

**DRAFT PROPOSED FINAL REGULATION ORDER**

**PROPOSED AMENDMENTS TO THE REGULATIONS TO REDUCE EMISSIONS FROM DIESEL ENGINES ON COMMERCIAL HARBOR CRAFT OPERATED WITHIN CALIFORNIA WATERS AND 24 NAUTICAL MILES OF THE CALIFORNIA BASELINE**

Amended section 93118.5, title 17, chapter 1, subchapter 7.5, California Code of Regulations (CCR), to read as follows:

**Section 93118.5. Airborne Toxic Control Measure for Commercial Harbor Craft.**

**(a) Purpose, Intent and Section Summary.**

The purpose and intent of this section is to reduce diesel particulate matter (PM), oxides of sulfur (SO<sub>x</sub>), and oxides of nitrogen (NO<sub>x</sub>), and greenhouse gas (GHG) emissions from diesel propulsion and auxiliary engines on harbor craft that operate in any of the waters subject to this section (“Regulated California Waters”). This section implements provisions of the Goods Movement Emission Reduction Plan, adopted by the California Air Resources Board (ARB or CARB) in April 2006, to reduce emissions and health risk from ports and the movement of goods in California. This Control Measure also ensures that commercial harbor craft do not create excess visible emissions. California’s commercial harbor craft operations are largely situated in the vicinity of at-risk communities that directly benefit from localized reductions of NO<sub>x</sub> and PM emissions. This contributes to meeting community health goals set forth in Assembly Bill 617 (Garcia, Stats. 2017, ch. 136). Furthermore, NO<sub>x</sub> and PM emission reductions contribute to meeting California’s State Implementation Plan obligations for attainment, and further CARB’s obligations under sections 39660 et seq. and 43013 et seq. of the Health & Safety Code. Additionally, use of dock power has a benefit of simultaneously reducing toxic, criteria pollutant, and GHG emissions. This contributes to meeting California’s GHG emission reduction targets established in Assembly Bill 32 (Nunez, Stats. 2006, ch. 488) and Senate Bill 32 (Pavley, Stats. 2016, ch. 249).

For purposes of this regulation, “this section” refers to “Section 93118.5” in its entirety.

**Section Summary.**

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**(b) Applicability.**

- (1) Except as provided in subsections (b)(6) and (c), this section applies to any person who sells, supplies, offers for sale, purchases, owns, operates, leases, charters, or rents any new or in-use diesel fueled harbor craft that is operated in any of the Regulated California Waters. Commencing January 1, 2023, this section applies to any person who sells, supplies, offers for sale, purchases, owns, operates, leases, charters, or rents any new or in-use harbor craft that is operated in any of the Regulated California Waters.
- (2) *Engine Subject to Multiple CARB Regulations.* In the event an engine that is permanently affixed to a harbor craft is subject to the requirements of this section, and either:
- (A) the regulation for portable compression ignition (CI) engines and equipment units (sections 93116-93116.5, title 17, California Code of Regulations (CCR)), or
  - (B) the regulation for in-use off-road diesel vehicles (sections 2420-2427, title 13, CCR), the requirements of this section shall supersede the requirements of either of the regulations cited in 93118.5(b)(2)(A) or 93118.5(b)(2)(B) above.
- (3) This section applies to towboats and tugboats engaged in or intending to engage in the service of pulling, pushing, or hauling alongside tank vessels or tank barges.
- (4) Notwithstanding the provisions of title 13, CCR, section 2299.1, and title 17, CCR, sections ~~93118~~93130 through 93130.20, this section shall apply to any ocean-going tugboats and towboats and shall supersede the requirements of 13 CCR 2299.1 and 17 CCR ~~93118~~93130 through 93130.20 in their entirety for ocean-going tugboats and towboats. Commencing January 1, 2023, this section applies to ATB tug-barge combinations, and petrochemical tank barges. For purposes of this ~~paragraph~~section, “ocean-going tugboats and towboats” shall

mean tugboats and towboats with a “registry” (foreign trade) endorsement on ~~its~~their United States (U.S.) Coast Guard certificates of documentation, or tugboats and towboats that are registered under the flag of a country other than the United States.

- (5) Nothing in this section shall be construed to amend, repeal, modify, or change in any way any other applicable State, U.S. Coast Guard, or other federal requirements. Any person subject to this section shall be responsible for ensuring compliance with both U.S. Coast Guard regulations and the requirements of this section and any other applicable State and federal requirements, including but not limited to, obtaining any necessary approvals, exemptions, or orders from the U.S. Coast Guard.
- (6) This section shall not apply to any engine and equipment that fall within the scope of the preemption of Section 209(e)(1)(A) of the Federal Clean Air Act (42 United States Code (U.S.C.) 7543(e)(1)(A)) and as defined by regulation of the U.S. Environmental Protection Agency (U.S. EPA).

**(c) Exemptions.**

All or portions of this section do not apply to the following, as provided below, but vessels that are partly or wholly exempt from this section may be subject to other State or federal regulations and requirements. A person subject to such other State or federal regulations and requirements is solely responsible for ensuring the vessel complies with those regulations and requirements. All other portions of this section shall apply unless otherwise specified:

- (1) The requirements of this section do not apply to harbor craft voyages that are comprised of continuous and expeditious navigation through any of the Regulated California Waters for the purpose of traversing such bodies of water without entering California internal or estuarine waters or calling at a port, roadstead, or terminal facility. “Continuous and expeditious navigation” includes stopping and anchoring only to the extent such stopping and anchoring are required by the U.S. Coast Guard; rendered necessary by force majeure or distress; or made for the purpose of rendering assistance to persons, ships, or aircraft in danger or distress. This exemption does not apply to the passage of a harbor craft that engages in any of the prejudicial activities specified in United Nations Convention on the Law of the Seas (UNCLOS) 1982, Article 19, subpart 2. Further, notwithstanding any U.S. Coast Guard mandated stops or stops due to force majeure or the rendering of assistance, this exemption does not apply to a vessel that was otherwise scheduled or intended

to enter California internal or estuarine waters or call at a port, roadstead or terminal facility;

- (2) ~~Except as provided in Paragraph (3) below,~~ Except as provided in subparagraph (c)(3) below during the time period prior to January 1, 2023, a temporary replacement vessel is exempt only from the requirements set forth in subsection (e)(6.1) and only upon written approval by the CARB's Executive Officer (E.O.). All other provisions in this section shall apply to a temporary replacement vessel subject to this paragraph. An owner or operator, who has or will have a vessel taken out of service, may apply in writing to the E.O. to operate a temporary replacement vessel pursuant to the following:
- (A) The E.O. shall approve or disapprove such a request within ~~30~~45 days of receipt. The E.O. shall not unreasonably withhold approval of the request to operate the temporary replacement vessel;
  - (B) If the approval is granted, the temporary replacement vessel's operating time will be specified in the approval by the E.O., along with any other terms, conditions, or requirements the E.O. deems necessary, but in no case shall the approved operating time in Regulated California Waters for a specific temporary replacement vessel exceed one year total for any single vessel that is temporarily replaced; ~~and~~
  - (C) No temporary replacement vessel exemptions shall be approved for a vessel that is taken out of service more than 12 months in any 24-month period or if the E.O. cannot determine the length of time a vessel has been taken out of service within any 24-month period; and
  - (D) On and after January 1, 2023, both main and auxiliary engines on temporary replacement vessels must meet Tier 2 or newer marine or off-road emission standards.
- (3) This subparagraph is only applicable until December 31, 2022. A temporary replacement vessel used to replace a vessel that has its homeport in the South Coast Air Quality Management District (SCAQMD) is exempt only from the compliance dates set forth in Table 8.1 of subsection (e)(6) and only upon written approval from the E.O. All other provisions in this section, including but not limited to, the compliance dates specified in Table 7.1, Table 9.1, and Table 10.1 of subsection (e)(6), shall apply to a temporary replacement vessel subject to this paragraph. An owner or operator, who has or will have a vessel taken out of service, may apply in writing to the E.O. to operate a temporary replacement vessel pursuant to the following:

- (A) The E.O. shall approve or disapprove such a request within 15 days of receipt. The E.O. shall not unreasonably withhold approval of the request to operate the temporary replacement vessel;
  - (B) If the approval is granted, the temporary replacement vessel's operating time will be specified in the approval by the E.O., along with any other terms, conditions, or requirements the E.O. deems necessary, but in no case shall the approved operating time in Regulated California Waters for a specific temporary replacement vessel exceed one year total for any single vessel that is temporarily replaced; and
  - (C) No temporary replacement vessel exemptions shall be approved for a vessel that is taken out of service more than 12 months in any 24-month period or if the E.O. cannot determine the length of time a vessel has been taken out of service within any 24-month period;
- (4) A temporary emergency rescue/recovery vessel is exempt from this section in its entirety;
  - (5) A recreational vessel is exempt from this section in its entirety;
  - (6) An ocean-going vessel, except for ocean-going tugboats and towboats as provided in subsection (b)(4), is exempt from this section in its entirety; on and after January 1, 2023, petrochemical tank barges and articulated tug barges are not exempt from this section;
  - (7) A registered historic vessel is exempt only from subsection (e)(6) and (e)(6.1);
  - (8) A U.S. Coast Guard vessel is exempt from this section in its entirety;
  - (9) A military tactical support vessel is exempt from this section in its entirety;
  - (10) An engine rated less than 50 horsepower (hp) is exempt only from subsection (e)(6); on and after January 1, 2023, engines of all power ratings on regulated in-use vessels including those rated less than 50 hp are subject to the requirements in subsection (e)(6.1);
  - (11) This subparagraph is only applicable until December 31, 2022. Near-Retirement Vessels. A harbor craft is exempt from the requirements of subsection (e)(6)(C) and (e)(6)(D) if all of the following criteria have been met:
    - (A) the vessel is scheduled to be taken out of service and retired permanently;
    - (B) the vessel is actually taken out of service and retired on or before the

- retirement date scheduled under (A) above; and
- (C) the vessel has an engine with a compliance date, as set forth in subsection (e)(6)(D), that is within one year of the vessel's scheduled retirement date under (A) above.

Operation of a vessel subject to this provision after the scheduled retirement date or the engine's compliance date, whichever occurs later, is a separate violation of this section for each and every engine and each and every day of operation during which an engine on the vessel does not meet the requirements of subsection (e)(6)(C) or other parts of this section.

(12) On and after January 1, 2023, a designated emergency use vessel is exempt only from subsection (e)(6.1);

(13) A commercial fishing vessel is exempt only from subsection (e)(6), (e)(6.1) and (l);

**(d) Definitions.**

For purposes of this section, the definitions of Health and Safety Code (H&S) sections 39010 through 39060 shall apply except as otherwise specified in this section:

- (1) "Air District" means one of the local air pollution control districts (APCDs) or air quality management districts (AQMDs) established under H&S section 40000 et seq.
- (2) "Alternative Diesel Fuel" means any fuel used in a diesel engine that is not commonly or commercially known, sold, or represented by the supplier as diesel fuel No. 1-D or No. 2-D, pursuant to the specifications in American Society for Testing and Materials (ASTM) D975-81, "Standard Specification for Diesel Fuel Oils," as modified in May 1982, which is incorporated herein by reference, and does not require engine or fuel system modifications for the engine to operate, although minor modifications (e.g., recalibration of the engine fuel control) may enhance performance. Examples of alternative diesel fuels include, but are not limited to, biodiesel and biodiesel blends not meeting the definition of CARB diesel fuel; Fischer-Tropsch fuels; emulsions of water in diesel fuel; and fuels with a fuel additive, unless:
- (A) the additive is supplied to the engine fuel by an on-board dosing mechanism, or
- (B) the additive is directly mixed into the base fuel inside the fuel tank of the engine, or

- (C) the additive and base fuel are not mixed until engine fueling commences, and no more additive plus base fuel combination is mixed than required for a single fueling of a single engine.
- (3) “Alternative Fuel” means natural gas, propane, ethanol, methanol, gasoline, hydrogen, electricity, or other technologies that do not meet the definition of CARB diesel or alternative diesel fuel. “Alternative fuel” also means any mixture that only contains these fuels.
- (4) “Annual Hours of Operation” means the total number of hours, rounded to the nearest whole hour, a vessel engine is used for all commercial purposes in Regulated California Waters in the calendar year (January 1 to December 31) immediately prior to the engine’s applicable compliance date set forth in subsection (e)(6)(D) and subsection (e)(6.1)(D). For example, if a vessel is used for commercial fishing and commercial non-fishing purposes, the total number of hours combined for both uses shall be the total annual hours of operation for that vessel. Any use of a commercial vessel for non-commercial purposes must be documented based on recordkeeping requirements in subsection (m)(4), otherwise the annual hours of operation will be based on records from the non-resettable hour meter.
- ~~(5)~~ “Articulated Tug Barge (ATB)” means a petrochemical tank barge that is mechanically linked with a paired tug that functions as a tug-barge combination.
- ~~(56)~~ “Auxiliary Engine” means an engine designed primarily to provide power for uses other than propulsion.
- ~~(67)~~ “Averaging” means an exchange of excess reduced regulated emissions among engines on vessels in the same owner’s or operator’s fleet.
- ~~(8)~~ “Battery Plug-in Hybrid Propulsion System” means a harbor craft main propulsion system utilizing energy from a battery energy storage system periodically charged by an external energy source to provide power to an electric or internal combustion engine designed and intended for use in propelling a harbor craft vessel.
- ~~(79)~~ “Baseline” means the emissions level of a diesel engine using CARB diesel fuel as configured upon initial marine installation.
- ~~(810)~~ Prior to January 1, 2023, “Barge” means a vessel having a flat-bottomed rectangular hull with sloping ends, and built with or without a propulsion engine.



- (10.1) On and after January 1, 2023, “Barge” means a vessel either having a flat-bottomed rectangular hull with sloping ends or a vessel used to transport crude oil or petrochemical products, and built without a propulsion engine. Barges include but are not limited to deck barges, derrick or crane barges, dredging hopper barges, towed or pushed petrochemical tank barges, or barges operating as part of an ATB combination.
- ~~(911)~~ “California Air Resources Board (CARB) Diesel Fuel” means any diesel fuel that meets the specifications of vehicular diesel fuel, as defined in title 13 CCR, sections 2281, 2282, 2284, 2299, and title 17 CCR section 93116.
- ~~(102)~~ “California Baseline” means the mean lower low water line along the California coast, as shown on the following National Oceanic and Atmospheric Administration (NOAA) Nautical Charts as authored by the NOAA Office of Coast Survey, which are incorporated herein by reference:
- (A) Chart 18600, Trinidad Head to Cape Blanco (January 2002);
  - (B) Chart 18620, Point Arena to Trinidad Head (June 2002);
  - (C) Chart 18640, San Francisco to Point Arena (August 2005);
  - (D) Chart 18680, Point Sur to San Francisco (June 2005);
  - (E) Chart 18700, Point Conception to Point Sur (July 2003);
  - (F) Chart 18720, Point Dume to Purisima Point (January 2005); and
  - (G) Chart 18740, San Diego to Santa Rosa Island (March 2007).
- (13) “California Fish and Wildlife License Number” means an identification number assigned by the California Department of Fish and Wildlife, which displayed on vessels on contrasting background in a format of FG 12345.
- (14) “Call Sign Number” means a unique identifier to a vessel containing both characters and numbers most often used in radio transmissions.
- ~~(145)~~ “CARB” means the California Air Resources Board. CARB may also be referred to as “ARB.”
- ~~(126)~~ “Carbon Monoxide (CO)” is a colorless, odorless gas resulting from the incomplete combustion of hydrocarbon fuels.
- ~~(137)~~ “Category 1 engine” means any marine engine with a displacement of less than 5.0 liters per cylinder and with a maximum horsepower (hp) rating of 50 hp or greater.

