRU Operators. The term TRU as used in this section refers only to Trailer TRUs. Truck TRUs, Railcar TRUs, and TRU Gen Sets are exempt from the requirements of this section.
- (1) On or after December 31, 2023, TRU OEMs shall not manufacture for sale or use in the State of California a Trailer TRU unless it is capable of Zero-Emission Operation.

- (2) On or after December 31, 2023, a TRU Owner or TRU Operator shall not operate or cause to be operated in the State of California a Trailer TRU with a manufacture date after December 31, 2023, unless it is capable of Zero-Emission Operation.

NOTE: Authority cited: sections [#####, ##### and #####], Health and Safety Code. Reference: section[s] [#####] [,#####] [, \_\_\_\_\_ and \_\_\_\_\_ ], Health and Safety Code.

## **2478.10 Stationary Operating Time Limit Requirements**

- (a) This section applies to Applicable Facility Owners, Applicable Facility Operators, TRU Owners, and TRU Operators. The term TRU as used in this section refers only to Trailer TRUs and TRU Gen Sets. Truck TRUs and Railcar TRUs are exempt from the requirements of this section. Truck and Trailer TRUs that meet the definition of a ZE TRU are exempt from the requirements of this section.
  - (1) On or after December 31, 2023, a TRU Owner or TRU Operator shall not operate or cause to be operated a Trailer TRU or TRU Gen Set with a manufacture date after December 31, 2023, in a manner that exceeds a SOTL of 15 minutes within an Applicable Facility Geofence.
  - (2) On or after December 31, 2023, an Applicable Facility Owner or Applicable Facility Operator shall not permit a Trailer TRU or TRU Gen Set with a manufacture date after December 31, 2023, to operate in a manner that exceeds a SOTL of 15 minutes within an Applicable Facility Geofence.
  - (3) On or after December 31, 2027, a TRU Owner or TRU Operator shall not operate or cause to be operated any Trailer TRU or TRU Gen Set in a manner that exceeds a SOTL of 15 minutes within an Applicable Facility Geofence.
  - (4) On or after December 31, 2027, an Applicable Facility Owner or Applicable Facility Operator shall not permit any Trailer TRU or TRU Gen Set to operate in a manner that exceeds a SOTL of 15 minutes within an Applicable Facility Geofence.
  - (5) On or after December 31, 2023, an Applicable Facility Owner, Applicable Facility Operator, TRU Owner, or TRU Operator shall not move or divert any Trailer TRU or TRU Gen Set to locations outside an Applicable Facility Geofence in order to avoid the SOTL requirement. For purposes of this requirement, evidence that a TRU is stationary within one mile of a facility boundary for more than 15 minutes, or is mobile within one mile of a facility boundary for more than 30 minutes, shall be considered prima

facie evidence that the TRU has been moved or diverted in order to avoid the SOTL requirement.

- (6) On or after December 31, 2023, an Applicable Facility Owner, Applicable Facility Operator, TRU Owner, or TRU Operator shall not operate or cause to be operated any Trailer TRU or TRU Gen Set in a manner that exceeds a SOTL of 15 minutes within 100 feet of a Restricted Area.

NOTE: Authority cited: sections [#####, ##### and #####], Health and Safety Code. Reference: section[s] [#####] [,#####] [, \_\_\_\_\_ and \_\_\_\_\_ ], Health and Safety Code.

#### **2478.11 Electronic Telematics System Requirements**

- (a) This section applies to TRU OEMs, TRU Owners, and TRU Operators. The term TRU as used in this section refers only to Trailer TRUs and TRU Gen Sets. Truck TRUs and Railcar TRUs are exempt from the requirements of this section. Truck and Trailer TRUs that meet the definition of a ZE TRU are exempt from the requirements of this section.
- (b) The following requirements apply to TRU OEMs:
  - (1) On or after December 31, 2023, TRU OEMs shall not manufacture for sale or use in the State of California a Trailer TRU or TRU Gen Set unless it is equipped with an electronic telematics system (ETS) that meets the criteria outlined in subsection 2478.11(e) below.
- (c) The following requirements apply to TRU Owners and TRU Operators:
  - (1) On or after December 31, 2023, a TRU Owner or TRU Operator shall not operate or cause to be operated in the State of California a Trailer TRU or TRU Gen Set with a manufacture date after December 31, 2023, unless it is equipped with an ETS that meets the criteria outlined in subsection 2478.11(e)
  - (2) On or after December 31, 2030, a TRU Owner or TRU Operator shall not remove, tamper with, or turn off an ETS installed by the OEM
  - (3) On or after December 31, 2037, a TRU Owner or TRU Operator shall not operate or cause to be operated in the State of California any Trailer TRU or TRU Gen Set unless it is equipped with an ETS that meets the criteria outlined in subsection 2478.11(e).
- (d) The following requirements apply to TRU Owners:

- (1) On or after December 31, 2023, owners of model year 2024 and newer Trailer TRUs and TRU Gen Sets operating in California shall report ETS data collected in 2478.X(e)(2) and (3) to CARB according to the schedule shown in Table 4.
- (2) On or after December 31, 2027, owners of all Trailer TRUs and TRU Gen Sets operating in California shall report ETS data collected in 2478.X(e)(2) and (3) to CARB according to the schedule shown in Table 4.

Table 4: Electronic Telematics System Data Reporting Schedule

Date of ETS reading	Date by which information is to be reported
January 1 – March 31	April 15
April 1 – June 30	July 15
July 1 – September 30	October 15
October 1 – December 31	January 15

(e) ETS Requirements.