- (148) "Category 2 engine" means any marine engine with a displacement of 5.0 to less than 30 liters per cylinder.
- (159) "Category 3 engine" means any marine engine with a displacement of greater than 30 liters per cylinder.
- (1620) "Certified marine engine" means an engine that is certified by U.S. EPA as meeting the requirements of title 40, Code of Federal Regulations (CFR), Part 94 or Part 1042.
- (1721) "Certified nonroad engine" means an engine that is certified by U.S. EPA as meeting the requirements of title 40, CFR, Part 89 or Part 1039.
- (22) "Charter" means an agreement or contract where one person or company rents, leases, hires, or uses commercial harbor craft vessels from another person or company to convey or transport goods or passengers.
- (1823) "Coast Guard Vessel" means any vessel or boat owned or operated by the U.S. Coast Guard, including, but not limited to, U.S. Coast Guard cutters and patrol boats that are used for law enforcement, defense operations, marine science, search and rescue missions, training missions, coastal surveillance, servicing aids to navigation, and marine environmental response.
- (24) "Commercial Passenger Fishing" means any coastal or offshore vessel used for sport fishing, charter fishing, or any other type of fishing activity where individuals other than the owners or operators of the vessel are onboard the vessel to perform fishing activities. Commercial passenger fishing vessels include but are not limited to operations that provide both day and overnight trips, including those that may voyage periodically in and out of Regulated California Waters to targeting highly migratory species.
- (1925) Prior to January 1, 2023, "Compliance Date" means the date by which time a vessel engine must meet the requirements set forth in subsection (e)(6)(C). The "compliance date" for a vessel engine is set forth in Table 7, Table 8, Table 9, or Table 10 in subsection (e)(6)(D), whichever is applicable.
- (25.1) On and after January 1, 2023, "Compliance Date" means the date by which time a vessel engine must meet the requirements set forth in subsection (e)(6.1)(C). The "compliance date" for a vessel engine is set forth in Table 11, Table 12, Table 13, or Table 14 in subsection (e)(6.1)(D), whichever is applicable.

- (206) Prior to January 1, 2023, “Crew and Supply Vessel” means a self-propelled vessel used for carrying personnel and/or supplies to and from off-shore and in-harbor locations (including, but not limited to, off-shore work platforms, construction sites, and other vessels).
- (26.1) On and after January 1, 2023, “Crew and Supply Vessel” means a self-propelled vessel used for carrying personnel and/or supplies to and from off-shore and in-harbor locations (including, but not limited to, off-shore work platforms, construction sites, islands, and other vessels).
- (247) “Date of Acquisition” means, for a vessel or engine subject to this regulation, the date of purchase as defined by the date shown on the front of the cashed check, the date of the financial transaction, or the date on the vessel or engine purchasing agreement, whichever is earliest of the three dates.
- (228) “Diesel Engine” means an internal combustion, compression-ignition (CI) engine, or pilot ignition engine with operating characteristics significantly similar to the theoretical diesel combustion cycle. The regulation of power by controlling fuel supply in lieu of a throttle is indicative of a compression ignition engine.
- (29) “Diesel Emission Control Strategy (DECS)” refers to a technology that reduces air pollution from diesel engine exhaust before it is emitted into the air.
- (30) “Diesel Exhaust Fluid (DEF)” means a liquid reducing agent (other than the engine fuel) used in conjunction with selective catalytic reduction to reduce NOx emissions. Diesel exhaust fluid is generally understood to be an aqueous solution of urea conforming to the specifications of International Organization for Standardization (ISO) 22241.
- (231) “Diesel Fuel” means any fuel that is commonly or commercially known, sold, or represented by the supplier as diesel fuel, including any mixture of primarily liquid hydrocarbons (HC) - organic compounds consisting exclusively of the elements carbon and hydrogen - that is sold or represented by the supplier as suitable for use in an internal combustion, compression-ignition engine.
- (2432) “Diesel-Fueled” means a diesel engine fueled in whole or part by diesel fuel.
- (2533) “Diesel Oxidation Catalyst (DOC)” means an emission control technology that employs a catalyst to promote oxidation processes in diesel exhaust gases, usually designed to reduce emissions of the organic fraction of diesel particulates, gas-phase HC, and CO.

- (2634) “Diesel Particulate Filter (DPF)” means an emission control technology that reduces diesel PM emissions in engine exhaust gases by trapping the particles in a flow filter substrate and periodically removes the collected particles by either physical action or by oxidizing (burning off) the particles in a process called regeneration.
- (2735) “Diesel Particulate Matter (Diesel PM)” means the particles found in the exhaust of diesel engines, which may agglomerate and adsorb other species to form structures of complex physical and chemical properties.
- (36) “Diesel System” means a system, including diesel engines and diesel particulate filters, used to meet CARB’s performance standards set forth in subsection (4.1).
- (2837) “Direct Control” means owning, operating, having a contract, lease, or other arrangement to operate a harbor craft. For facilities, “Direct Control” means to control the affairs of facility operations, which includes but is not limited to collecting payment from independent operators for use of dock space, using facility property to moor, dock, service, or maintain a person’s own vessels, and being responsible for the majority of commercial activity at a given location.
- (38) “Dock Power” refers to electrical power provided by either the electric utility or by distributed generation to a vessel at dock that is sufficient to fully power the vessel house load, therefore allowing the vessel to shut down all auxiliary diesel generators.
- (239) “Dredge” means a vessel designed to remove earth from the bottom of waterways, by means of including, but not limited to, a scoop, a series of buckets, or a suction pipe. Dredges include, but are not limited to, hopper dredges, clamshell dredges, or pipeline dredges.
- (40) “Designated Emergency Use Vessel” means a self-propelled vessel that is used to perform duties such as fire/rescue, or policed involved emergency operations as its primary specified vocation reported to CARB. For the purposes of this section, vessels responsible for spill responses are not designated emergency use vessels.
- (41) “Engine Family” means an identifier assigned by the United States Environmental Protection Agency (U.S. EPA) or CARB to every engine certified to Tier 1 emission standards or higher. Engine family names generally contain either 11 to 12 digits for off-road or marine certified engines.

- (3042) "Emission Control Strategy" means any device, system, or strategy employed to reduce emissions from an engine, including, but not limited to, diesel oxidation catalysts, selective catalytic reduction systems, diesel particulate filters, alternative diesel fuels, water emulsified fuels, and any combination of the above.
- (43) "Escort Tugboats" means a tugboat with a primary vocation involving intercepting and escorting ATBs, or any ocean-going vessel entering or departing Regulated California Waters with the purpose of providing maneuvering or stopping assistance in case of loss of propulsion or steering power while in-route to or from docks and terminals. Escort tugs will typically work with ship assist harbor tugs to dock or undock their escorted ATBs or ocean-going vessels. Escort tugs may also stay with ATBs or ocean-going tanker vessels while they are offloading or loading petrochemical product for fire suppression assistance or emergency undocking. Certificated escort tug boats are compliant with the requirements of Title 14, California Code of Regulations, Subdivision 4 Office of Spill Prevention and Response, Chapters 1-8.
- (3144) "Estuarine Waters" means an arm of the sea or ocean that extends inland to meet the mouth of a river.
- (3245) "Excursion Vessel" means a self-propelled vessel that transports passengers for purposes including, but not limited to, dinner cruises; harbor, lake, or river tours; scuba diving, or parasailing expeditions; any type of for-hire charters for pleasure purposes; and whale watching tours. "Excursion Vessel" does not include crew and supply vessels, ferries, and recreational vessels.
- (3346) "Executive Officer" means the Executive Officer (E.O.) of the California Air Resources Board or his/her designee.
- (47) "Facility" means, but is not limited to, any port, terminal, marina, harbor, and land with docks that accepts payment for allowing a commercial harbor craft to dock or moor.
- (48) "Facility Owner/Operator" means any person or company in direct control of daily facility operations and if applicable, responsible for the collection of commercial harbor craft vessel operators compensation to dock or moor.
- (49) "Facility Tenant" means a commercial harbor craft vessel which docks or moors for seven (7) or more days in a calendar month in a facility.

(3450) "Family Emission Limit (FEL)" means an emission level that is declared by the manufacturer to serve in lieu of an emission standard for certification purposes and for the averaging, banking, and trading program, as defined in title 13, California Code of Regulations, section 2423 or 40 CFR Parts 89.112(d), or 1039.101, as they existed on April 27, 2010.

(351) Prior to January 1, 2023, "Ferry" means a harbor craft having provisions only for deck passengers or vehicles, operating on a short run, on a frequent schedule between two points over the most direct water route, and offering a public service of a type normally attributed to a bridge or tunnel.

(51.1) On and after January 1, 2023, "Ferry" means a harbor craft having provisions only for deck passengers or vehicles, operating between two points over the most direct water route, and offering a public service of a type normally attributed to a bridge or tunnel. "Ferry" also includes vessels operated by public or private companies to transport passengers commercially, on both regularly scheduled or on-demand bases, which is not for pleasure. Ferry vessels include, but are not limited to, vessels commonly referred to as water taxis and any vessel subject to Vessel Common Carrier requirements set forth by the California Public Utilities Commission.

(3652) Prior to January 1, 2023, "Fishing Vessel" means a self-propelled vessel that is either:

- (A) a commercial vessel dedicated to the search for, and collection of, fish for the purpose of sale at market or directly to a purchaser(s), or
- (B) a charter vessel used for hire by the general public and dedicated to the search for and collection of, fish for the purpose of general consumption.

(52.1) On and after January 1, 2023, "Fishing Vessel" means a self-propelled vessel that is a commercial vessel dedicated to the search for, and collection of, fish for the purpose of sale at market or directly to a purchaser(s). For the purpose of this section, "fishing vessel" and "commercial fishing" are used interchangeably, and are separate from "commercial passenger fishing vessels".

(3753) "Fleet" means the total number of harbor craft owned, rented, chartered, or leased by an owner or operator in an air district or distinct locale within Regulated California Waters or the statewide population of a specific vessel type.

(54) “Freight Regulations Reporting System (FRRS)” is an online reporting system that vessel owners/operators and facility owners can use to meet the reporting requirements of the regulation.

(3855) “Fuel Additive” means any substance designed to be added to fuel or fuel systems or other engine-related engine systems such that it is present in-cylinder during combustion.

(3956) Prior to January 1, 2023, “Harbor Craft” (also called “Commercial Harbor Craft”) means any private, commercial, government, or military marine vessel including, but not limited to, passenger ferries, excursion vessels, tugboats, ocean-going tugboats, towboats, push-boats, crew and supply vessels, work boats, pilot vessels, supply boats, fishing vessels, research vessels, U.S. Coast Guard vessels, hovercraft, emergency response harbor craft, and barge vessels that do not otherwise meet the definition of ocean-going vessels or recreational vessels.

(56.1) On and after January 1, 2023, “Harbor Craft” (also called “Commercial Harbor Craft”) means any private, commercial, government, or military marine vessel including, but not limited to, passenger ferries, excursion vessels, tugboats, ocean-going tugboats, articulated tug barges, petrochemical tank barges, towboats, push-boats, crew and supply vessels, work-boats, pilot vessels, supply boats, fishing vessels, research vessels, U.S. Coast Guard vessels, hovercraft, emergency response harbor craft, and barge vessels that do not otherwise meet the definition of ocean-going vessels or recreational vessels.

(4057) Prior to January 1, 2023, “Homeport” means the port in which a vessel is registered or permanently based.

(57.1) On and after January 1, 2023, “Homeport” means the facility in which a vessel is based within Regulated California Waters. In cases where vessels dock or moor at multiple facilities, for the purpose of this section, the homeport will be the facility where the vessel is based most often within Regulated California Waters.

(58) “Hydrocarbon (HC)” means the hydrocarbon group on which the emission standards are based for each fuel type, as described in 40 Code of Federal Regulations (CFR) §1042.101(d) and §1042.104(a).

(59) “Hydrogen Fueling Infrastructure” means the necessary infrastructure required to safely transfer compressed or liquid hydrogen directly from a truck or on-site storage facility to a commercial harbor craft. It also includes the infrastructure

necessary to transfer compressed or liquid hydrogen from a truck into a dock or terminal storage facility.

(60) “Idling” means operating main propulsion or auxiliary engines when the net torque generated by the engine is at the operational minimum for the configuration of an engine, power train, or other system. Idling typically occurs but is not limited to when the vessel is at dock or stationary in the water.

(61) “International Maritime Organization Number” means an identification number made up of the three letters “IMO” followed by the seven-digit number assigned to all ships by IHS Maritime (formerly known as Lloyd's Register-Fairplay) when constructed. This is a unique seven-digit number that is assigned to propelled, sea-going merchant ships of 100 gross tons and above upon keel laying with the exception of the following:

- Ships without mechanical means of propulsion
- Pleasure yachts
- Ships engaged on special service (e.g. lightships, search and rescue vessels)
- Hopper barges
- Hydrofoils, air cushion vehicles
- Floating docks and structures classified in a similar manner
- Ships of war and troopships
- Wooden ships

(4162) “In-Use Harbor Craft” means a harbor craft that is not a new harbor craft.

(4263) “In-Use Marine Engine” means a marine engine that is not a new marine engine.

(64) “Law Enforcement Vessel” means a vessel used for local, state, or federal law enforcement purposes.

(4365) “Lease” means a contract by which the owner (lessor) of a property, such as a vessel or engine, grants the right to use or occupy the property to another person (lessee) for a specified term and for a specified rent.

(4466) “Level” means, unless the context requires otherwise, one of three categories of CARB-verified diesel emission control strategies as set forth in title 13, CCR, section 2700 et seq.: Level 1 means the strategy reduces engine diesel PM emissions by between 25 and 49 percent; Level 2 means the strategy reduces engine diesel PM emissions by between 50 and 84 percent; and Level 3 means the strategy reduces engine diesel PM emissions by 85 percent or greater, or



reduces engine diesel PM emissions to less than or equal to 0.01 grams per brake horsepower-hour (g/bhp-hr).

(4567) “Low-Use” means the operation of any compression-ignition engine associated with a harbor craft vessel for less than the total annual hours of operation in Regulated California Waters, based on the immediately preceding calendar year, that the E.O. deems ~~it~~ the engine is subject to the in-use requirements in subsection (e). Prior to January 1, 2023, low-use hour limit is 80 hours for barge and dredge vessels, and 300 hours for the regulated in-use vessels except barge and dredge vessels; On and after January 1, 2023, low-use hour limit is set forth in subsection (e)(7) Table 17.

(468) “Military Tactical Support” means a vessel that meets military specifications, is owned by the U.S. Department of Defense, the U.S. Coast Guard, the U.S. Military services or its allies, and is used in combat, combat support, combat services support, tactical or relief operations or training for such operations. This category does not include contractors working for the military.

(4769) “Model Year” means the diesel engine manufacturer’s annual production period, which includes January 1st of a calendar year, or if the manufacturer has no annual production period, the calendar year.

(4870) “New Harbor Craft” means a harbor craft for which both of the following criteria are true:

- (A) it is built, or its keel is laid, on or after January 1, 2009, and
- (B) the equitable or legal title to the harbor craft has never been transferred to an ultimate purchaser.

Where the equitable or legal title to the harbor craft is not transferred to an ultimate purchaser prior to the harbor craft being placed into service, the harbor craft ceases to be new when it is placed into service. A harbor craft is placed into service when it is used for its functional purposes.

(4971) “New Marine Engine” means a marine engine for which both of the following criteria are true:

- (A) it is manufactured or imported on or after January 1, 2009, and
- (B) the equitable or legal title to the engine has never been transferred to an ultimate purchaser.

Where the equitable or legal title to the engine is not transferred to an ultimate purchaser prior to the engine being placed into service, the engine ceases to be new when it is placed into service. An engine is placed into service when it is used for its functional purposes.

- (5072) "Nitrogen Oxides or Oxides of Nitrogen (NO<sub>x</sub>)" means compounds of nitric oxide (NO), nitrogen dioxide (NO<sub>2</sub>), and other oxides of nitrogen, which are typically created during combustion processes and are major contributors to smog formation and acid deposition.
- (5473) "Non-Methane Hydrocarbons (NMHC)" means the sum of all hydrocarbon (HC) air pollutants except methane.
- (5274) "Ocean-going Vessel" means a self-propelled commercial, government, or military vessel meeting any one of the following criteria:
- (A) a vessel greater than or equal to 400 feet in length overall (LOA) as defined in 50 CFR § 679.2, as adopted June 19, 1996;
  - (B) a vessel greater than or equal to 10,000 gross tons (GT ITC) per the convention measurement (international system) as defined in 46 CFR 69.51-.61, as adopted September 12, 1989; or
  - (C) a vessel propelled by a marine compression-ignition engine with a per-cylinder displacement of greater than or equal to 30 liters.
- (75) "Opacity" means the fraction of a beam of light, expressed in percent, which fails to penetrate a plume of smoke.
- (5376) "Operate" means steering or otherwise running the vessel or its functions while the vessel is working, underway, moored, anchored, or at dock.
- (77) "Operator" means a person who operates a vessel under a contract agreement. For the purpose of this definition, a person who charters or rents a vessel is not an operator.
- (5478) "Own" means having all the incidents of ownership, including the legal title, whether or not that person lends, rents, or pledges the vessel; having or being entitled to the possession of a vessel as the purchaser under a conditional sale contract; or being the mortgagor of a vessel.
- (5579) "Particulate Matter (PM)" means any airborne finely divided material, except uncombined water, which exists as a liquid or solid at standard conditions (e.g., dust, smoke, mist fumes, or smog).

- (80) “Performance Standards” means PM and NOx emission standards defined by CARB that must be met to comply with the in-use requirements of the CHC regulation and set forth in Table 7, Table 8 and Table 9 in subsection 93118.5(e)(4.1).
- (5681) “Permanently affixed to a harbor craft” means the engine, its fueling system, or its exhaust system is welded or otherwise physically connected to the vessel or other vessel system in such a way that the engine cannot be easily removed for use in a land-based application without modifications.
- (5782) “Person” includes all of the following:
- (A) any person, firm, association, organization, partnership, business trust, corporation, limited liability company, or company;
  - (B) any state or local governmental agency or public district, or any officer or employee thereof; and
  - (C) the United States or its agencies, to the extent permitted by federal law.
- (83) “Petrochemical Tank Barge or Tank Barge” means a non-self-propelled double-hull petrochemical tank barge constructed to transport petrochemicals or other combustible or noxious liquid substances (NLS) listed in 46 CFR Subchapter O and designed to either be pushed by a designated tug utilizing a proprietary retractable pin connection system forming a temporary articulated tug barge combination or towed on a wire by tugboat.
- (84) “Physical constraint” at a terminal means an unavoidable barrier to provide a service due to the layout of a terminal or waterway where a state or federal public agency with jurisdiction over the resources effected by this section has made a safety determination that prevents the use of dock power.
- (585) “Pilot Vessel” means a vessel designed for, but not limited to, the transfer and transport of maritime pilots to and from ocean-going vessels while such vessels are underway, at anchor, or at dock.
- (5986) “Port” means any facility used for water-borne commerce. “Port” includes, but is not limited to, facilities also known as “marine terminals” and “roadsteads.”
- (6087) “Portable CI Engine” means a compression-ignition (CI) engine designed and capable of being carried or moved from one location to another. Indicators of portability include, but are not limited to, wheels, skids, carrying handles, dolly, trailer, or platform. Portable engines are not self-propelled.

- (6488) "Portable Equipment Registration Program (PERP)" means the statewide program designed to promote the use of clean portable engines and equipment units in California, as provided for in title 13, CCR, sections 2450 through 2465. Once registered in the program, portable engines and equipment units can operate throughout the State without being required to obtain individual permits from each air pollution control or air quality management district in which they operate.
- (6289) "Pre-Tier 1 Engine" means an engine that was built before the effective date of U.S. EPA's Tier 1 marine engine emission standards (Tier 1 marine standards), as set forth in 40 CFR 94, or U.S. EPA's Tier 1 emission standards for nonroad compression ignition engines, as set forth in 40 CFR 89.
- (6390) "Propulsion Engine" means an engine that provides power to move a vessel through the water or directs the movement of a vessel.
- (6491) "Purchase Date" means the date shown on the front of the cashed check; the date of the financial transaction; or the date on the engine or harbor craft purchase, rental, or lease agreement, whichever is earliest.
- (6592) "Push Boat" means any self-propelled vessel engaged in or intending to engage in the service of pulling, pushing, or hauling along side barges or other vessels, or any combination of pulling, pushing, or hauling along side barges or other vessels. "Push boats" is interchangeable with "towboats."
- (93) "Rapid Charging Infrastructure" means infrastructure capable of charging commercial harbor craft on-board battery energy storage systems utilized with plug-in hybrid or battery electric propulsion systems to a minimum of 80 percent state-of-charge within the timespans available between the vessel's posted schedule of trip arrival and departure times to allow efficient competitive operation.
- (94) "Rebuild" means overhaul an engine using both new and re-conditioned parts while following repair procedures that have been approved by the manufacturer. When engine repairs require replacement of the engine block, the engine is considered to be repowered, not rebuilt.
- (6695) Prior to January 1, 2023, "Recreational Vessel" means a vessel that is intended by the vessel manufacturer to be operated primarily for pleasure or leased, rented, or chartered to another for the latter's pleasure, excluding the following vessels: (1) vessels of less than 100 gross tons that carry more than 6

passengers, (2) vessels of 100 gross tons or more that carry one or more passengers, and (3) vessels used solely for competition.

(95.1) On and after January 1, 2023, “Recreational Vessel” means a vessel that is used solely for personal use, which excludes diesel-powered vessels that are operated as a charter or hired to carry any number of passengers.

~~(6796)~~ “Registered Historic Vessel” means a vessel listed in the National Register of Historic Places pursuant to the National Historic Preservation Act of 1966 (16 U.S.C. 470).

~~(6897)~~ “Regulated California Waters” means all of the following:

- (A) all California internal waters;
- (B) all California estuarine waters;
- (C) all California ports, roadsteads, and terminal facilities (collectively “ports”);
- (D) all waters within 3 nautical miles of the California baseline, starting at the California-Oregon border and ending at the California-Mexico border at the Pacific Ocean, inclusive;
- (E) all waters within 12 nautical miles of the California baseline, starting at the California-Oregon border and ending at the California-Mexico border at the Pacific Ocean, inclusive;
- (F) all waters within 24 nautical miles of the California baseline, starting at the California-Oregon border to 34.43 degrees North, 121.12 degrees West; inclusive; and
- (G) all waters within the area, not including any islands, between the California baseline and a line starting at 34.43 degrees North, 121.12 degrees West; thence to 33.50 degrees North, 118.58 degrees West; thence to 32.65 degrees North, 117.81 degrees West; and ending at the California-Mexico border at the Pacific Ocean, inclusive.

~~(698)~~ Prior to January 1, 2023, “Regulated In-Use Vessel” means a vessel that operates as one of the vessel categories subject to in-use engine standards in subsection (e)(6).

(98.1) On and after January 1, 2023, “Regulated In-Use Vessel” means a vessel that operates as one of the vessel categories subject to performance standards in subsection (e)(6.1).

(99) “Repower” means replacing a used engine with a brand new or reconditioned engine meeting current emission standards in effect. Major engine repairs on a damaged engine requiring a new engine block are deemed to be a repower.

- ~~(7100)~~ “Rent” means payment for the use of harbor craft or diesel engine for a specified term.
- ~~(101)~~ “Research Vessel” means any vessel subject to requirements of 46 CFR Subchapter U, which include but are not limited to vessels with highly advanced mobile research stations, and vessels that provide stable platforms from which explorers can deploy equipment, or divers, or submersibles.
- ~~(7102)~~ “Retirement” means the act of taking an engine or harbor craft out of service (i.e., to “retire”) so that it subsequently never again operates in any of the Regulated California Waters. “Retirement” does not include an engine or harbor craft that is sold for use outside California then subsequently operated in any of the Regulated California Waters.
- ~~(103)~~ “Retrofit” means to install new or modified parts or equipment in or onto an in-use (non new) vessel or engine.
- ~~(72104)~~ “SCAQMD” means the South Coast Air Quality Management District, as defined in Health and Safety Code section 40410 et seq. and described in section 60104, title 17, California Code of Regulations, and shall include all waters subject to the jurisdiction of the SCAQMD.
- ~~(105)~~ “Selective Catalytic Reduction (SCR)” means an advanced active emissions control technology system that injects a liquid-reductant agent through a special catalyst into the exhaust stream of a diesel engine to control NOx emissions.
- ~~(106)~~ “Ship Assist Tugboat” means a highly maneuverable harbor tug with azimuthing stern drive (ASD) or Voith-Schneider Cycloidal propulsion commonly referred to as a “tractor-tug” type tugboat and having a primary vocation of assisting ATBs and ocean-going vessels while docking and undocking. Ship assist tugboats often work together with larger escort tugs at docking ocean-going vessels arriving with their respective escort tugs.
- ~~(107)~~ “Short Run Ferry” means a vessel dedicated to provide regularly scheduled round-trip ferry service between two points that are less than 3 nautical miles apart. Vessels that make multiple stops in a single round-trip, where more than half of the single trip lengths are less than 3 nautical miles, and the longest single trip length is less than 6 nautical miles, are considered short run ferries. Vessels that provide ferry round-trip service between two points that are less than 3 nautical miles apart, but provide less than 20 percent of the service trips

between those two points during a given calendar year, are not considered short run ferries.

(73108)“Supply Vessel” means a self-propelled vessel used for carrying crew and supplies to and from off-shore and in-harbor locations including, but not limited to, off-shore work platforms, construction sites, islands, and other vessels.

(74109) “Swing Engine” means an engine maintained at a dockside location for use in a vessel or fleet of vessels which can be installed as a replacement for an engine that has been removed from a vessel for repair or routine maintenance. The removed engine may then become the swing engine once repair or maintenance has been completed.

(75110)“Take Out of Service” means the act of dry-docking, mooring, anchoring, or otherwise tying up a harbor craft at dock to conduct maintenance, repairs, replacements, or upgrades such that the vessel cannot be operated in Regulated California Waters while such acts are conducted on the vessel.

(76111)Prior to January 1, 2023, “Tank Barge” means a non-self-propelled vessel constructed or adapted primarily to carry, or that carries, oil or hazardous material in bulk as cargo or cargo residue.

(111.11)On and after January 1, 2023, “Tank Barge” means a non-self-propelled vessel constructed or adapted primarily to carry, or that carries, oil or hazardous material in bulk as cargo or cargo residue. Tank barges include both petrochemical tank barges and other liquid cargo barges, such as those performing fuel bunkering services.

(77112)“Tank Vessel” or “Tanker” means a self-propelled vessel constructed or adapted primarily to carry, or that carries, oil or hazardous material in bulk as cargo or cargo residue.

(78113)“Temporary emergency rescue/recovery vessel” means a self-propelled vessel that performs duties including, but not limited to, policing harbor areas, fire fighting, rescue operations, oil spill prevention, and on-water oil removal whose ~~homeport~~ base is not within California and is brought into California for the immediate use of emergency rescue or recovery and returns to its ~~homeport~~ base outside of California at the conclusion of its emergency rescue/recovery mission.

(79114)Prior to January 1, 2023, “Temporary replacement vessel” means a self-propelled vessel that is brought into service to temporarily replace a California

vessel that has been temporarily taken out of service. For purposes of this section, “temporary replacement vessel” includes only the following:

- (A) vessels that are used in the SCAQMD but have a homeport in California outside of the SCAQMD; and
- (B) vessels that are used anywhere in California, including the SCAQMD, but have a homeport outside of California.

(114.1) On and after January 1, 2023, “Temporary replacement vessel” means a self-propelled vessel that is brought into service to temporarily replace a California vessel that has been temporarily taken out of service. For purposes of this section, “temporary replacement vessel” includes vessels that are used anywhere in California, but have homeport outside of California.

~~(80115)~~ “Tier 1 Marine Engine Emission Standards (Tier 1 marine standards)” means the U.S. EPA marine engine Tier 1 emission standards, as promulgated by U.S. EPA and set forth in “Control of Emissions of Air Pollution from New Marine Compression-Ignition Engines at or Above 37 kW” (64 Federal Register (FR) 73299-73373, December 29, 1999)(40 CFR Part 94), both of which are incorporated herein by reference. The standards from 40 CFR Part 94 are summarized in Table 1. In the event of a conflict between a Tier 1 marine standard in this section and its corresponding standard in 40 CFR Part 94, the standard in 40 CFR Part 94 controls.

**Table 1: U.S. EPA Tier 1 Marine Engine Emission Standards**

| Category                        | Power (kilowatt (kW)) & Displacement (liters/cylinder (l/cyl)) | Engine Speed (Revolutions per minute (rpm)) | Tier 1 Model Year | PM (g/bhp-hr) | NO <sub>x</sub> (g/bhp-hr)* | CO (g/bhp-hr) |
|---------------------------------|--|---|-------------------|---------------|-----------------------------|---------------|
| 1, 2, 3, including Recreational | ≥ 37 kW & ≥ 2.5 l/cyl  | rpm ≥ 2000                                  | 2004              | -             | 7.3                         | -             |
|                                 |  | 130 ≤ rpm <2000                             | 2004              | -             | 33.57 x rpm <sup>-0.2</sup> | -             |
|                                 |  | rpm <130                                    | 2004              | -             | 12.7                        | -             |

(40 CFR Part 94)

\*converted emission standards from 40 CFR 94, which are expressed in grams per kilowatt-hour (g/kW-hr) to g/hp-hr by the following: g/kW-hr \* (0.746) = g/hp-hr.

~~(8116)~~ “Tier 2 Marine Engine Emission Standards (Tier 2 marine standards)” means the U.S. EPA marine engine Tier 2 emission standards, as promulgated by U.S. EPA and set forth in “Control of Emissions of Air Pollution from New Marine Compression-Ignition Engines at or Above 37 kW” (64 FR 73299-73373, December 29, 1999)(40 CFR Part 94), both of which are incorporated herein by reference. In the event of a conflict between a Tier 2 marine standard in this



section and its corresponding standard in 40 CFR Part 94, the standard in 40 CFR Part 94 controls.

**Table 2: U.S. EPA Tier 2 Marine Engine Emission Standards for NO<sub>x</sub> + HC, PM, and CO**

| Category | Displacement (Disp.) (liters/cylinder) | Date | NO <sub>x</sub> +HC (g/bhp-hr)* | PM (g/bhp-hr)* | CO (g/bhp-hr)* |
|----------|--|------|---------------------------------|----------------|----------------|
| 1        | Disp. < 0.9 and power ≥ 50 hp*         | 2005 | 5.6                             | 0.30           | 3.7            |
|          | 0.9 ≤ Disp. < 1.2                      | 2004 | 5.4                             | 0.22           | 3.7            |
|          | 1.2 ≤ Disp. < 2.5                      | 2004 | 5.4                             | 0.15           | 3.7            |
|          | 2.5 ≤ Disp. < 5.0                      | 2007 | 5.4                             | 0.15           | 3.7            |
| 2        | 5.0 ≤ Disp. < 15                       | 2007 | 5.8                             | 0.20           | 3.7            |
|          | 15 ≤ Disp. < 20 (power < 4424 hp*)     | 2007 | 6.5                             | 0.37           | 3.7            |
|          | 15 ≤ Disp. < 20 (power ≥ 4424 hp*)     | 2007 | 7.3                             | 0.37           | 3.7            |
|          | 20 ≤ Disp. < 25                        | 2007 | 7.3                             | 0.37           | 3.7            |
|          | 25 ≤ Disp. < 30                        | 2007 | 8.2                             | 0.37           | 3.7            |

(40 CFR Part 94)

\*converted emission standards and maximum power rating from 40 CFR 94, which are expressed in g/kW-hr and kW to g/hp-hr and hp, respectively, by the following: g/kW-hr (0.746) = g/hp-hr or kW (1.34) = hp

(82117) “Tier 3 Marine Engine Emission Standards (Tier 3 marine standards)” means the U.S. EPA marine engine Tier 3 emission standards, as promulgated by U.S. EPA and set forth in “Final Rule: Control of Emissions of Air Pollution from Locomotive and Marine Compression-Ignition Engines Less Than 30 Liters Per Cylinder” (73 FR 25245 et seq., May 6, 2008) (40 CFR Part 1042), both of which are incorporated herein by reference. The standards from 40 CFR Part 1042 are summarized in Table 3, Table 4, and Table 5. In the event of a conflict between a Tier 3 marine standard in this section and its corresponding standard in 40 CFR Part 1042, the standard in 40 CFR Part 1042 controls. [Note: No Tier 3 marine standards apply for commercial Category 1 engines at or above 3700 kW. See “Tier 4 Marine Engine Emission Standards” for the standards that apply to these engines.]