- (1) The ETS shall be associated with only one TRU. The ETS shall have the serial number of the TRU to which it is associated with embedded in its firmware.
- (2) The ETS shall have a unique serial number.
- (3) The ETS shall collect and be able to transmit at least one reading per minute of the following information and in the specified format while the Trailer TRU or TRU Gen Set is operating in the State of California:
  - (A) CARB TRU identification number
  - (B) TRU Owner
  - (C) Date of reading. Format: mm/dd/yyyy, where mm is month, dd is day of the month, and yyyy is the year;
  - (D) Time of reading. Format: hh/mm/ss, where 'hh' is the hour, 'mm' is the minute, and 'ss' is the second;
  - (E) TRU operational status indicating whether the TRU is switched on at time of reading. Format: O represents off and R represents running
  - (F) Diesel engine operation status at time of reading. Format: O represents off and R represents running
  - (G) Zero-emission operation status at time of reading. Format: O represents off and R represents running
  - (H) Location of TRU. Format: longitude (xxx.xxxxxx) and latitude (xxx.xxxxxx). Coordinate resolution shall be at least six digits after the decimal.



- (l) TRU serial number. The TRU serial number shall be unique to each TRU and coded in such a way so that CARB can easily identify the TRU manufacturer, model, model year, and type of zero-emission operation.
- (4) If ETS data is stored in a location separate from the ETS device, the data shall be stored on a server that is secure from tampering and inaccessible to the TRU Owner or TRU Operator, other than to download reports over the Internet.
- (5) The ETS shall have internal storage capacity to store three years of collected data.

NOTE: Authority cited: sections [#####, ##### and #####], Health and Safety Code. Reference: section[s] [#####] [,#####] [, \_\_\_\_\_ and \_\_\_\_\_ ], Health and Safety Code.

#### **2478.12 TRU Registration and Compliance Label Requirements**

- (a) This section applies to TRU Owners.
- (b) By December 31, 2021, for each TRU owned and operated in the State of California, the TRU Owner shall register the TRU by submitting the following information to CARB:
  - (1) Company Information:
    - (A) Company name
    - (B) Address
    - (C) Tax Identification Number
    - (D) Owner and responsible official title
    - (E) Owner and responsible official phone number
    - (F) Owner and responsible official email address
  - (2) TRU Information:
    - (A) Type
    - (B) Manufacturer
    - (C) Model
    - (D) Model year
    - (E) Serial number
    - (F) Company or equipment identification number
    - (G) Engine family name
    - (H) Engine power rating in horsepower
    - (I) Engine manufacturer name
    - (J) Engine serial number
    - (K) TRU zero-emission technology type

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- (L) Operational status
- (M) If VDECS is installed, provide the following from the VDECS label:
  - 1. VDECS manufacturer name
  - 2. VDECS family name
  - 3. VDECS serial number
  - 4. VDECS manufacture year
  - 5. VDECS installation date
- (N) Other identifying numbers. Provide all that apply:
  - 1. If unit is installed on a truck or trailer, provide:
    - a. Vehicle Identification Number (VIN)
    - b. Vehicle license number, country of issuance, and state or province of issuance
    - c. Unique Bureau International de Container (BIC) Code, if trailer is multimodal
  - 2. If unit is installed on refrigerated railcar, provide railcar reporting mark
  - 3. If unit is installed on domestic refrigerated shipping container, provide unique BIC Code
  - 4. If unit is a TRU Gen Set, provide unique BIC Code
  - 5. If unit is installed on a trailer or is a TRU Gen Set, provide:
    - a. ETS unique identifier
    - b. ETS provider name
- (3) Certification that the TRU Operator is appraised of their obligations under this regulation.
- (4) If reported information for any TRU changes, then the TRU Owner shall update the information within 30 days of those changes.
- (5) If a TRU is added to an owner's operations in California after December 31, 2021, the TRU Owner shall report the information in section 2478.12(b)(5) within 30 days of the unit entering the owner's control by requesting a CARB registration for a new TRU, or requesting a change in owner for used equipment that already has a CARB registration.
- (6) If a TRU is removed from the owner's operations, by either sale or by means of no longer operating that TRU within California, the TRU Owner shall notify CARB of the change within 30 days of the change in operation.
- (c) Upon verifying the information reported under section 2478.12(b) and all applicable fees have been received, the Executive Officer shall notify the TRU Owner in writing or electronic notification that the TRU has been registered and issue a CARB identification number and compliance label.
- (d) Within 30 days of receipt of the CARB compliance label, TRU Owners shall affix the label on the driver side of the TRU chassis housing in clear view, correct side up, un-obstructed; and kept and maintained in a manner that retains legibility.

- (e) Registrations and renewals will be valid for two years from date of issuance. For change of ownership, the registration shall retain the original expiration date, except where the registration has expired.
- (f) The Executive Officer shall mail to the owner of a registered TRU a renewal invoice at least 60 days prior to the registration expiration. Failure to send or receive a renewal invoice does not relieve the TRU Owner from paying all applicable fees when due.

**2478.13 Applicable Facility Registration Requirements**

- (a) This section applies to Applicable Facility Owners.
- (b) By December 31, 2021, Applicable Facility Owners shall register an Applicable Facility by reporting the following information to CARB:
  - (1) Applicable Facility Information. Information provided under section 2478.13(b)(1)(A) through (E) below may be made available to the public through CARB’s website to facilitate compliance with the SOTL requirements in section 2478.10.
    - (A) Applicable Facility type (specify)
      - 1. Refrigerated Warehouse or Distribution Center
      - 2. Grocery Store
      - 3. Port
      - 4. Intermodal Railyard
    - (B) Applicable Facility name
    - (C) Applicable Facility address, state, zip code
    - (D) Applicable Facility Geofence
    - (E) Zero-emission fuel provided (if any)
      - 1. If electricity is provided
        - a. Location of connectors (e.g. dock door, parking lot, staging area)
        - b. Number of connectors
        - c. Type of connectors
    - (F) Parent company name
    - (G) Property owner name
    - (H) Applicable Facility Owner
    - (I) Applicable Facility Owner address.
    - (J) Responsible Official and Applicable Facility Owner contact information
    - (K) Refrigerated warehouse or distribution center, or grocery store building size in square feet
  - (2) If reported information for any Applicable Facility changes, then the Applicable Facility Owner shall update the information within 30 days of the changes.