**Table 3: U.S. EPA Tier 3 Marine Standards for Marine Diesel Category 1 Commercial Standard Power Density Engines below 3700 kW**

| Rated kW       | L/Cylinder        | PM<br>g/bhp-hr <sup>e</sup> | NO <sub>x</sub> + HC <sup>d</sup><br>g/bhp- hr <sup>e</sup> | Model Year |
|----------------|-------------------|-----------------------------|---|------------|
| 19 to < 75 kW  | <0.9 <sup>a</sup> | 0.22                        | 5.6   | 2009       |
|                |                   | 0.22 <sup>b</sup>           | 3.5 <sup>b</sup>  | 2014       |
| 75 to <3700 kW | <0.9              | 0.10                        | 4.0   | 2012       |
|                | 0.9 - <1.2        | 0.09                        | 4.0   | 2013       |
|                | 1.2 - <2.5        | 0.08 <sup>c</sup>           | 4.2   | 2014       |
|                | 2.5 - <3.5        | 0.08 <sup>c</sup>           | 4.2   | 2013       |
|                | 3.5 - <7.0        | 0.08 <sup>c</sup>           | 4.3   | 2012       |

- (a) <75 kW engines at or above 0.9 L/cylinder are subject to the corresponding 75-3700 kW standards.
- (b) Option: 0.15 g/bhp-hr PM / 4.3 g/bhp-hr NO<sub>x</sub>+HC in 2014.
- (c) This standard level drops to 0.07 g/bhp-hr in 2018 for <600 kW engines.
- (d) Tier 3 NO<sub>x</sub>+HC standards do not apply to 2000-3700 kW engines.
- (e) Converted emission standards from 40 CFR part 1042, which are expressed in g/kW-hr to g/hp-hr by the following: g/kW-hr (0.746) = g/hp-hr.

**Table 4: U.S. EPA Tier 3 Marine Standards for Marine Diesel Category 1 Recreational and Commercial High Power Density Engines below 3700 kW**

| Rated kW       | L/Cylinder        | PM<br>g/bhp- hr <sup>c</sup> | NO <sub>x</sub> + HC<br>g/bhp- hr <sup>c</sup> | Model Year |
|----------------|-------------------|------------------------------|--|------------|
| 19 to <75 kW   | <0.9 <sup>a</sup> | 0.22                         | 5.6  | 2009       |
|                |                   | 0.22 <sup>b</sup>            | 3.5 <sup>b</sup>                               | 2014       |
| 75 to <3700 kW | <0.9              | 0.11                         | 4.3  | 2012       |
|                | 0.9 - <1.2        | 0.10                         | 4.3  | 2013       |
|                | 1.2 - <2.5        | 0.09                         | 4.3  | 2014       |
|                | 2.5 - <3.5        | 0.09                         | 4.3  | 2013       |
|                | 3.5 - <7.0        | 0.08                         | 4.3  | 2012       |

- (a) <75 kW engines at or above 0.9 L/cylinder are subject to the corresponding 75-3700 kW standards.
- (b) Option: 0.15 g/bhp-hr PM / 4.3 g/bhp-hr NO<sub>x</sub>+HC in 2014.
- (c) Converted emission standards from 40 CFR part 1042, which are expressed in g/kW-hr to g/bhp-hr by the following: g/kW-hr (0.746) = g/bhp-hr.

**Table 5: U.S. EPA Tier 3 Marine Standards for Marine Diesel Category 2 Engines below 3700 kW<sup>a,b</sup>**

| L/Cylinder            | Rated kW | PM<br>g/bhp- hr <sup>c</sup> | NO <sub>x</sub> +HC<br>g/bhp- hr <sup>c</sup> | Model<br>Year |
|-----------------------|----------|------------------------------|---|---------------|
| 7 - <15               | <2000    | 0.10                         | 4.6   | 2013          |
|                       | ≥2000    | 0.10                         | 5.8   | 2013          |
| 15 - <20 <sup>a</sup> | <2000    | 0.25                         | 5.2   | 2014          |
| 20 - <25 <sup>a</sup> | <2000    | 0.20                         | 7.3   | 2014          |
| 25 - <30 <sup>a</sup> | <2000    | 0.20                         | 8.2   | 2014          |

- (a) No Tier 3 marine standards apply for Category 2 engines with per-cylinder displacement above 15.0 liters if maximum engine power is at or above 2000 kW. See “Tier 4 Marine Engine Emission Standards” for the standards that apply for these engines.
- (b) For Category 2 engines at or above 1400 kW, optional Tier 3 and Tier 4 standards are available with some manufacturer restrictions, PM / NO<sub>x</sub>+HC at 0.10 / 5.8 g/bhp-hr in 2012, with Tier 4 standards in 2015.
- (c) Converted emission standards from 40 CFR part 1042, which are expressed in g/kW-hr to g/bhp-hr by the following:  $g/kW-hr * (0.746) = g/bhp-hr$ .

(83118) “Tier 4 Marine Engine Emission Standards (Tier 4 marine standards)” means the U.S. EPA marine engine Tier 4 emission standards, as promulgated by U.S. EPA and set forth in “Final Rule: Control of Emissions of Air Pollution from Locomotive and Marine Compression-Ignition Engines Less Than 30 Liters Per Cylinder” (73 FR 25245 et seq., May 6, 2008) (40 CFR Part 1042), both of which are incorporated herein by reference. Table 6 summarizes the Tier 4 marine standards from 40 CFR Part 1042. In the event of a conflict between a Tier 4 marine standard in this section and its corresponding standard in 40 CFR Part 1042, the marine standard in 40 CFR Part 1042 controls.

**Table 6: U.S. EPA Tier 4 Marine Standards for Marine Diesel Category 1 and Category 2 Engines above 600 kW**

| Rated kW            | L/Cylinder    | PM<br>g/bhp- hr <sup>a</sup> | NO <sub>x</sub><br>g/bhp- hr <sup>a</sup> | HC<br>g/bhp- hr <sup>a</sup> | Model<br>Year         |
|---------------------|---------------|------------------------------|---|------------------------------|-----------------------|
| At or above 3700 kW | <15.0         | 0.09                         | 1.3                                       | 0.14                         | 2014 <sup>b</sup>     |
|                     | 15.0 to <30.0 | 0.19                         | 1.3                                       | 0.14                         | 2014 <sup>b</sup>     |
|                     | all           | 0.04                         | 1.3                                       | 0.14                         | 2016 <sup>b</sup>     |
| 2000 to <3700 kW    | all           | 0.03 <sup>d</sup>            | 1.3                                       | 0.14                         | 2016 <sup>b,c,d</sup> |
| 1400 to <2000 kW    | all           | 0.03                         | 1.3                                       | 0.14                         | 2016 <sup>b,c</sup>   |

|                 |     |      |     |      |      |
|-----------------|-----|------|-----|------|------|
| 600 to <1400 kW | all | 0.03 | 1.3 | 0.14 | 2017 |
|-----------------|-----|------|-----|------|------|

- (a) Converted emission standards from 40 CFR part 1042, which are expressed in g/kW-hr to g/bhp-hr by the following:  $\text{g/KW-hr} (0.746) = \text{g/bhp-hr}$
- (b) Optional compliance start dates may be used within these model years; see 40 CFR part 1042.
- (c) For Category 2 engines at or above 1400 kW, optional Tier 3 and Tier 4 marine standards are available with some manufacturer restrictions, PM / NO<sub>x</sub>+HC at 0.10 / 5.8 g/bhp-hr in 2012, with Tier 4 marine standards in 2015.
- (d) The Tier 3 PM standards continue to apply for Category 1 and Category 2 engines with per-cylinder displacements below 15.0 liters in model years 2014 and 2015 only. For Category 2 engines with per-cylinder displacement at or above 15.0 liters, the PM standard is 0.25 g/bhp-hr for engines at or above 2000 kW and below 3300 kW, and 0.20 g/bhp-hr for engines at or above 3300 kW and below 3700 kW, in model years 2014 and 2015 only.

~~(84119)~~ “Tier 1 Off-Road or Nonroad Emission Standards (Tier 1 off-road standards)” means an engine subject to the Tier 1 new engine emission standards in Title 13, CCR, Section 2423(b)(1)(A) or Title 40, CFR, Part 89.112(a) as they existed on April 27, 2010, both of which are incorporated herein by reference. This also includes engines certified under the averaging, banking, and trading program with respect to the Tier 1 Family Emission Limits (FEL) listed in Title 13, CCR, 2423(b)(2)(A) or Title 40, CFR, Part 89.112(d), as they existed on April 27, 2010, both of which are incorporated herein by reference.

~~(85120)~~ “Tier 2 Off-Road or Nonroad Emission Standards (Tier 2 off-road standards)” means an engine subject to the Tier 2 new engine emission standards in Title 13, CCR, Section 2423(b)(1)(A) or Title 40, CFR, Part 89.112(a) as they existed on April 27, 2010, both of which are incorporated herein by reference. This also includes engines certified under the averaging, banking, and trading program with respect to the Tier 2 FEL listed in Title 13, CCR, 2423(b)(2)(A) or Title 40, CFR, Part 89.112(d), as they existed on April 27, 2010, both of which are incorporated herein by reference.

~~(86121)~~ “Tier 3 Off-Road or Nonroad Emission Standards (Tier 3 off-road standards)” means an engine subject to the Tier 3 new engine emission standards in title 13, CCR, Section 2423(b)(1)(A) or Title 40, CFR, Part 89.112(a), as they existed on April 27, 2010, both of which are incorporated herein by reference. This also includes engines certified under the averaging, banking, and trading program with respect to the Tier 3 FEL listed in Title 13, CCR, 2423(b)(2)(A) or Title 40, CFR, Part 89.112(d), as they existed on April 27, 2010, both of which are incorporated herein by reference.

~~(87122)~~ “Final Tier 4 Off-Road or Nonroad Emission Standards” means an engine subject to the final after-treatment-based Tier 4 emission standards in Title 13,

CCR, Section 2423(b)(1)(B) or Title 40, CFR, Part 1039.101, as they existed on April 27, 2010, both of which are incorporated herein by reference. This also includes engines certified under the averaging, banking, and trading program with respect to the Tier 4 FEL listed in Title 13, CCR, 2423(b)(2)(B) or Title 40, CFR, Part 1039.101, as they existed on April 27, 2010, both of which are incorporated herein by reference.

~~(88123)~~ “Interim Tier 4 Off-Road or Nonroad Emission Standards” means an engine subject to the interim Tier 4 emission standards (also known as transitional) in Title 13, CCR, Section 2423(b)(1)(B) or Title 40, CFR, Part 1039.101, as they existed on April 27, 2010, both of which are incorporated herein by reference. This also includes engines certified under the averaging, banking, and trading program with respect to the Tier 4 FEL listed in Title 13, CCR, 2423(b)(2)(B) or Title 40, CFR, Part 1039.101, as they existed on April 27, 2010, both of which are incorporated herein by reference.

~~(89124)~~ “Total Hydrocarbons (THC)” or “Hydrocarbons (HC)” means the total mass of open chain and cyclic hydrocarbon molecules.

~~(90125)~~ “Towboat” means any self-propelled vessel engaged in or intending to engage in the service of pulling, pushing, or hauling along side barges or other vessels, or any combination of pulling, pushing, or hauling along side barges or other vessels.

~~(9126)~~ Prior to January 1, 2023, “Tugboat” means any self-propelled vessel engaged in, or intending to engage in, the service of pulling, pushing, maneuvering, berthing, or hauling along side other vessels, or any combination of pulling, pushing, maneuvering, berthing or hauling along side such vessels in harbors, over the open seas, or through rivers and canals. Tugboats generally can be divided into three groups: harbor or short-haul tugboats, ocean-going or long-haul tugboats, and barge tugboats. “Tugboat” is interchangeable with “towboat” and “push boat” when the vessel is used in conjunction with barges.

(126.1) On and after January 1, 2023, “Tugboat” means any self-propelled vessel engaged in, or intending to engage in, the service of pulling, pushing, maneuvering, berthing, or hauling along side other vessels, or any combination of pulling, pushing, maneuvering, berthing or hauling along side such vessels in harbors, over the open seas, or through rivers and canals. Tugboats generally can be divided into three groups: ship assist and escort tugboats, ocean-going ATB and line towing tugboats, and near-shore pushing and towing tugboats. “Tugboat” is interchangeable with “towboat” and “push boat” when the vessel is used in conjunction with barges. “Line towing” refers to towing another

ocean-going vessel, harbor craft or barge with a trailing tow line as opposed to hauling alongside.

(127) “U.S. Coast Guard Documentation Number” is a national form of registration. Documentation provides conclusive evidence of nationality for international purposes, provides for unhindered commerce between the states, and admits vessels to certain restricted trades, such as coastwise trade and the fisheries.

(~~9~~128) “Verification Procedure, Warranty and In-Use Compliance Requirements for In-Use Strategies to Control Emissions from Diesel Engines (Verification Procedure)” means the CARB regulatory procedure codified in title 13, CCR, commencing with section 2700, which is incorporated herein by reference, that engine manufacturers, sellers, owners, or operators may use to verify the reductions of diesel PM or NO<sub>x</sub> from in-use diesel engines through the use of a particular diesel emission control strategy.

(~~93~~129) “Verified Diesel Emission Control Strategy (VDECS)” means an emission control strategy, designed primarily for the reduction of diesel PM emissions, which has been verified pursuant to the “Verification Procedure for In-Use Strategies to Control Emissions from Diesel Engines” in title 13, CCR, commencing with section 2700. VDECS can be verified to achieve Level 1 diesel PM reductions (25-49 percent), Level 2 diesel PM reductions (50-84 percent), or Level 3 diesel PM reductions (85 percent or greater). VDECS may also be verified to achieve NO<sub>x</sub> reductions.

(~~94~~130) “Vessel” or “Marine Vessel” means any tugboat, tanker, freighter, passenger ship, barge, or other boat, ship, or watercraft, except those used primarily for recreation.

(131) “Water Taxi” means a ferry including U.S. Coast Guard uninspected passenger vessels carrying six or less passengers for hire or U.S. Coast Guard inspected passenger vessel that carry seven or more passengers for hire that transits paying passengers to any destination rather than operating over a fixed route and schedule.

(~~95~~132) Prior to January 1, 2023, “Work Boat” means a self-propelled vessel that is used to perform duties such as fire/rescue, law enforcement, hydrographic surveys, spill/response, research, training, and construction (including drilling).

(132.1) On and after January 1, 2023, “Workboat” means a self-propelled vessel that is used to perform any duty not specifically listed by another category of commercial harbor craft, including but not limited to duties such as

hydrographic surveys, spill/response, school training, and construction (including drilling). Workboat can include vessels owned by public, private, and not-for-profit organizations.

- (133) “Zero-Emission Capable Hybrid Vessel” means a commercial harbor craft utilizing a hybrid power system with two or more on-board power sources, one or more of which is approved by CARB’s Executive Officer to be capable of providing a minimum of 30 percent of vessel power required for main propulsion and auxiliary power operation with zero tailpipe emissions when averaged over a calendar year.
- (134) “Zero-Emission Infrastructure” means installed dockside infrastructure necessary to support operation of a zero emission commercial harbor craft calling on that port, terminal, or facility. For example, high-power battery charging equipment capable of charging batteries and on-dock hydrogen fueling and storage tanks.
- (135) “Zero Emission” means a propulsion system, auxiliary power system, and/or vessel utilizing a zero-emission propulsion and auxiliary power system that has no tailpipe exhaust emissions other than water vapor or diatomic nitrogen from the onboard source(s) of power.
- (136) “ZEAT” refers to Zero-Emission and Advanced Technology, which collectively includes zero-emission capable hybrid, and zero-emission vessels.