- (3) If an Applicable Facility begins operations after December 31, 2021, then the Applicable Facility Owner shall report the information in section 2478.X(a)(1) to CARB within X days of the Applicable Facility beginning operations.
  - (4) Upon verifying the information reported under subsection 2478.13(b) and all applicable fees have been received, the Executive Officer shall notify the Applicable Facility Owner in writing or electronic notification that the facility has been registered and issue a facility identification number.
- (c) Applicable Facility Area Exemption
- (1) Applicable Facility Owners may receive an exemption for defined areas of an Applicable Facility where Trailer TRUs or TRU Gen Sets operate if one or more of the following applies:
    - (A) Trailer TRU or TRU Gen Set operations are limited to operation necessary for repair and at a location solely dedicated for repair or maintenance;
    - (B) Trailer TRU or TRU Gen Set operations occurring on an active rail line or areas directly adjacent to active rail lines where the TRUs or TRU Gen Sets are being staged for immediate loading onto or unloading from active rail cars.
    - (C) [port specific areas]
  - (2) To receive an area exemption, an Applicable Facility Owner must submit the following information:
    - (A) The Geofence coordinates of areas for which an exemption is being requested.
    - (B) An explanation of why each selected area should be exempt.
  - (3) After verifying the information reported under subsection (b)(2) and determining that the Applicable Facility Area Exemption qualifies under one of the exemptions listed in subsection (b)(1), the Executive Officer shall approve the Applicable Facility Area Exemption and notify the Applicable Facility Owner in writing or electronic notification.
  - (4) An Applicable Facility Owner may make changes to the Geofence coordinates by submitting an amended application for approval by the Executive Officer.
  - (5) The previously approved Applicable Facility Area Exemption will remain in effect until an amended application is approved by the Executive Officer.

- (6) The Applicable Facility may not exceed SOTL requirements in the requested area until the Applicable Facility Area Exemption or amended Applicable Facility Area Exemption is approved by the Executive Officer.
  
- (d) Reporting TRUs. Applicable Facility Owners shall select the requirements in either Section 2478.13(d)(1) or Section 2478.13(d)(2), by notifying CARB at XXX. If neither option is selected, the Facility Owner will automatically be required to comply with Section 2478.13(d)(2). A Facility Owner may change the option selected for the following calendar year by notifying CARB at XXX by September 30 of the preceding calendar year.
  - (1) Report all TRUs that operate within the Applicable Facility Geofence.
    - (A) After December 31, 2023, Applicable Facility Owners shall collect the following information for each TRU subject to this regulation that operates within the Applicable Facility Geofence:
      1. TRU CARB identification number
      2. Entry date and time
      3. TRU Operator's name
      4. TRU Operator's license number; etc.
      5. If TRU is installed on a trailer, provide:
        - a. Tractor Owner's name
        - b. Tractor license plate number
        - c. Trailer license plate number
  
    - (B) After December 31, 2023, Applicable Facility Owners shall report information collected in 2478.13(d)(1)(A) for all TRUs that operate within the Applicable Facility Geofence to CARB according to the schedule shown in Table 5.

Table 5: Applicable Facility Reporting Schedule

TRU Entry Date	Date by which information is to be reported
January 1 – March 31	April 15
April 1 – June 30	July 15
July 1 – September 30	October 15
October 1 – December 31	January 15

- (C) All information collected in section 2478.13(d)(1)(A) shall be kept for a period of not less than three years from the TRU entry date and is to be made available to CARB personnel upon request.
- (D) If CARB finds non-reported TRUs operating within an Applicable Facility Geofence, the Applicable Facility Owner may be subject to a penalty of up to XXX for each non-reported TRU.
  1. An Applicable Facility Owner may be subject to increased penalties for each additional non-reported TRU.

- (E) An Applicable Facility Owner may be held liable for any Trailer TRU or TRU Gen Set that violates the SOTL.
- (2) By December 31, 2023, provide a declaration to CARB, under penalty of perjury, that non-compliant TRUs subject to this regulation will not be permitted to operate within the Applicable Facility Geofence.
  - (A) An Applicable Facility Owner may verify if a given TRU is compliant by verifying that the TRU has a valid CARB compliance label or by checking the TRU CARB identification number against information contained within CARB’s website.
  - (B) If CARB finds a non-compliant TRU operating within an Applicable Facility’s Geofence, the Applicable Facility Owner may be subject to a penalty of up to XXX for each non-compliant TRU.
    - 1. An Applicable Facility Owner may be subject to increased penalties for each additional non-compliant TRU.
  - (C) An Applicable Facility Owner may be held liable for any Trailer TRU or TRU Gen Set that violates the SOTL.