**(e) Fuel Use and Engine Emission Requirements.**

[Note: The plain English narrative in this overview is intended as a convenient guide for the reader and in no way adds, deletes, modifies, or otherwise affects the legal requirements and substantive provisions specified in subsection (e) or any other part of this section. Subsection (e) sets forth the various fuel and emission requirements for harbor craft subject to this regulation, and can be broken down as follows:

- ~~Subsection (e)(1) specifies low sulfur fuel use requirements that apply to all harbor craft, new and in-use.~~
- ~~Subsection (e)(2) specifies the requirement for installing hour meters on all harbor craft, new and in-use.~~
- ~~Subsection (e)(3) establishes requirements that apply to transactions involving new engines to be installed on in-use vessels, including a limited 6 month “sell-through” provision for non-complying engines, and~~

~~engine replacement in cases where a compliant engine meeting the required physical or performance characteristics is not available.~~

- ~~• Subsection (e)(4) sets forth requirements that apply to newly acquired new harbor craft, including ferries.~~
- ~~• Subsection (e)(5) sets forth requirements that apply only to newly acquired new ferries, above and beyond those established in subsection (e)(4). These provisions include requirements for applying Best Available Control Technology (BACT) to new ferries and their engines.~~
- ~~• Subsection (e)(6) is the key provision of this regulation, as it achieves emission reductions by requiring the eventual replacement or cleanup of engines in the fleet of in-use ferries, excursion vessels, tugboats, towboats, push boats, crew and supply vessels, and barge and dredge vessels. This subsection requires that owners and operators eventually replace or otherwise bring into compliance with the specified engine standards all of their pre Tier 1 and Tier 1 certified engines in their in-use vessels by the dates shown in the specified compliance schedules. The compliance dates are designed to clean up the fleet's oldest and dirtiest engines first, while giving more time for relatively newer, Tier 1 engines to be upgraded or replaced. Vessels (ferries, excursion vessels, tugboats, and towboats) with their homeport in the SCAQMD have an accelerated compliance schedule to reflect that district's greater need for expedited emission reductions. The compliance schedules are grouped by vessel type, location of the vessel's homeport, the engine's model year, and the engine's annual hours of operation.~~
- ~~• Subsection (e)(6)(E) provides for a limited set of circumstances under which the E.O. may grant short extensions to the compliance dates if warranted.]~~

(1) *All Harbor Craft – Low Sulfur Fuel Use Requirement.*

Beginning January 1, 2009, a person subject to this section may only fuel a diesel engine on a harbor craft with one of the following:

- (A) CARB diesel fuel; or
- (B) an alternative diesel fuel as defined in subsection (d)(2); or
- (C) any alternative diesel fuel that does not meet subsection (e)(1)(B) above but is certified by CARB as meeting the requirements of the Verification Procedure; or
- (D) CARB diesel fuel used with fuel additives that meet the requirements of the Verification Procedure; or
- (E) any combination of subsection (e)(1)(A) through (D) above; or



(F) if a harbor craft subject to this section is traveling from a port located outside of California, and that port does not have any fuels listed in subsections (e)(1)(A) through (E), that vessel's diesel engines can be fueled with either: U.S. EPA on-road diesel fuel meeting the specifications contained in 40 CFR §§ 80.500 et seq., as they existed on April 27, 2010, or U.S. EPA nonroad diesel fuel meeting the specifications contained in 40 CFR 80.29 as it existed on April 27, 2010, and 69 FR 38958 (June 29, 2004). The vessel owner or operator must retain records documenting the fuel purchase, the location and the name of the non-California port, and its lack of availability of fuels listed in subsections (e)(1)(A) through (E) on-board the vessel for a minimum of one year after the purchase of the fuel, and must make such records available upon the request of the Executive Officer.

(2) *All Harbor Craft – Installation and Use of Non-Resettable Hour Meters.*

Beginning January 1, 2009, a person subject to this section may not operate a harbor craft without an installed and properly operating, non-resettable hour meter, which accurately measures the number of hours an engine operates. The hour meter must be installed on each diesel engine on the vessel in a manner that allows reasonable personnel access to the hour meter without impediment. Beginning January 1, 2023, in the event the hour meter fails to operate properly or is replaced, a person subject to this section must within 30 days, replace the hour meter and report to CARB the date the hour meter stopped working, the date it was replaced, and the current hour readings of both the original and replacement meter.

(3) *All In-Use Harbor Craft – Requirements for Newly Acquired Engines (Applicable Until December 31, 2022).*

During the time period bBeginning January 1, 2009 and ending December 31, 2022, a person subject to this section may not sell, purchase, offer for sale, lease, rent, import, or otherwise acquire a new or in-use diesel engine for an in-use harbor craft, which is intended to operate or actually operates in any of the Regulated California Waters, unless that engine on the date of acquisition:

(A) is certified to meet the Tier 2 or Tier 3 marine standards in effect on that date for a new engine of the same power rating and displacement. The newly acquired engine is not required to meet the Tier 4 marine standards unless it is replacing an engine on the in-use vessel that was certified as meeting Tier 4 marine standards. Engines certified to meet the Tier 2, Tier 3, or interim Tier 4 off-road standards in effect on the date of

acquisition for a new engine of the same power rating and displacement may only be acquired for use as an auxiliary or propulsion engine on harbor craft if the engine or vessel manufacturer has complied with 40 CFR § 1042.605 (*Marinized land-based engines already certified to other standards for nonroad or heavy-duty highway engines for marine use*), as it existed on April 27, 2010; or

(B) is newly acquired within the allowable 6 month “sell-through” period, as set forth in this paragraph. For purposes of this paragraph only, the allowable sell-through period runs through 6 months after the date the Tier 2, Tier 3, or Tier 4 marine standards or Tier 3, interim Tier 4, or final Tier 4 off-road standards have come into effect for a new engine of the same power rating and displacement as the engine being replaced on the in-use vessel. Engines that are subsequently sold, supplied, offered for sale, or otherwise newly acquired after the 6 month sell-through period are subject to the requirements specified in paragraph (A) of this subsection, even if the engine was previously newly acquired within the 6 month sell-through period; or

(C) is replacing an engine that is non-functioning due to equipment failure, and the E.O. has determined, pursuant to the provisions of 40 CFR § 1042.615 engine replacement exemption, as it existed on April 27, 2010, that no engine certified to the current standards is produced by any manufacturer with the appropriate physical or performance characteristics to repower the vessel. In such event, an alternate engine may be acquired for the replacement. Pursuant to 40 CFR § 1042.615, a separate determination, addressing each tier of emission standards that is more stringent than the emission standards for the engine being replaced must be made. For example, if the engine being replaced was built before the Tier 2 standards applied, and engines of that size are currently subject to Tier 3 standards, a person must consider whether any Tier 2 or Tier 3 engines have the appropriate physical and performance characteristics for replacing the old engine. If a Tier 2 engine is determined to have the appropriate physical and performance characteristics, it may be selected as the replacement engine. Documentation of these determinations must be supplied to the E.O. and the E.O.’s determination must be obtained before an engine replacement is made pursuant to this provision.

(4) *All New Harbor Craft (Including All New Ferries) – Requirements for Newly Acquired Vessels (Applicable Until December 31, 2022).*

During the time period bBeginning January 1, 2009 and ending December 31, 2022, a person subject to this section may not sell, purchase, offer for sale, lease, rent, import, or otherwise acquire a new harbor craft for use in any of the Regulated California Waters unless each diesel propulsion and auxiliary engine on the vessel meets the applicable Tier 2, Tier 3, or Tier 4 marine standards in effect on the date of vessel acquisition. Auxiliary or propulsion engines meeting the applicable Tier 2, Tier 3, interim Tier 4, or Final Tier 4 off-road standards in effect on the date of vessel acquisition may be sold, purchased, offered for sale, leased, rented, imported, or otherwise acquired for use if the engine or vessel manufacturer has complied with 40\_CFR 1042.605 (*Marinized land-based engines already certified to other standards for nonroad or heavy-duty highway engines for marine use*), as it existed on April 27, 2010. Diesel propulsion engines in new ferries with a capacity to transport more than 75 passengers in Regulated California Waters must also meet the requirements specified in subsection (e)(5) below.

(5) *Selected New Ferries Only – Additional Requirements for All Newly Acquired Propulsion Engines (Applicable Until December 31, 2022).*

(A) During the time period bBeginning January 1, 2009 and ending December 31, 2022, any person who owns or operates a new ferry with the capacity to transport 75 or more passengers and that is used in any of the Regulated California Waters must demonstrate that each diesel propulsion engine that is certified to either the Tier 2 or Tier 3 marine standards will be operated in conjunction with the use of Best Available Control Technology (BACT) as determined and pre-approved by the E.O. pursuant to this provision.

(B) For purposes of this section, “BACT” is the diesel emission control strategy (DECS), whether verified or unverified pursuant to 13 CCR section 2700 et seq., that is determined by the E.O. as meeting all of the following criteria:

1. it provides or is expected to continuously provide the greatest reduction feasible of NO<sub>x</sub> or diesel PM when used with the ferry’s propulsion diesel engine;
2. the use of BACT does not result in an increase of 10 percent or more of any air pollutant, including NO<sub>x</sub> and diesel PM, relative to the engine’s emissions of that air pollutant without the use of BACT; and
3. either the DECS manufacturer or an authorized dealer of the DECS determines or otherwise agrees with the E.O. that use of the DECS on

or with the new ferry's propulsion engine(s) would not invalidate or otherwise adversely affect the propulsion engine's original warranty.

For purposes of this section, DECS may include, but is not be limited to, exhaust treatment controls and the use of alternative fuels or fuel additives.

- (C) The E.O. shall determine the appropriate level of BACT and specify such BACT in an Executive Order granting such approval. Applications to comply with the requirements of paragraph (A)2 by using BACT must follow the application and review procedure set forth below:

1. Application Process.

For all new ferries for which the keel is laid on or after January 1, 2009, the application for BACT approval must be submitted in writing to the E.O. for evaluation before the keel is laid. The BACT application must contain, at a minimum, the following information:

- a. the applicant company's name, address, and contact information;
- b. information specific to the harbor craft and engine(s) on which BACT will be used, including the vessel name and identification number(s); engine make, model, and serial numbers; and all other information that uniquely identify the engine;
- c. certification documentation, engineering calculations, emissions test data, or other information that establishes the diesel PM and NO<sub>x</sub> emissions of the engine in combination with the proposed BACT. Emissions and emission reduction estimates must include both diesel PM and NO<sub>x</sub> emissions and be expressed in grams per brake horsepower-hour (g/bhp-hr) unless otherwise specified by the E.O. Information submitted pursuant to this provision will be used as follows:
  - i. The E.O. shall use the information to compare the emissions resulting from the proposed use of BACT with the emissions quantified in BACT determinations previously approved by the E.O.;
  - ii. If there are no previous BACT determinations available for comparison, the E.O. shall use CARB staff's best engineering

- judgment to determine if the proposed BACT provides the greatest feasible reduction of diesel PM or NO<sub>x</sub>; and
- iii. The E.O. may require the applicant to submit additional emissions data for other air pollutants if the E.O. believes that the proposed use of BACT may increase any air pollutant by 10 percent or more relative to the engine emissions without the proposed BACT; and
  - d. the proposed recordkeeping, reporting, monitoring, and testing procedures that the applicant plans to use to demonstrate continued effectiveness of the BACT.
2. E.O. Review and Final Decision-Making Process.
- a. Within 15 days after receiving a BACT application, the E.O. shall notify the applicant whether the application is deemed sufficiently complete to proceed with further evaluation. If the application is deemed incomplete, the notification must identify the application's deficiencies. The E.O. shall have an additional 15-day period for reviewing each set of documents or information submitted in response to an incomplete determination. Nothing in this subsection prohibits the E.O. from requesting additional information from the applicant, during any part of the BACT application process, which the E.O. determines is necessary to evaluate the application.
  - b. Within 30 days of deeming an application complete, the E.O. shall take final action to either approve or deny a BACT application, and the E.O. shall notify the applicant accordingly. If the application is denied or modified, the E.O. shall state the reasons for the denial or modification in the notification. The E.O. shall specify all terms, conditions, and requirements the E.O. believes are necessary for the ferry engine and BACT to operate properly and reduce emissions of air pollutants consistent with this section. The reporting and recordkeeping requirements specific to the use of BACT must include, at a minimum:
    - i. hours of operation for the engine and BACT and fuel usage;
    - ii. usage of any alternative fuels, additives, agents, flow rates, and emission test results;
    - iii. maintenance procedures for the engine(s) and its BACT; and
    - iv. any other measurements or recordings specified by the E.O.

The E.O. shall make the approval/disapproval notification to the applicant and identification of the approved/disapproved BACT available to the public on CARB's internet site.

3. Post-Approval Vessel, Engine, and BACT Operation.

A person who owns or operates a new ferry with the capacity to transport 75 or more passengers and that is used in Regulated California Waters must maintain operating records and other information in the manner and form specified by the E.O. in the BACT approval and must submit to CARB upon request all records and reports created pursuant to this provision, which must be maintained and retained for CARB inspection a minimum of three years after the records or reports were created.

(6) *In-Use Engines and Vessels – Schedules for Meeting Tier 2 or Tier 3 Standards (Applicable Until December 31, 2022).*

(A) *For Pre-Tier 1- and Tier-1 Certified Engines on Ferries, Excursion Vessels, Tugboats, Towboats, Push Boats, Crew and Supply Vessels, and Barge and Dredge Vessels Only.*

1. *Applicability.*

This subsection (e)(6) applies, until December 31, 2022, to any person who owns, operates, sells, purchases, offers for sale, leases, rents, imports, or otherwise acquires an in-use ferry, excursion vessel, tugboat, towboat, push boat, crew and supply vessel, or barge and dredge vessel (in-use regulated category vessel) with a pre-Tier 1- or Tier-1-certified marine or off-road engine operating in any one of the above regulated in-use vessel categories for:

- a. a total of 300 hours per calendar year or more if operating in either ferry, excursion vessel, tugboat, towboat, pushboat, or crew and supply vessel categories, or
- b. a total of 80 hours per calendar year if operating in either barge or dredge vessel categories in Regulated California Waters. This subsection applies to all such engines on all such vessels.

2. *General Requirement.*

a. During the time period beginning After January 12, 2009 and ending December 31, 2022, a person who owns, operates, sells, purchases, offers for sale, leases, rents, imports, or otherwise acquires an in-use ferry, excursion vessel, tugboat, towboat, or push boat with a pre-Tier 1- or Tier-1-certified marine or off-road engine and that operates in any of the above regulated in-use vessel categories may not own, operate, sell, purchase, offer for sale, lease, rent, import, or otherwise acquire an in-use engine, or a vessel with an in-use engine, unless that engine complies with at least one of the compliance methods set forth in subsection (e)(6)(C) by the applicable compliance date. The compliance methods set forth in subsection (e)(6)(C) involve either replacement of the in-use engine with a cleaner engine or demonstrating that the in-use engine already meets specified standards, as set forth below.

b. During the time period beginning After January 12, 2009 and ending December 31, 2022, a person who owns, operates, sells, purchases, offers for sale, leases, rents, imports, or otherwise acquires an in-use crew and supply vessel, or barge and dredge vessel with a pre-Tier 1- or Tier-1-certified marine or off-road engine and that operates in any of the above regulated in-use vessel categories may not own, operate, sell, purchase, offer for sale, lease, rent, import, or otherwise acquire an in-use engine, or a vessel with an in-use engine, unless that engine complies with at least one of the compliance methods set forth in subsection (e)(6)(C) by the applicable compliance date. The compliance methods set forth in subsection (e)(6)(C) involve either replacement of the in-use engine with a cleaner engine\_or demonstrating that the in-use engine already meets specified standards, as set forth below.

For purposes of this subsection, “applicable compliance date” is either the compliance date, as set forth in subsection (e)(6)(D) for the in-use engine, or the compliance date from subsection (e)(6)(D) for the in-use engine, as extended pursuant to subsection (e)(6)(E), whichever applies and occurs later.