**2478.14 Applicable Facility SOTL Compliance Plan Requirements**

- (a) This section applies to Applicable Facility Owners.
  - (1) By December 31, 2022, an Applicable Facility Owner shall submit a SOTL compliance plan to CARB.
  - (2) The SOTL compliance plan shall demonstrate how the Applicable Facility will not allow any Trailer TRUs and TRU Gen Sets operating within the Applicable Facility Geofence to exceed the SOTL.
  - (3) The SOTL compliance plan shall include the following information, accurate as of the date submitted:
    - (A) The number of Trailer TRUs and TRU Gen Sets that operate within the Applicable Facility Geofence that would require Operational and Efficiency Strategies or Zero-Emission Fueling Infrastructure to meet the SOTL.
      - 1. Daily average for the prior calendar year.
      - 2. Daily maximum for the prior calendar year.
    - (B) List all existing Operational and Efficiency Strategies on site.
    - (C) List all Zero-Emission Fueling Infrastructure on site.
    - (D) List any additional Operational and Efficiency Strategies to be implemented or installed on site.
    - (E) List any Zero-Emission Fueling Infrastructure to be implemented or installed on site.
    - (F) For any existing or anticipated Zero-Emission Fueling Infrastructure:
      - 1. Name of Fuel Provider
      - 2. Specify the number of ZE fuel connections, and types of connectors.

3. If storing fuel on site, specify the number of storage tanks and the tank storage capacity.
  4. If storing electricity on site, specify the number of batteries and battery capacity, in kilowatt-hours (kWh).
  5. If generating fuel on site, specify the quantity of generators and expected power output.
  6. For solar generation, specify the number of panels and kilowatt-hour (kWh) rating per panel, as well as expected annual power generation.
  7. For hydrogen fuel cells, specify the number of cells and the rated kilowatt (kW) per cells, as well as the expected annual power generation.
  8. Provide a schedule estimating dates of any of the following:
    - a. Submittal of permit applications
    - b. Purchase of electric charging or fueling infrastructure
    - c. Installation of charging or fueling infrastructure
    - d. Operation of charging or fueling infrastructure
    - e. Implementation of Operational and Efficiency Strategies
- (4) By December 31, 2023, all Operational and Efficiency Strategies shall be fully implemented, and all Zero-Emission Fueling Infrastructure shall be fully operational at all Applicable Facilities.
- (5) The SOTL compliance plan document shall be kept on-site at the Applicable Facility and available to CARB personnel immediately upon request.
- (6) If an Applicable Facility begins operations after December 21, 2022, then the Applicable Facility Owner shall submit a SOTL compliance plan to CARB within 30 days of the Applicable Facility beginning operations. All Operational and Efficiency Strategies shall be fully implemented, and all Zero-Emission Fueling Infrastructure shall be fully operational within 6 months of the Applicable Facility beginning operations.
- (7) If reported information changes, then the Applicable Facility owner shall update the information within 30 days of the changes.
- (8) Applicable Facilities that are under common ownership or control may submit one joint SOTL compliance plan in lieu of individual plans.
- (9) Applicable Facility owners shall submit their SOTL compliance plan as specified in section 2478.26

NOTE: Authority cited: sections [#####, ##### and #####], Health and Safety Code. Reference: section[s] [#####] [,#####] [, \_\_\_\_\_ and \_\_\_\_\_ ], Health and Safety Code.

#### **2478.15 Fees**

- (a) This section applies to Applicable Facility Owners and TRU Owners

- (1) The Executive Officer shall assess and collect reasonable fees to recover the estimated costs to the Executive Officer administering the TRU Regulation.
- (2) Fees shall be due and payable to the Executive Officer. Fees are nonrefundable except in circumstances as determined by the Executive Officer.
- (3) An Applicable Facility Owner or TRU Owner shall submit fees to the Executive Officer in accordance with the fee schedule in Table 6.
- (4) Fees shall be periodically revised by the Executive Officer to recover the reasonable costs of administering the TRU Regulation, in accordance with the following benchmarks:
  - (A) The consumer price index, as published by the United States Bureau of Labor Statistics,
  - (B) Costs that are attributable directly to the TRU Regulation
  - (C) A percentage of the indirect Board and statewide costs as agreed to by the Department of Finance and the U.S Environmental Protection Agency, under Title 2, Code of Federal Regulations, Part 200.

Table 6: Fees for TRUs and Applicable Facilities  
(Fees are per Applicable Facility and per TRU)

Registration Type	Fee Amount
Applicable Facility	\$XX
TRU	\$XX

**2478.16 Freight Contractor Requirements.**

- (a) This Section applies to Freight Contractors.
  - (1) On or after December 31, 2023, a Freight Contractor shall not hire or dispatch a TRU for operation in the State of California unless it is compliant with the requirements of this regulation. A Freight Contractor may check if a given TRU is compliant by verifying that the TRU has a valid CARB compliance label or checking the TRU CARB identification number against information contained within CARB’s website.

NOTE: Authority cited: sections [#####, ##### and #####], Health and Safety Code. Reference: section[s] [#####] [,#####] [, \_\_\_\_\_ and \_\_\_\_\_ ], Health and Safety Code.

**2478.17 Vehicle Owner Requirements**

- (a) This section applies to Vehicle Owners of trucks or tractors pulling TRU equipped trailers or containers. This section does not apply to Truck or Trailer TRUs that meet the definition of a ZE TRU.



- (1) On or after December 31, 2023, a Vehicle Owner of a truck or tractor pulling a TRU equipped trailer or container shall not operate or cause to be operated in the State of California unless the TRU is in compliance with the requirements of this regulation. A Vehicle Owner shall check if a given TRU is compliant by verifying that the TRU has a valid CARB compliance label or checking the TRU CARB identification number against information contained within CARB's website.
- (2) On or after December 31, 2023, a Vehicle Owner of a truck or tractor pulling a TRU equipped trailer or container shall not allow the Trailer TRU or TRU Gen Set to exceed the SOTL within an Applicable Facility Geofence, as required in section 2478.X.
- (3) On or after December 31, 2023, a Vehicle Owner of a truck or tractor pulling a TRU equipped trailer or container shall not remove, tamper with, or turn off ETS installed by the OEM.
- (4) On or after December 31, 2023, a Vehicle Owner of a truck or tractor pulling a TRU equipped trailer or container shall allow CARB personnel to conduct a visual inspection of TRUs to determine whether emission control components have been tampered with, inadequately maintained, or are defective. The driver shall do the following:
  - (A) Temporarily turn off the TRU engine
  - (B) Allow access to the TRU engine compartment
  - (C) Allow access to the ETS unit
- (5) On or after December 31, 2023, a Vehicle Owner of a truck or tractor pulling a TRU equipped trailer or container shall, upon request by CARB enforcement personnel, provide all of the following:
  - (A) The document required under subsection 2478.10(b)
  - (B) Driver's license
  - (C) Truck or tractor registration
  - (D) Trailer registration
  - (E) Shipping documentation and or bill of lading for the TRU load, which shall contain freight brokerage information

**2478.18 Driver Requirements**

- (a) This section applies to Drivers of TRU equipped trucks or tractors pulling TRU equipped trailers or containers. This section does not apply to Truck or Trailer TRUs that meet the definition of a ZE TRU.
  - (1) After December 31, 2023, a Driver of a truck or tractor pulling a TRU equipped trailer or container shall not operate or cause to be operated in the State of California unless the TRU is in compliance with the

requirements of this regulation. Drivers shall check if a given TRU is compliant by verifying that the TRU has a valid CARB compliance label or checking the TRU CARB identification number against information contained within CARB's website.

- (2) After December 31, 2023, a Driver of a truck or tractor pulling a TRU equipped trailer or container shall not allow the Trailer TRU or TRU Gen Set to exceed the SOTL within an Applicable Facility Geofence, as required in section 2478.X.
- (3) After December 31, 2023, a Driver of a truck or tractor pulling a TRU equipped trailer or container shall not remove, tamper with, or turn off ETS installed by the OEM.
- (4) After December 31, 2023, a Driver of a truck or tractor pulling a TRU equipped trailer or container shall allow CARB enforcement personnel to conduct a visual inspection of TRUs to determine whether emission control components have been tampered with, inadequately maintained, or are defective. The driver shall do the following:
  - (A) Temporarily turn off the TRU engine
  - (B) Allow access to the TRU engine compartment
  - (C) Allow access to the ETS unit
- (5) After December 31, 2023, a Driver of a truck or tractor pulling a TRU equipped trailer or container shall, upon request by CARB enforcement personnel, provide all of the following:
  - (A) The document required under subsection 2478.10(b)
  - (B) Driver's license
  - (C) Truck or tractor registration
  - (D) Trailer registration
  - (E) Shipping documentation and or bill of lading for the TRU load, which shall contain freight brokerage information

#### **2478.19 Electric Utility Reporting Requirements**

- (a) This section applies to Electric Utilities providing service to one or more Applicable Facilities.
  - (1) By December 31, 2022, Electric Utilities that provide service to one or more Applicable Facility shall report the following information to CARB for each Applicable Facility that has requested an electrical service upgrade:
    - (A) CARB facility identification number
    - (B) Projected increase in electricity demand
    - (C) Additional infrastructure upgrades required

1. Specify whether the upgrade is on the utility side or facility side
- (D) Anticipated date of completion of electrical service upgrade necessary by the Electric Utility
- (2) Confidentiality of utility reports. An Electric Utility may designate specific utility report information as confidential or trade secret, and such information will be handled in accordance with title 17 CCR, section 91000.

## **2478.20 Original Equipment Manufacturer Reporting Requirements**

- (a) This section applies to TRU OEMs.
  - (1) After December 31, 2021, OEMs must provide the following information to CARB as described in section 2478.X(i) by the 1<sup>st</sup> of each month, a monthly production report to CARB with the information listed below for the previous calendar month for each TRU produced for sale in California, United States, Canada, and Mexico.
    - (A) OEMs must provide the following information for each TRU:
      1. TRU model name, as it appears on the unit label
      2. TRU serial number
      3. ETS serial number
      4. Refrigerant type
      5. Engine manufacturer
      6. Engine model, as it appears on the engine emissions label
      7. Engine model, as it appears on the serial number label, if different
      8. Engine family
      9. Engine serial number
      10. TRU zero-emission technology type (if applicable)
    - (2) Confidentiality of production reports. OEMs may designate specific production report information as confidential or trade secret, and such information will be handled in accordance with title 17 CCR, section 91000.

NOTE: Authority cited: sections [#####, ##### and #####], Health and Safety Code. Reference: section[s] [#####] [,#####] [, \_\_\_\_\_ and \_\_\_\_\_ ], Health and Safety Code.

## **2478.21 Recordkeeping**

- (a) This section applies to Applicable Facility Owners and TRU Owners.
  - (1) The Applicable Facility Owner or TRU Owner shall make records available to CARB at its request for audit to verify the accuracy of the records. In the

- event the records are not made available within 30 days of the request, CARB may assess penalties for noncompliance.
- (2) The TRU Owner must maintain the records for each piece of equipment subject to the reporting and record keeping requirements of sections XXXX for 3 years after it is retired, and for the overall fleet, for as long as the owner has a fleet, or December 31, 202X, whichever is earlier. If fleet ownership is transferred, the seller must transfer the fleet records to the buyer. Dealers must maintain records of the disclosure of regulation applicability required by section XXXX for three years after the sale.
  - (3) The Applicable Facility Owner must maintain the records for XX subject to the reporting and record keeping requirements of sections XXXX for 3 years. If Applicable Facility ownership is transferred, the seller must transfer the Applicable Facility records to the buyer.

NOTE: Authority cited: sections [#####, ##### and #####], Health and Safety Code. Reference: section[s] [#####] [,#####] [, \_\_\_\_\_ and \_\_\_\_\_ ], Health and Safety Code.