(B) [Reserved for Future Use]

(C) *Compliance Methods.*

1. *Method C1 – Replacement of the in-use engine with a U.S. EPA certified marine or off-road Tier 2 engine or one with a higher certification level (e.g., Tier 3-certified).*

A person may comply under this method by replacing the in-use engine with an engine certified to Tier 2 or Tier 3 marine or off-road engine emission standards as set forth in this paragraph. The replacement engine must meet the U.S. EPA Tier 2 or Tier 3 marine or off-road engine emission standards that would apply to a new engine, of the same size and configuration as the in-use engine, at the time of the applicable compliance date set forth in subsection (e)(6)(D). The replacement engine must meet the provisions of section 93118.5(e)(3).

[Note: For example, if the applicable compliance date is January 1, 2010, and the Tier 2 marine or off-road emission standards would be in effect at that time for a new engine of the same size and configuration as the in-use engine, the replacement would need to meet Tier 2 marine or off-road emission standards. However, if the applicable compliance date is instead January 1, 2013, and the Tier 3 marine or off-road emission standards would be in effect for a new engine of the same size and configuration as the in-use engine, the replacement engine would need to meet Tier 3 marine or off-road emission standards.]

Once the in-use engine has been replaced with an engine that is U.S. EPA-certified to meet Tier 2 or Tier 3 marine or off-road emission standards, as set forth above, the engine is deemed to be in compliance with this subsection (e)(6) and no further replacements of this engine are required under this subsection. Tier 3-certified marine or off-road engines may be used as the replacement engine to comply with this paragraph, even if Tier 4-certified marine or off-road emission engines become available by the applicable compliance date;

2. *Method C2 – Demonstrate to the E.O.'s written satisfaction that the in-use engine already meets the Tier 2 marine standards or Tier 2 off-road standards for auxiliary or propulsion engines greater than 50 hp or less than 75 hp, or greater than 750 hp that apply or would apply to new engines on the date the Tier 2 marine or off-road standards became effective.*



- a. A person may comply under this method by demonstrating to the E.O.'s written satisfaction that:
  - i. the in-use engine already meets the Tier 2 marine standards or Tier 2 off-road standards for engines greater than 50 hp or less than 75 hp, or greater than 750 hp,
  - ii. which apply to new engines of the same power rating and displacement as the in-use engine.
  
- b. This compliance method is available only if the person makes the required demonstration before the date Tier 3 marine or off-road emission standards become effective for new engines of the same size and configuration as the in-use engine. The person may rebuild the in-use engine to a cleaner standard or implement a diesel emission control strategy to aid in meeting these standards. [Note: For example, if the Tier 3 marine or off-road emission standards would have become effective on January 1, 2015 for a new engine of the same size and configuration as the in-use engine, the person would need to provide the Tier 2-compliance demonstration to the E.O.'s written satisfaction by January 1, 2015.]
  
- c. For purposes of the demonstration, the person may, upon approval by the E.O., rely on any source of reliable and credible information, including but not limited to, any of the following:
  - i. the results from using the test method specified in section (j) or an alternative method approved by the E.O.;
  - ii. the in-use engine manufacturer's certification test data or other emissions test data for that in-use engine;
  - iii. emissions test data derived from another in-use engine that is configured and used in a substantially similar way to the in-use engine;
  - iv. emissions test data used to meet the regulatory requirements of CARB's Verification Procedure for the non-verified emission control strategy implemented; or
  - v. emissions test data used to meet the requirements for U.S. EPA certification for systems providing remanufacture to a cleaner standard.

The E.O. may, in his/her sole discretion and based on good engineering judgment, exclude any information he/she determines is not reliable or credible.

3. *Method C3 – Demonstrate to the E.O.’s written satisfaction that the in-use engine already meets the Tier 2 or Tier 3 marine or Tier 2 or Tier 3 off-road emission standards for auxiliary or propulsion engines in effect or would be in effect for new engines at the time of the applicable compliance date.*
  - a. A person may comply under this method by demonstrating to the E.O.’s written satisfaction that:
    - i. the in-use engine already meets the Tier 2 or Tier 3 marine standards or Tier 2 or Tier 3 off-road emission standards for auxiliary or propulsion engines,
    - ii. which apply to new engines of the same power rating and displacement as the in-use engine,
    - iii. at the time of the applicable compliance date for the in-use engine.
  - b. To comply with this method, the person may demonstrate that the in-use engine meets the Tier 3 marine or off-road engine emission standards, even if Tier 4 marine or off-road engine emission standards come into effect by the applicable compliance date. The person may rebuild the in-use engine to a cleaner standard or implement a diesel emission control strategy to aid in meeting these standards.
  - c. For purposes of the demonstration, the person may, upon E.O. approval, rely on any source of reliable and credible information, including but not limited to, any of the following:
    - i. the results from using the test method specified in section (j) or an alternative method approved by the E.O.;
    - ii. the in-use engine manufacturer’s certification test data or other emissions test data for that in-use engine;
    - iii. emissions test data derived from another in-use engine that is configured and used in a substantially similar way to the in-use engine;
    - iv. emissions test data used to meet the regulatory requirements of ARB’s Verification Procedure for the non-verified emission control strategy implemented; or

- v. emissions test data used to meet the requirements for U.S. EPA certification for systems providing remanufacture to a cleaner standard.

The E.O. may, in his/her sole discretion and based on good engineering judgment, exclude any information he/she determines is not reliable or credible.

- 4. *Method C4 – Demonstrate to the E.O.'s written satisfaction that the in-use engine has not and will not operate 300 or more hours per calendar year in any of the regulated in-use vessel categories or 80 or more hours per calendar year in the barge or dredge vessel categories.*

A person may comply under this method by demonstrating to the E.O.'s written satisfaction that the engine is a low-use engine. This compliance method requires the person to provide records to the E.O. of the engine's total annual hours of operation while operating in any of the regulated in-use vessel categories for the calendar year immediately preceding the demonstration. The person must also provide documentation sufficient for the E.O. to project future annual hours of operation for the engine. The person will be deemed in compliance with this method only if such records and documentation demonstrate to the E.O.'s written satisfaction that the in-use engine has not and will not operate 300 or more hours per calendar year in any of the regulated in-use vessel categories with the exception of the dredge or barge categories, or 80 or more hours per calendar year in either the dredge or barge categories.

(D) *Compliance Dates.*

Table 7.1, Table 8.1, Table 9.1, and Table 10.1 below set forth the compliance dates by which a person must meet the requirements of subsection (e)(6)(A). Table 7.1 applies only to engines on ferries, excursion vessels, tugboats, towboats, and push boats with a homeport outside of the SCAQMD; Table 8.1 applies only to engines on ferries, excursion vessels, tugboats, towboats, and push boats with a homeport within the SCAQMD; Table 9.1 applies only to engines on crew and supply vessels, and Table 10.1 applies to engines on barge and dredge vessels. The compliance dates are set forth by engine model year and total annual hours of operation (for use in any regulated in-use vessel category) of the vessel in Regulated California Waters. For Table 7.1, Table 9.1, and Table 10.1, Method D1, D2, or D3 below may be used for determining the actual

or effective engine model year. For Table 8.1, only Method D1 or D3 may be used for determining the actual or effective engine model year.

1. *Method D1 – the engine’s actual model year of manufacture.*

A person may determine an engine’s compliance date under this method by using the engine’s actual model year of manufacture, as documented by the sales contract, invoice, purchase order, or other legitimate proof of purchase for the engine. The actual model year of manufacture may also be shown on a label permanently affixed to the engine by the manufacturer. In the event of a conflict between the proof of purchase and the permanent label, the date of manufacture shown on the permanent label controls.

2. *Method D2 – the engine’s effective model year based on the “Engine’s Model Year + 5” method.*

A person may determine an engine’s compliance date under this method by calculating the engine’s effective model year as the actual model year, using Method D1 above, and adding to that number 5 more years. To use this method, the person must use a diesel emissions control strategy (DECS) with the engine, as set forth below:

- a. Relative to the emissions without the use of the DECS, the engine with the DECS must be demonstrated to the E.O.’s written satisfaction as emitting at least 25 percent less diesel PM or NO<sub>x</sub>, and neither of those pollutants are increased by more than 10 percent. This requirement is met automatically if the DECS is a verified DECS (VDECS);
- b. If the DECS is not a VDECS, the person must demonstrate compliance with this paragraph by submitting to the E.O. emissions data that demonstrate the non-verified emission control technology achieves a diesel PM or NO<sub>x</sub> emission reduction of 25 percent or better, using the test methods specified in subsection (j). Upon approval of the E.O., the person may submit data derived from the use of other test methods to demonstrate to the E.O.’s written satisfaction the required 25 percent minimum emission reductions, such as:

- i. marine engine certification test data for the harbor craft propulsion or auxiliary engine, or engine manufacturer emissions test data;
- ii. emissions test data derived from another engine that is configured and used in a substantially similar way to the in-use engine on which the emission control strategy is to be used; or
- iii. emissions test data used to meet the regulatory requirements of the CARB Verification Procedure for the non-verified emission control strategy implemented.

The E.O. may, in his/her sole discretion and based on good engineering judgment, exclude any data derived from the test methods under paragraph b above that he/she determines are not reliable or credible.

A person's use of a DECS or VDECS, which meets the requirements of this provision, extends the engine's compliance date to the compliance date for a similar engine that is five model years newer (i.e., the actual model year for the engine with the emissions control strategy + 5).

[Note: For example, the owner of a 1995 model year engine on a tugboat, which has a homeport outside of SCAQMD and operates in Regulated California Waters for 750 hours in 2013, would normally be required to meet a December 31, 2014 compliance date, as set forth in Table 7.1. However, if a DECS that meets the requirements of this provision is implemented with this engine prior to the 2014 nominal compliance date, the engine's actual compliance date would be extended to the compliance date for a 2000 model year engine (i.e., the effective model year = the 1995 model year + 5). Accordingly, in that scenario, the engine's effective model year would extend the compliance date to December 31, 2016];

3. *Method D3 – the engine's effective model year based on the "Engine's Tier 1 Rebuild Model Year" method.*

A person may determine an engine's compliance date by demonstrating, to the E.O.'s written satisfaction, that the engine is an existing pre-2004 model year engine that was rebuilt to conform with U.S. EPA Tier 1 marine standards prior to January 1, 2008. If the E.O. is thus satisfied, the effective model year of the Tier 1 rebuilt engine, for

purposes of determining the compliance date in Table 7.1, Table 8.1, Table 9.1, or Table 10.1, is the actual year in which the Tier 1 rebuild occurred.

**Table 7.1: Compliance Dates for Engines on Ferries, Excursion Vessels, Tugboats, Towboats, and Push Boats with Homeports Outside SCAQMD**

| Engine Model Year                            | Total Annual Hours of Operation | Compliance Date |
|--|---------------------------------|-----------------|
| 1975 and earlier                             | ≥ 1500                          | 12/31/2009      |
| 1975 and earlier                             | ≥300 and < 1500                 | 12/31/2010      |
| 1976 – 1985                                  | ≥1500                           | 12/31/2011      |
| 1976 – 1985                                  | ≥ 300 and < 1500                | 12/31/2012      |
| 1986 – 1995                                  | ≥ 1500                          | 12/31/2013      |
| 1986 – 1995                                  | ≥ 300 and < 1500                | 12/31/2014      |
| Ferries Only<br>1996 – 1999                  | ≥ 300                           | 12/31/2014      |
| Vessels Other Than<br>Ferries<br>1996 – 1999 | ≥ 1500                          | 12/31/2015      |
| Vessels Other Than<br>Ferries<br>1996 – 1999 | ≥ 300 and < 1500                | 12/31/2016      |
| 2000   | ≥ 1500                          | 12/31/2015      |
| 2000   | ≥ 300 and < 1500                | 12/31/2016      |
| 2001 – 2002                                  | ≥ 300                           | 12/31/2017      |
| 2003   | ≥ 300                           | 12/31/2018      |
| 2004   | ≥ 300                           | 12/31/2019      |
| 2005   | ≥ 300                           | 12/31/2020      |
| 2006   | ≥ 300                           | 12/31/2021      |
| 2007   | ≥ 300                           | 12/31/2022      |

[Note: For example, if a 1982-model year diesel engine on a tugboat operating in Regulated California Waters is used for 750 hours in 2011, the owner or operator must bring the engine into compliance with the requirements of subsection (e)(6)(C) by December 31, 2012.].

**Table 8.1: Compliance Dates for Engines on Ferries, Excursion Vessels, Tugboats, Towboats, and Push Boats with Homeports in SCAQMD**

| Engine Model Year | Total Annual Hours of Operation | Compliance Date |
|-------------------|---------------------------------|-----------------|
| 1979 and earlier  | > 300                           | 12/31/2009      |
| 1980 – 1985       | > 300                           | 12/31/2010      |
| 1986 – 1990       | > 300                           | 12/31/2011      |
| 1991 – 1995       | > 300                           | 12/31/2012      |
| 1996 – 2000       | > 300                           | 12/31/2013      |
| 2001              | > 300                           | 12/31/2014      |
| 2002              | > 300                           | 12/31/2015      |
| 2003              | > 300                           | 12/31/2016      |
| 2004              | > 300                           | 12/31/2017      |
| 2005              | > 300                           | 12/31/2018      |
| 2006              | > 300                           | 12/31/2019      |
| 2007              | > 300                           | 12/31/2020      |

[Note: For example, if a 1982-model year diesel engine on a tugboat operating in Regulated California Waters is used for 300 or more hours in 2009, the owner or operator must bring the engine into compliance with the requirements of subsection (e)(6)(C) by December 31, 2010.]

**Table 9.1: Compliance Dates for Engines on Crew and Supply Vessels Statewide**

| Engine Model Year | Total Annual Hours of Operation | Compliance Date |
|-------------------|---------------------------------|-----------------|
| 1985 and earlier  | > 1500                          | 12/31/2011      |
| 1985 and earlier  | > 300 and < 1500                | 12/31/2012      |
| 1986 – 1995       | > 1500                          | 12/31/2013      |
| 1986 – 1995       | > 300 and < 1500                | 12/31/2014      |
| 1996 – 2000       | > 1500                          | 12/31/2015      |
| 1996 – 2000       | > 300 and < 1500                | 12/31/2016      |
| 2001 – 2002       | > 300                           | 12/31/2017      |
| 2003              | > 300                           | 12/31/2018      |
| 2004              | > 300                           | 12/31/2019      |
| 2005              | > 300                           | 12/31/2020      |
| 2006              | > 300                           | 12/31/2021      |
| 2007              | > 300                           | 12/31/2022      |

**Table 10.1: Compliance Dates for pre-Tier 1 and Tier 1 Engines on Dredge and Barge Vessels Statewide**

| Engine Model Year | Total Annual Hours of Operation | Compliance Date |
|-------------------|---------------------------------|-----------------|
| 1975 and earlier  | >80                             | 12/31/2011      |
| 1976 – 1980       | >80                             | 12/31/2012      |
| 1981 – 1985       | >80                             | 12/31/2013      |
| 1986 – 1990       | >80                             | 12/31/2014      |
| 1991 – 1995       | >80                             | 12/31/2015      |
| 1996 – 1999       | >80                             | 12/31/2016      |
| 2000 – 2001       | >80                             | 12/31/2017      |
| 2002              | >80                             | 12/31/2018      |
| 2003              | >80                             | 12/31/2019      |
| 2004              | >80                             | 12/31/2020      |
| 2005              | >80                             | 12/31/2021      |
| 2006              | >80                             | 12/31/2022      |

(E) *Compliance Extensions.*

Pursuant to this subsection (e)(6)(E), a person subject to the requirements of subsection (e)(6)(C) may request in writing to the E.O. an extension to a compliance date set forth in subsection (e)(6)(D) (i.e., extension to the “nominal” compliance date). The E.O. may grant the person an extension to the nominal compliance date for any one of the reasons set forth below. A person granted such an extension is deemed to be in compliance with the requirements of subsection (e)(6)(C) during the extension period, but only upon written authorization from the E.O. made pursuant to this provision and only until the end of the extension period. During the extension, the person must meet all other requirements of this section. Immediately upon the end of the extension period, the person must meet all the applicable requirements of this section, including but not limited to, subsection (e)(6)(C).