#### **2478.22 Applicable Facility SOTL Compliance Extension**

- (a) The Executive Officer may grant an Applicable Facility Owner an annual extension in compliance, up to a maximum of two years, to the SOTL compliance deadline (“SOTL Compliance Extension”) specified in section 2478.X due to unforeseen, temporary, or extenuating circumstances outside of the Applicable Facility owner’s control that prevents the installation of Zero-Emission Fueling Infrastructure, provided the following conditions are met:
  - (1) The Applicable Facility Owner must have ordered the Zero-Emission Fueling Infrastructure no later than X months before the compliance date;
  - (2) The Applicable Facility Owner has reported the facility to CARB, as required by section 2478.X.
  - (3) The Applicable Facility Owner has submitted a SOTL compliance plan, as required by section 2478.X.
  - (4) The Applicable Facility Owner shall submit an application to the Executive Officer at least 6 months prior to the compliance deadline that includes the following information:
    - (A) Start and end dates of extension period. Documentation that supports the finding of a circumstance as requiring an extension.
    - (B) Circumstances beyond the Applicable Facility’s control may include:
      1. A delay in the manufacture and shipment of infrastructure equipment
      2. A delay in obtaining construction permit(s)
      3. A delay in obtaining power from a utility
      4. A delay due to private financing
      5. A delay in the installation of infrastructure

6. A natural disaster
  7. The discovery of archeological, historical, or tribal cultural resources under the California Environmental Quality Act
- (C) If requesting an extension for the whole facility infrastructure, documentation why a partial infrastructure installation is not viable
- (D) Efforts taken to mitigate future need for the extension.
- (5) The Applicable Facility Owner may, 60 days prior to the expiration of the extension, apply for an additional one-year extension. In such a case, the Applicable Facility Owner shall once again be required to demonstrate that the conditions set forth in section 2478.22(a)(4) above have been met.
- (6) The Applicable Facility Owner may, 60 days prior to the expiration of the second extension, apply for an additional compliance extension beyond the first two annual extensions due to a delay in obtaining power from a utility. In such a case, the Applicable Facility Owner shall once again be required to demonstrate that the conditions set forth in section 2478.22(a)(4) above have been met.
- (b) All applications shall be made available to the public on CARB’s website within X days of being received.
- (c) Within 30 days after an application has been received, the Executive Officer shall take final action to approve, modify, or deny the application and notify the applicant accordingly. If the application is denied or modified, the Executive Officer shall state the reasons for the denial or modification in the notification. The notification to the applicant and approved plan, if applicable, shall be made available to the public on CARB’s website.
- (d) Any Applicable Facility with a valid SOTL Compliance Extension is not considered an Applicable Facility for purposes of sections 2478.10 (Stationary Operating Time Limit Requirements), or 2478.17 (Vehicle Owner Requirements), 2478.18 (Driver Requirements).

NOTE: Authority cited: sections [#####, ##### and #####], Health and Safety Code. Reference: section[s] [#####] [,#####] [, \_\_\_\_\_ and \_\_\_\_\_ ], Health and Safety Code.

**2478.23 Safe Passage for Noncompliant Equipment Traveling in California**

- (a) TRU Owners may receive a safe passage permit to travel on California highways with a specific non-compliant TRU, provided the following conditions are met:
- (1) The purpose of traveling on California highways is to take the non-compliant equipment to a dealer or installer to bring the equipment into compliance.
  - (2) Only one permit shall be allowed per TRU.

- (3) The TRU must not be operating (with the engine running) while in a non-compliant state in California;
- (4) No temperature-sensitive products shall be transported in a vehicle with a non-compliant TRU.
- (b) The owner must submit an application for a safe passage permit to CARB as described in section 2478.26.
  - (1) Applications for safe passage permits must include the following information:
    - (A) Owner's name
    - (B) Business name (if different)
    - (C) Owner's street address, state, zip code
    - (D) Contact person's name
    - (E) Contact person's business phone number
    - (F) Date(s) transport will take place
    - (G) Statement that the reason for transporting the non-compliant equipment on California highways is strictly to take the non-compliant equipment to a dealer or installer to bring the equipment into compliance
    - (H) TRU serial number
    - (I) If unit is installed on a truck or trailer, provide:
      - 1. Vehicle Identification Number (VIN)
      - 2. Vehicle license number, country of issuance, and state or province of issuance
      - 3. Unique Bureau International de Container (BIC) Code, if trailer is multimodal
    - (J) If unit is installed on refrigerated railcar, provide railcar reporting mark
    - (K) If unit is installed on domestic refrigerated shipping container, provide unique BIC Code
    - (L) If unit is a TRU Gen Set, provide unique BIC Code
    - (M) Physical address of starting location or point of entry into California
    - (N) Dealer's or installer's business name and physical address where compliance technology will be installed.
- (c) The TRU Owner shall receive a decision within 15 days of CARB receiving the completed application.
- (d) The TRU Owner must provide the Driver with a copy of the safe passage permit that has been approved.
- (e) During transit on California highways, the Driver must, upon request:
  - (1) Show an inspector that no temperature-sensitive products are being transported
  - (2) Present to the inspector an approved safe passage permit for the non-compliant TRU
  - (3) Allow the inspector to inspect TRU to confirm the permit applies to the non-compliant equipment