Except as provided in paragraph (e)(6)(E)3 below, the E.O. may not combine compliance extensions granted pursuant to this provision with any other compliance date extensions, including those set forth in this provision and in subsection (e)(6)(D)2 and (D)3. And except as provided in paragraphs (e)(6)(E)2 and (e)(6)(E)3 below, under no circumstances may the E.O. grant more than one compliance extension for any individual engine, set of engines, or harbor craft.



1. *Change in Annual Hours of Operation.*

The E.O. may grant a one-time, maximum one year extension to the nominal compliance date set forth in subsection (e)(6)(D), provided the person demonstrates to the E.O.'s written satisfaction that ~~the~~ all of the following have occurred:

- a. The person reasonably determined the vessel engine's nominal compliance date based on the engine's hours of operation two years before the nominal compliance date; and
- b. In the year immediately prior to the nominal compliance date, the engine's annual hours of operation increased significantly from the prior year such that the engine's nominal compliance date would have been accelerated from one compliance date to an earlier compliance date.

[Note: For example, suppose an operator has a 1982-model year engine on a tugboat, which has a homeport outside of SCAQMD and operates for 750 hours in Regulated California Waters in 2010. If it is reasonable for the operator to assume the annual hours of operation in 2011 will be similar to 2010, the operator would project from Table 7.1 that the engine's compliance date is December 31, 2012, and would plan his operations accordingly. However, if the vessel engine's operation increased substantially to 1600 hours in 2011, the engine normally would then have its compliance date accelerated to December 31, 2011, according to Table 7.1. The one-year extension would, therefore, extend the engine's actual compliance date back to what it would have been without the change in hours of operation (i.e., back to December 31, 2012).].

2. *No Suitable Engine Replacement for Harbor Craft.*

The E.O. may grant to a person a one year extension, which can be renewed annually, only if the person demonstrates to the E.O.'s written satisfaction that there is no suitable Tier 2 or Tier 3 marine or off-road-certified replacement engine available anywhere that can be used in the person's specific vessel, and the person cannot otherwise meet the requirements of subsection (e)(6)(C).

The E.O., in his/her sole discretion, may use any information available to the E.O. to rebut the person's demonstration. For purposes of this

paragraph, the E.O. may deem an engine as suitable to replace an existing engine if the replacement engine is similar in horsepower to the existing engine, the replacement engine can fit within the vessel's engine compartment, and installation of the replacement engine would not cause the vessel to violate U.S. Coast Guard or other applicable safety regulations. The E.O. may not consider the cost of the replacement engine, by itself or including installation and downtime costs, in determining its suitability as a replacement.

The application for and issuance of an initial extension and subsequent extensions pursuant to this paragraph are subject to the following requirements:

- a. For an initial extension and all subsequent annual extensions to be granted pursuant to this paragraph, the E.O. shall follow the same procedures for applying, determining completeness, allowing public review and considering public comments, taking final action, and publishing E.O. decisions that are set forth in subsection (f) for Alternative Control of Emissions Compliance Pathways (ACEP) applications;
- b. The E.O. shall consider all information submitted by the public, including but not limited to, information related to the availability of replacement engines suitable for the person's vessel;
- c. Except for the engine(s) for which the extension is sought, the person must demonstrate that all other engines subject to the person's direct control meet the requirements of subsection (e)(6);
- d. The person must submit the application for an extension so that it is received by the E.O. no later than 6 months before the nominal compliance date of the engine for which the extension is requested;
- e. The person must identify in the application each engine for which the extension is requested;
- f. For each engine identified in paragraph 2 above, the person must provide in the application a detailed description of the reasons and factors that serve as the basis for the claim that no suitable replacement engine is available. This description must include, at a minimum, detailed engineering diagrams, calculations, and citations to applicable U.S. Coast Guard regulations that support the

person's claim that there are no suitable replacement engines available.

- g. After the initial extension, the E.O. may grant additional one year extensions, provided the following requirements are met:
  - i. All procedures specified in paragraph (e)(6)(E)2.a and (e)(6)(E)2.b above are followed;
  - ii. The application for an additional extension demonstrates the engines identified in paragraph (e)(6)(E)2.c remain in compliance with this section;
  - iii. The application is received by the E.O. no sooner than 6 months but no later than 2 months before the expiration of the previous extension;
  - iv. The application identifies the engine(s) for which the additional extension is requested;
  - v. For each engine identified in paragraph (e)(6)(E)2.g.iv above, the person must provide in the application a detailed description of the reasons and factors that serve as the basis for the claim that suitable replacement engines remain unavailable. This description must include, at a minimum, detailed engineering diagrams, calculations, and citations to applicable U.S. Coast Guard regulations that support the person's claim that there are still no suitable replacement engines available.

3. *Equipment Manufacturer Delays or Installation Difficulties.*

Upon written request, the E.O. may grant to a person a 6-month extension to the nominal compliance date set forth in subsection (e)(6)(D), provided all the following criteria are met:

- a. the person ordered the new replacement engine or other equipment necessary to comply with the requirements of subsection (e)(6)(C) prior to the nominal compliance date set forth in subsection (e)(6)(D);
- b. the purchase order identified in paragraph a above was placed with the manufacturer no later than 6 months before the engine's nominal compliance date;
- c. the new engine or equipment has not been received or installed since it was ordered due to manufacturing delays or excessive

difficulties encountered by the engine or equipment installer;  
and

- d. the applicant for the extension provides documentation to the E.O.'s satisfaction that demonstrates the criteria in subparts a. through c. above have been met. The E.O. may, in his/her sole discretion, use any information available to rebut any of the documentation submitted pursuant to subparts a through c above.

4. *Multiple Engines on Multiple Vessels Within Same Fleet and With Same Compliance Dates.*

This provision applies only to fleets of 2 or more vessels that are owned by the same person. Upon written request, the E.O. may grant to the person an extension to the nominal compliance date(s) for engines on vessels within such fleets, as set forth below;

- a. For each set of engines on two or more vessels or for each single engine in three or more vessels with compliance dates of 2009 or 2010 for ferries, excursion vessels, tugboats, towboats, and push boats and 2011 or 2012 for crew and supply vessels and barge and dredge vessels (a "set" means 2 or more engines), the E.O. may grant a one-time extension of the compliance date to December 31, 2013 for ferries, excursion vessels, tugboats, towboats, and push boats and to December 31, 2015 for crew and supply boats and barge and dredge vessels, provided the E.O. receives and approves a compliance schedule from the person that meets the requirements set forth below:
  - i. The compliance schedule is received by the E.O. no later than December 31, 2009 for ferries, excursion vessels, tugboats, towboats, and push boats and prior to December 31, 2011 for crew and supply, barge, and dredge vessels;
  - ii. For each year, up to and including 2013 for ferries, excursion vessels, tugboats, towboats, and push boats and 2015 for crew and supply vessels and barge and dredge vessels, that the extension will be in effect, the compliance schedule must identify, at a minimum, the engines on specified vessels in the fleet that will meet the requirements of subsection (e)(6)(C) within any given year;

- iii. The compliance schedule must show that all engines with compliance dates of 2009 or 2010 for ferries, excursion vessels, tugboats, towboats, and push boats and 2011 or 2012 for crew and supply vessels and barge and dredge vessels on the specified vessels in the fleet will be in compliance with subsection (e)(6)(C) by December 31, 2013 for ferries, excursion vessels, tugboats, towboats, and push boats and December 31, 2015 for crew and supply vessels and barge and dredge vessels. [Note: For example, an approvable plan may show that 25% of these engines on the specified vessels in a fleet will be in compliance in 2010, 50% in 2011, 75% in 2012, and 100% by December 31, 2013.]; and
  - iv. The compliance schedule must include all other information the E.O. deems necessary and appropriate for implementing this provision.
- b. For each set of engines on two or more vessels or each single engine on three or more vessels with a compliance date of 2011 or later for ferries, excursion vessels, tugboats, towboats, and push boats and 2013 or later for crew and supply vessels and barge and dredge vessels (a "set" means 2 or more engines), the E.O. may grant to a person a one-time, maximum one-year extension of the nominal compliance date. To receive an extension under this provision, the person must submit a written request to the E.O. that meets the following requirements:
- i. The request must be received by the E.O. no later than December 31st of the year immediately preceding the nominal compliance date for the set of engines; and
  - ii. The request identifies the engines in each set of engines and the vessels in the person's fleet that are subject to the requested extension.

For all engines within a person's fleet that have not been granted an extension pursuant to paragraphs a or b above, the compliance dates for such engines remain as set forth in subsection (e)(6)(D).

- (F) *Special Provisions Applicable to the Use of a Diesel Emission Control Strategy (DECS), including Verified Diesel Emission Control Strategies (VDECS).*

The following requirements apply to any person's use of a DECS pursuant to subsections (e)(5) or (e)(6) and are in addition to any other applicable requirements:

1. Once the DECS is installed or otherwise employed on a person's vessel, the person must continue to operate and maintain the DECS, in accordance with the manufacturer's directions, to achieve the original level of emission reductions that the DECS was designed and intended to achieve;
2. In the event a DECS fails, breaks down, or is otherwise damaged (collectively referred to hereinafter as "fail" or "failure"), the vessel owner or operator must, within 90 days of the DECS failure, do at least one of the following:
  - a. repair the DECS to good working order;
  - b. replace the failed DECS with another working DECS, if it cannot be repaired; or
  - c. employ another method that meets the requirements of subsection (e)(6)(C) and other applicable provisions of this section, if the DECS cannot be repaired.
3. The determination in subpart 2.b and 2.c above of whether a DECS cannot be repaired may only be made by either the DECS manufacturer or an authorized dealer.
4. For each replacement DECS installed under subpart 2.b above, the person must provide to the E.O. the same documentation for the replacement DECS that was required for the DECS that failed, and the person must obtain the same E.O. approvals that were required with the failed DECS.

(3.1) All Harbor Craft (Excluding Commercial Fishing Vessels) – Requirements for Newly Acquired Diesel Engines (Applicable On and After January 1, 2023).

Beginning January 1, 2023, any person subject to this subsection shall not sell, purchase, offer for sale, lease, rent, import, or otherwise acquire a new or in-use engine for an in-use harbor craft, which is intended to operate or actually

operates in any of the Regulated California Waters, unless that engine on the date of acquisition:

(A) is certified to meet the most stringent of either the Tier 3 or the Tier 4 marine standards in effect on that date for a new engine with the same power rating and displacement or is certified to meet performance standards in Tables 7, 8, or 9 in subsection (4.1) by applicable compliance dates in effect on that date for a new engine of the same or less power rating and displacement.

1. A newly acquired marine engine rated below 600 kW is not required to meet the Tier 4 marine standards if there are no engines available on the date of acquisition that are certified to the Tier 4 marine emission standards for an engine of the same engine category and rated horsepower.

2. Engines certified to meet the Tier 4 Final off-road standards in effect on the date of acquisition for a new engine of the same or less power rating and displacement may only be acquired for use as an auxiliary or propulsion engine on harbor craft if the engine or vessel manufacturer has complied with 40 CFR § 1042.605 (*Marinized land-based engines already certified to other standards for nonroad or heavy-duty highway engines for marine use*), as it existed on April 27, 2010; or

(B) is newly acquired within the allowable 6 month “sell-through” period, as set forth in this paragraph. For purposes of this paragraph only, the allowable sell-through period runs through 6 months after the date of the Tier 3, or Tier 4 marine standards, or Tier 4 Final off-road standards have come into effect for a new engine of the same or less power rating and displacement as the engine being replaced. Engines that are subsequently sold, supplied, offered for sale, or otherwise newly acquired after the 6 month sell-through period are subject to the requirements specified in paragraph (A) of this subsection; or

(C) is replacing an engine that is non-functioning due to equipment failure, and the E.O. has determined, pursuant to the provisions of 40 CFR § 1042.615 engine replacement exemption, as it existed on April 27, 2010, that no engine certified to the current standards is produced by any manufacturer with the appropriate physical or performance characteristics to repower the vessel. In such event, an alternate engine may be acquired for the replacement. Pursuant to 40 CFR § 1042.615, a separate determination, addressing each tier of emission standards that is more

stringent than the emission standards for the engine being replaced must be made. For example, if the engine being replaced was built before the Tier 3 standards applied, and engines of that size are currently subject to Tier 4 standards, a person must consider whether any Tier 3 or Tier 4 engines have the appropriate physical and performance characteristics for replacing the old engine. If a Tier 4 engine is determined not to have the appropriate physical and performance characteristics, but a Tier 3 engine does have the appropriate physical and performance characteristics, it must be selected as the replacement engine. In no case can the replacement engine be certified to a less stringent standard than the engine it is replacing. Documentation (e.g. an engineering evaluation) of these determinations must be supplied to the E.O. and the E.O.'s determination must be obtained before an engine replacement is made pursuant to this provision; or

(D) is replacing an an engine certified to a less stringent emission standard for which the E.O. has previously approved a low use as outlined in subsection (e)(7).

(4.1) All Harbor Craft (Excluding Commercial Fishing Vessels, Excursion Vessels, and Short-Run Ferries) – Requirements for New and Newly Acquired In-Use Harbor Craft (Applicable On and After January 1, 2023).

(A) Requirements for new harbor craft.

Beginning January 1, 2023, any person subject to this subsection shall not sell, purchase, offer for sale, lease, rent, import, or otherwise acquire a new harbor craft for use in any of the Regulated California Waters unless the tailpipe emissions from each diesel propulsion and auxiliary engine on the vessel meets the applicable performance standards in Table 7, Table 8 and Table 9 set forth in this subsection. Propulsion or auxiliary engines meeting the applicable performance standards using Tier 4 Final off-road engines in effect on the date of vessel acquisition may be sold, purchased, offered for sale, leased, rented, imported, or otherwise acquired for use if the engine or vessel manufacturer has complied with 40 CFR 1042.605 (Marinized land-based engines already certified to other standards for nonroad or heavy-duty highway engines for marine use), as it existed on April 27, 2010.