- (f) All circumstances at the time of inspection must be consistent with the safe passage permit.
- (g) Non-compliant TRUs on refrigerated railcars that are not operated while traveling through California shall be exempted provided the Executive Officer has previously approved a written compliance plan submitted by the railway carrier.
  - (1) The written compliance plan must clearly identify the monitoring, recordkeeping, and reporting procedures that the railway carrier will implement and utilize to not allow non-compliant TRUs on refrigerated railcars to operate while in California.
  - (2) The compliance plan shall establish monitoring, recordkeeping, and reporting procedural requirements that the Executive Officer finds are sufficient to identify non-compliant TRUs being moved on railways in California and to not allow such TRUs to operate at any time while they are present within California.
    - (A) The compliance plan must include, without limitation: the procedure for tracking and recording routes and dates of travel within California of each non-compliant TRU, information identifying each non-compliant TRU (e.g. the railway carrier's reporting mark followed by the one-to-six-digit number which together uniquely identifies the railcar), a description of the automated monitoring and recordkeeping system for reporting the TRU "engine on" or "engine off" status, and the procedure for expeditiously reporting violations observed and/or discovered by the railway carrier.
    - (B) A statement is required, signed by an authorized railroad representative, declaring that the railway carrier agrees to be bound by the compliance plan.
  - (3) Within 30 days of the submission of a complete compliance plan, the Executive Officer shall approve or disapprove the compliance plan based on the information submitted by a railway carrier as specified in sections 2477.3(e)(2) and (3) above, and based on good engineering judgment. If the compliance plan is disapproved, the Executive Officer shall inform the railway carrier of the reasons for the disapproval.
  - (4) The railway carrier may revise the compliance plan to address the basis for disapproval and resubmit the compliance plan for EO approval or disapproval. (5) The railway carrier shall maintain records collected pursuant to the approved compliance plan for a period of at least three (3) years and make these records available to CARB upon request. 5 (f) Railway carriers are exempt from the owner or owner/operator requirements of section 2477.5 for any TRU that is not owned by the railway carrier, provided: (1) The TRU is not leased by the railway carrier, in which case, section 2477.12 applies; or (2) The railway carrier or its agent is only fueling, monitoring to assure proper operation, keeping in operation, arranging repairs at the request of the owner, or restarting the TRU engine after an unscheduled shut-down or repair, and is not performing any of the other activities listed under the definition of "operate".

NOTE: Authority cited: sections [#####, ##### and #####], Health and Safety Code. Reference: section[s] [#####] [,#####] [, \_\_\_\_\_ and \_\_\_\_\_ ], Health and Safety Code.

**2478.24 Requirements that apply to the sale, rental, or leasing of TRUs**

- (a) No person shall sell, rent, or lease a new or used TRU for operation in the State of California that does not meet all the requirements of this regulation.
- (b) All emissions and refrigerant labels must be intact prior to sale. If a label is missing, the seller must replace the label prior to sale.
- (c) Any person residing in California selling a TRU subject to this regulation must provide the following disclosure in writing to the buyer on the bill of sale, sales contract addendum, or invoice, “A transport refrigeration unit operated in the State of California may be subject to the California Air Resources Board Transport Refrigeration Unit Regulation. For more information, please visit the California Air Resources Board website at <http://www.arb.ca.gov/XXX>.”

NOTE: Authority cited: sections [#####, ##### and #####], Health and Safety Code. Reference: section[s] [#####] [,#####] [, \_\_\_\_\_ and \_\_\_\_\_ ], Health and Safety Code.

**2478.25 Compliance Extension Based on Delays Due to Private Financing, Equipment Manufacture Delays, or Installer Delays**

- (a) TRU Owners may receive a one-time, maximum four month extension to the compliance dates set forth in sections 2478.X, 2478.X, and 2478.X, provided certain conditions are met:
  - (1) The owner must have ordered the compliant TRU from the manufacturer no later than twelve months before the compliance date
  - (2) The TRU or TRU that is being replaced is registered with CARB;
  - (3) An extension application is submitted no less than 2 months before the compliance deadline that explains in detail why a compliance extension is needed and how much additional time to comply is needed, including:
    - (A) If delivery is the cause for delay, explain the status, and provide documentation from the manufacturer to demonstrate this is true, along with an updated delivery schedule.
    - (B) If installation is the cause for delay, report the date that compliance technology was delivered, explain the installation status and provide documentation from the installer to demonstrate the facts, along with an updated installation schedule.
    - (C) If there are other circumstances causing the delay, such as financing, explain the status and provide documentation from the financier to demonstrate this is true, along with an updated schedule.



- (b) The TRU Owner must submit an application for compliance extension to CARB as described in section 2478.26.

NOTE: Authority cited: sections [#####, ##### and #####], Health and Safety Code. Reference: section[s] [#####] [,#####] [, \_\_\_\_\_ and \_\_\_\_\_ ], Health and Safety Code.

**2478.26 Submittals to CARB**

- (a) All applications, reports, and plans submitted to CARB shall:
  - (1) Be written in the English language;
  - (2) Attest that the information submitted is true, accurate and complete, signed by the Responsible Official under penalty of perjury; and
  - (3) Be submitted to CARB in writing to:

CHIEF, TRANSPORTATION AND TOXICS DIVISION  
CALIFORNIA AIR RESOURCES BOARD  
1001 I STREET  
SACRAMENTO, CA 95814
  - (4) CARB may also allow online submittal to a CARB reporting system or e-mail with instructions on the CARB website.

**2478.27 Non-Compliance and Penalties**

- (a) Non-compliance
  - (1) Any Facility Owner or Operator that violates section 2478.10(a)(4) (Stationary Operating Time Limit Requirements) is strictly liable for a penalty of XXX. ETS data shall be considered prima facie evidence for a SOTL violation. Evidence of fault on the part of the TRU Operator, TRU Owner, or other entity shall not be considered a mitigating circumstance for assessing the penalty. Any Facility Owner or Operator that violates section 2478.10(4) negligently or intentionally shall additionally be subject to the penalty provisions set forth in this section. Each distinct visit by a TRU, as defined by the TRU entering and then leaving the Applicable Facility Boundary, constitutes a separate potential offense for purposes of this section.
  - (2) Any TRU Owner or Operator that violates section 2478.10(a)(5) (Stationary Operating Time Limit Requirements) is strictly liable for a penalty of XXX. ETS data shall be considered prima facie evidence for a SOTL violation. Evidence of fault on the part of the Applicable Facility Operator, Applicable Facility Owner, or other entity shall not be considered a mitigating circumstance for assessing the penalty. Any TRU Owner or Operator that violates section 2478.10(4) negligently or intentionally shall

additionally be subject to the penalty provisions set forth in this section. Each time the TRU visits an Applicable Facility, as defined by the TRU entering and then leaving the Applicable Facility Boundary, constitutes a separate potential offense for purposes of this section.

- (3) All persons, as defined in subsection 2478.X, found to be in violation of title 13, CCR, sections 2478 through 2478.XX may be cited and subject to the penalty provisions set forth in Health and Safety Code sections 39674, 39675, 42400 et seq., 42402 et seq., 42410, and 43016.
  - (4) Any person who fails to comply with the general requirements of this regulation, who fails to submit any information, report, or statement required by this regulation, or who knowingly submits any false statement or representation in any application, report, statement, or other document filed, maintained, or used for the purposes of compliance with this regulation may be subject to civil or criminal penalties under sections 39674, 39675, 42400, 42400.1, 42400.2, 42402.2, and 43016, of the Health and Safety Code.
  - (5) Each day during any portion of which a violation occurs is a separate offense.
  - (6) Each TRU found in violation of sections 2478.XX through 2478.XX is a separate offense.
  - (7) Each Applicable Facility found in violation of sections 2478.XX through 2478.XX is a separate offense.
- (b) Tampering
- (1) No person shall operate or leave standing upon a highway a TRU that is required to meet the emissions standard under section XX or any other TRU required by any other state law or any rule or regulation adopted pursuant to that law, unless the TRU is correctly installed and in operating condition. No person shall disconnect, modify, or alter any component of the TRU that changes the emissions.
  - (2) No person shall install, sell, offer for sale, or advertise any device, apparatus, or mechanism intended for use with, or as a part of, a required TRU pollution control device or system that alters or modifies the original design or performance of the motor vehicle pollution control device or system.
  - (3) If the court finds that a person has willfully violated this section, the court shall impose the maximum fine that may be imposed in the case, and no part of the fine may be suspended.
  - (4) “Willfully,” as used in this section, has the same meaning as the meaning of that word prescribed in Section 7 of the Penal Code.
  - (5) No person shall operate a vehicle after notice by a CARB inspector that the vehicle is not equipped with the required certified TRU control device correctly installed in operating condition, except as may be necessary to return the TRU to the residence or place of business of the owner or driver

or to a garage, until the TRU has been properly equipped with such a device.

- (6) The notice to appear issued or complaint filed for a violation of this section shall require that the person to whom the notice to appear is issued, or against whom the complaint is filed, produce proof of correction pursuant to Section 40150 or proof of exemption pursuant to Section XXXX.
  - (7) No person shall remove, tamper with, or turn off an ETS installed by the OEM.
  - (8) This section shall not apply to an alteration, modification, or modifying device, apparatus, or mechanism found by resolution of the State Air Resources Board to do the following:
    - (A) To result in emissions from the modified or altered TRU that are at levels that comply with existing state or federal standards for that model-year of the TRU being modified or converted.
- (c) Right of Entry
- (1) For the purpose of inspecting TRUs and applicable facilities subject to this regulation and their records to determine compliance with this regulation, an agent or employee of CARB, upon presentation of proper credentials, has the right to enter any facility (with any necessary safety clearances) where equipment is located or records are kept.

NOTE: Authority cited: sections [#####, ##### and #####], Health and Safety Code. Reference: section[s] [#####] [,#####] [, \_\_\_\_\_ and \_\_\_\_\_ ], Health and Safety Code.

#### **2478.28 Relationship to Other Law**

Nothing in this section allows TRUs to operate in violation of other applicable law, including, but not limited to:

- (a) California Vehicle Code.
- (b) California Health and Safety Code.
- (c) Any applicable ordinance, rule, or requirement as stringent as, or more stringent than, the requirements of this regulation.

NOTE: Authority cited: sections [#####, ##### and #####], Health and Safety Code. Reference: section[s] [#####] [,#####] [, \_\_\_\_\_ and \_\_\_\_\_ ], Health and Safety Code.

#### **2478.29 Authority to Request Additional Information**

The Executive Officer may request that additional information be submitted as part of the review of any extension application, exemption, or other action that delays or defers a compliance date or action.

NOTE: Authority cited: sections [#####, ##### and #####], Health and Safety Code. Reference: section[s] [#####] [,#####] [, \_\_\_\_\_ and \_\_\_\_\_ ], Health and Safety Code.

**2478.30 Severability.**

If any subsection, paragraph, subparagraph, sentence, clause, phrase, or portion of this regulation is, for any reason, held invalid, unconstitutional, or unenforceable by any court of competent jurisdiction, such portion shall be deemed as a separate, distinct, and independent provision, and such holding shall not affect the validity of the remaining portions of the regulation.

NOTE: Authority cited: sections 39600, 39601, 39618, 39658, 39659, 39666, 39667, 43013, 43018, Health and Safety Code. Reference: sections 39618, 39650, 39658, 39659, 39666, 39667, 39674, 39675, 42400, 42400.1, 42400.2, 42400.3.5, 42402, 42402.2, 42410, 40717.9, 43013, and 43018, Health and Safety Code.

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