**Table 7: Performance Standards for Propulsion and Auxiliary Marine Engines > 600 kW**

| Category                     | Displacement (L/cylinder)      | Maximum Engine Power (kW)      | Tier 4 Engine Model Year | NOx (g/bhp-hr) | PM (g/bhp-hr) |
|------------------------------|--------------------------------|--------------------------------|--------------------------|----------------|---------------|
| C1<br>Commercial<br>> 600 kW | All                            | $600 \leq \text{kW} < 1,400$   | 2017+                    | 1.3            | 0.005         |
|                              | All                            | $1,400 \leq \text{kW} < 2,000$ | 2016+                    | 1.3            | 0.005         |
|                              | All                            | $2,000 \leq \text{kW} < 3,700$ | 2014+                    | 1.3            | 0.005         |
|                              | < 7.0                          | $\geq 3,700$                   | 2014-2015                | 1.3            | 0.010         |
|                              |                                |                                | 2016+                    | 1.3            | 0.010         |
| C2<br>Commercial<br>> 600 kW | All                            | $600 \leq \text{kW} < 1,400$   | 2017+                    | 1.3            | 0.005         |
|                              | All                            | $1,400 \leq \text{kW} < 2,000$ | 2016+                    | 1.3            | 0.005         |
|                              | All                            | $2,000 \leq \text{kW} < 3,700$ | 2014+                    | 1.3            | 0.005         |
|                              | < 15.0                         | $\geq 3,700$                   | 2014-2015                | 1.3            | 0.010         |
|                              | $15.0 \leq \text{disp} < 30.0$ |                                | 2014-2015                | 1.3            | 0.030         |
|                              | All                            |                                | 2016+                    | 1.3            | 0.010         |

**Table 8: Performance Standards for Propulsion and Auxiliary Marine Engines  $\leq 600$  kW**

| Category                    | Displacement (L/cylinder) | Maximum Engine Power (kW) | Tier 3 Engine Model Year | HC+NOx (g/bhp-hr) | PM (g/bhp-hr) |
|-----------------------------|---------------------------|---------------------------|--------------------------|-------------------|---------------|
| C1<br>Commercial<br>< 75 kW | < 0.9                     | < 8                       | 2009+                    | 5.6               | 0.045         |
|                             |                           | $8 \leq \text{kW} < 19$   | 2009+                    | 5.6               | 0.045         |
|                             |                           | $19 \leq \text{kW} < 37$  | 2009-2013                | 5.6               | 0.034         |
|                             |                           |                           | 2014+                    | 3.5               | 0.022         |
|                             |                           | $37 \leq \text{kW} < 75$  | 2009-2013                | 5.6               | 0.034         |
|                             | 2014+                     |                           | 3.5                      |                   |               |
| < 0.9                       |                           | 2012+                     | 4.0                      | 0.016             |               |

|  |                                     |                                     |                             |              |              |
|--|-------------------------------------|-------------------------------------|-----------------------------|--------------|--------------|
| <p><u>C1</u><br/>Commercial<br/>Engines with <math>\leq</math><br/>35 kW/L power<br/>density</p> | $0.9 \leq \text{disp}$<br>$< 1.2$   | All                                 | <u>2013+</u>                | <u>4.0</u>   | <u>0.013</u> |
|  | $1.2 \leq \text{disp}$<br>$< 2.5$   | $< 600$                             | <u>2014-</u><br><u>2017</u> | <u>4.2</u>   | <u>0.010</u> |
|  |                                     |                                     | <u>2018+</u>                |              | <u>0.010</u> |
|  | $2.5 \leq \text{disp}$<br>$< 3.5$   | $\geq 600$                          | <u>2014+</u>                | <u>4.2</u>   | <u>0.010</u> |
|  |                                     |                                     |                             |              | <u>0.010</u> |
|  | $2.5 \leq \text{disp}$<br>$< 3.5$   | $< 600$                             | <u>2013-</u><br><u>2017</u> | <u>4.2</u>   | <u>0.010</u> |
|  |                                     |                                     | <u>2018+</u>                |              | <u>0.010</u> |
|  | $3.5 \leq \text{disp}$<br>$< 7.0$   | $\geq 600$                          | <u>2013+</u>                | <u>4.2</u>   | <u>0.010</u> |
|  |                                     |                                     |                             |              |              |
|  | $3.5 \leq \text{disp}$<br>$< 7.0$   | $< 600$                             | <u>2012-</u><br><u>2017</u> | <u>4.3</u>   | <u>0.010</u> |
| <u>2018+</u>   |                                     |                                     | <u>0.010</u>                |              |              |
| $3.5 \leq \text{disp}$<br>$< 7.0$  | $\geq 600$                          | <u>2012+</u>                        | <u>4.3</u>                  | <u>0.010</u> |              |
|  |                                     |                                     |                             |              |              |
| <p><u>C1</u><br/>Commercial<br/>Engines with<br/><math>&gt;</math> 35 kW/L<br/>power density</p> | $< 0.9$                             | All                                 | <u>2012+</u>                | <u>4.3</u>   | <u>0.017</u> |
|  | $0.9 \leq \text{disp}$<br>$< 1.2$   |                                     | <u>2013+</u>                |              | <u>0.010</u> |
|  | $1.2 \leq \text{disp}$<br>$< 2.5$   |                                     | <u>2014+</u>                | <u>4.3</u>   | <u>0.010</u> |
|  | $2.5 \leq \text{disp}$<br>$< 3.5$   |                                     | <u>2013+</u>                | <u>4.3</u>   | <u>0.010</u> |
|  | $3.5 \leq \text{disp}$<br>$< 7.0$   |                                     | <u>2012+</u>                | <u>4.3</u>   | <u>0.010</u> |
| <p><u>C2</u></p>   | $7.0 \leq \text{disp}$<br>$< 15.0$  | $< 2,000$                           | <u>2013+</u>                | <u>4.6</u>   | <u>0.010</u> |
|  |                                     | $2,000 \leq \text{kW}$<br>$< 3,700$ |                             | <u>5.8</u>   | <u>0.010</u> |
|  | $15.0 \leq \text{disp}$<br>$< 20.0$ | $< 2,000$                           | <u>2014+</u>                | <u>5.2</u>   | <u>0.038</u> |
|  | $20.0 \leq \text{disp}$<br>$< 25.0$ | $< 2,000$                           |                             | <u>7.3</u>   | <u>0.030</u> |
| $25.0 \leq \text{disp}$<br>$< 30.0$  | $< 2,000$                           |                                     | <u>8.2</u>                  | <u>0.030</u> |              |

**Table 9: Performance Standards for Propulsion and Auxiliary Off-Road Engines**

| <u>Rated Power (kW)</u>  | <u>Tier 4 Engine Model Year</u> | <u>NMHC (g/bhp-hr)</u> | <u>NMHC + NOx (g/bhp-hr)</u> | <u>NOx (g/bhp-hr)</u>          | <u>PM (g/bhp-hr)</u> |
|--------------------------|---------------------------------|------------------------|------------------------------|--------------------------------|----------------------|
| <u>kW &lt; 8</u>         | <u>2008+</u>                    | <u>-</u>               | <u>5.6</u>                   | <u>-</u>                       | <u>0.045</u>         |
| <u>8 ≤ kW &lt; 19</u>    | <u>2008+</u>                    | <u>-</u>               | <u>5.6</u>                   | <u>-</u>                       | <u>0.045</u>         |
| <u>19 ≤ kW &lt; 37</u>   | <u>2013+</u>                    | <u>-</u>               | <u>3.5</u>                   | <u>-</u>                       | <u>0.005</u>         |
| <u>37 ≤ kW &lt; 56</u>   | <u>2013+</u>                    | <u>-</u>               | <u>3.5</u>                   | <u>-</u>                       | <u>0.005</u>         |
| <u>56 ≤ kW &lt; 75</u>   | <u>2014+</u>                    | <u>0.14</u>            | <u>-</u>                     | <u>0.30</u>                    | <u>0.005</u>         |
| <u>75 ≤ kW &lt; 130</u>  | <u>2014+</u>                    | <u>0.14</u>            | <u>-</u>                     | <u>0.30</u>                    | <u>0.005</u>         |
| <u>130 ≤ kW &lt; 225</u> | <u>2014+</u>                    | <u>0.14</u>            | <u>-</u>                     | <u>0.30</u>                    | <u>0.005</u>         |
| <u>225 ≤ kW &lt; 450</u> | <u>2014+</u>                    | <u>0.14</u>            | <u>-</u>                     | <u>0.30</u>                    | <u>0.005</u>         |
| <u>450 ≤ kW &lt; 560</u> | <u>2014+</u>                    | <u>0.14</u>            | <u>-</u>                     | <u>0.30</u>                    | <u>0.005</u>         |
| <u>560 ≤ kW &lt; 900</u> | <u>2015+</u>                    | <u>0.14</u>            | <u>-</u>                     | <u>2.61 / 0.50<sup>a</sup></u> | <u>0.005</u>         |
| <u>kW &gt; 900</u>       | <u>2015+</u>                    | <u>0.14</u>            | <u>-</u>                     | <u>2.61 / 0.50<sup>a</sup></u> | <u>0.005</u>         |

(a) The NOx standards for generator sets is 0.50 g/bhp-hr.

(B) Requirements for newly acquired in-use vessels.

Beginning January 1, 2023, any person subject to this subsection shall not sell, purchase, offer for sale, lease, rent, import, or otherwise acquire an in-use harbor craft for use in any of the Regulated California Waters unless each diesel propulsion and auxiliary engine on the vessel complies with all requirements of this section. In situations where the vessels are approved for low-use exemption or the vessels are in compliance using compliance extensions, the approval of low-use exemption and compliance extensions are not transferable to new owners.

(5.1) Requirements for Zero-Emission and Advanced Technologies (ZEAT) for New and In-Use Short Run Ferries, and New and Newly Acquired Excursion Vessels (Applicable On and After January 1, 2023).

- (A) Any person who
1. purchases a new excursion vessel, or newly acquires an excursion vessel must adopt applicable ZEAT show in Table 10.
  2. purchases a new short run ferry, or operates a newly acquired or in-use short-run ferry must adopt applicable Zero-Emission and Advanced Technologies (ZEAT) shown in Table 10.

**Table 10: Compliance Dates for Zero-Emission and Advanced Technologies**

| <u>Marine Technology Type</u>       | <u>Vessel Category Requirement</u>              | <u>Compliance Date</u> |
|-------------------------------------|---|------------------------|
| <u>Zero-Emission Capable Hybrid</u> | <u>New and Newly Acquired Excursion Vessels</u> | <u>January 1, 2025</u> |
| <u>Zero-Emission</u>                | <u>New and In-Use Short Run Ferries</u>         | <u>January 1, 2026</u> |

- (B) Performance standards set forth in subsection (e)(4.1) must also be met by any propulsion and auxiliary internal combustion engines, regardless of fuel type, on in-use short run ferries and excursion vessels. In lieu of meeting performance standards set forth in subsection (e)(4.1), engines may comply with a low use exception as set forth in subsection (e)(7).
- (C) If ZEAT is adopted for a vessel without a ZEAT compliance date for all engines as defined in subsection (e)(6.1), or three years prior to ZEAT compliance dates shown in Table 10 for new excursion vessels and short-run ferries, a person may be granted additional compliance time as set forth in Table 18 in subsection (f)(3) for all engines to meet performance standards in subsection (e)(6.1) on another vessel in any regulated in-use category that is under common ownership and operating within Regulated California Waters within the same California air district.
- (D) No person may deploy ZEAT, other than CARB approved, verified or certified technologies. If no dedicated approval, certification, or verification process exists for ZEAT required by this section when ZEAT is

deployed, a person must submit an application to the Executive Officer as set forth below:

1. Application Process. At least 18 months prior to the applicable compliance date or when ZEAT will be deployed, a ZEAT application must be submitted with a minimum of the following information:
  - a. the applicant company's name, address, and contact information;
  - b. information specific to the harbor craft and engine(s) on which ZEAT will be used, including the vessel name and identification number(s); engine make, model, and serial numbers; and all other information that uniquely identify the engine;
  - c. certification documentation, engineering analysis or calculations, design information, battery or fuel cell capacities, typical trips or other information deemed necessary by the E.O. that supports meeting the requirements of adopting zero-emission capable hybrid or zero-emission technologies as described below:
    - i. Vessels adopting zero-emission capable hybrid technology must demonstrate that 30 percent or more of combined main propulsion and auxiliary power will be derived from a zero-emission tailpipe emission source when averaged over a calendar year. Zero emission power sources include but are not limited to, battery plug-in hybrid propulsion systems capable of being charged from the electric grid, or hydrogen fuel cells.
    - ii. Vessels subject to zero-emission requirements must not use an internal combustion engine to generate propulsion or auxiliary power for the normal operation of the vessel. Zero-emission vessels may be built with combustion engines onboard to provide propulsion or auxiliary power during emergency or incidental purposes, but are limited to the hour thresholds set forth in subsection (e)(7) for low use exceptions based on engine tier level.
  - d. information and plans for charging or fueling infrastructure that include an overall description of the frequency and duration of charging or fueling, a list of key hardware components, and as applicable documentation of communication with utility companies, fueling contracts with hydrogen providers, and/or installation of on-site fueling systems.

e. the proposed recordkeeping, reporting, monitoring, and if applicable, testing procedures, that the applicant plans to use to demonstrate continued effectiveness of the ZEAT. Recordkeeping and reporting must include, at a minimum, the requirements in subsection (m)(19).

2. E.O. Review and Final Decision-Making Process.

a. Within 30 days after receiving a ZEAT application, the E.O. shall notify the applicant whether the application is deemed sufficiently complete to proceed with further evaluation. If the application is deemed incomplete, the notification must identify the application's deficiencies. The E.O. shall have an additional 30-day period for reviewing each set of documents or information submitted in response to an incomplete determination.

b. Within 60 days of deeming an application complete, the E.O. shall take final action to either approve or deny a ZEAT application, and the E.O. shall notify the applicant accordingly. In approving or disapproving a ZEAT application the E.O. will base his or her determination on the information submitted in the ZEAT application and his or her exercise of good engineering judgment. If the application is denied or modified, the E.O. shall state the reasons for the denial or modification in the notification. The E.O. shall specify all terms, conditions, and requirements the E.O. determines are necessary for the applicable vessel to operate properly and reduce emissions of air pollutants consistent with this section.

(6.1) In-Use Engines and Vessels (Excluding Commercial Fishing Vessels) – Requirements for Meeting Performance Standards (Applicable On and After January 1, 2023).

(A) Applicability. For Any Engines on Regulated In-Use Vessels.

For purposes of this subsection, regulated in-use vessels include ATBs, barges (including tank barges, and barges operating as part of ATBs), commercial passenger fishing vessels, crew and supply vessels, dredges, excursion vessels, ferries (excluding in-use short run ferries), pilot vessels,

push boats, research vessels, tugboats (including ocean-going tugboats and towboats, and tugboats operating as part of ATBs), towboats, and workboats.

This subsection (e)(6.1) applies on and after January 1, 2023 to any person who owns, operates, sells, purchases, offers for sale, leases, rents, imports, or otherwise acquires a regulated in-use vessel with any marine or off-road engines operating more than the annual low-use hours limits specified in subsection (e)(7) Table 17.

(B) General Requirement.

On and after January 1, 2023, a person who owns, operates, sells, purchases, offers for sale, leases, rents, imports, or otherwise acquires a regulated in-use vessel with any marine or off-road diesel engines may not own, operate, sell, purchase, offer for sale, lease, rent, import, or otherwise acquire an in-use engine, or a vessel with an in-use engine, unless the tailpipe emissions from that engine meet the performance standards set forth in subsection (4.1) using at least one of the compliance methods set forth in subsection (e)(6.1)(C) by the applicable compliance date.

For purposes of this subsection, “applicable compliance date” is either the compliance date, as set forth in subsection (e)(6.1)(D) for the in-use engine, or the compliance date from subsection (e)(6.1)(D) for the in-use engine, as extended pursuant to subsection (e)(6.1)(E), whichever applies and occurs later.

In situations where engines applicable to subsection (e)(6.1) do not meet performance standards but remain installed on the vessel, a person subject to this subsection must take an action that prevents the startup or operation of that engine. Examples include but are not limited to electrically or mechanically locking the engine to prevent its startup and permanently disconnecting fuel injection lines. Non-operational engines must meet applicable recordkeeping and reporting requirements defined in subsection (m).

(C) Compliance Methods.

1. Method C1 – Replace the in-use engine with a U.S. EPA certified marine Tier 3 or Tier 4 engine or off-road Tier 4 Final engine that meets

CARB performance standards in its certified condition by U.S. EPA or CARB.

A person may comply under this method by replacing the in-use engine with an engine certified to the most stringent of either the Tier 3 marine, Tier 4 marine or Tier 4 Final off-road engine emission standards applicable to a new engine with the same power rating and displacement as the in-use engine at issue, that meets the CARB performance standards in either Table 7, Table 8, or Table 9, as applicable, as set forth in subsection 93118.5(e)(4.1) in its certified condition by U.S. EPA or CARB. The replacement engine must meet CARB defined performance standards that would apply to a new engine, of the same power rating and displacement as the in-use engine, at the time of the applicable compliance date set forth in subsection (e)(6.1)(D).

2. Method C2 – Replace the in-use engine with a U.S. EPA certified marine Tier 3 or Tier 4 engine or off-road Tier 4 final engine that does not meet CARB performance standards and retrofit with a CARB Level 3 verified diesel emission control strategy (or DPF).

If an engine does not meet CARB performance standards in Table 7, Table 8, or Table 9 as set forth in subsection 93118.5(e)(4.1), a person may comply under this method by replacing the in-use engine with an engine certified to the most stringent of either the Tier 3 marine, Tier 4 marine or Tier 4 Final off-road engine emission standards applicable to a new engine with the same power rating and displacement as the in-use engine at issue, and retrofitting the engine with a Level 3 DPF. The replacement engine must meet the U.S. EPA Tier 3 or Tier 4 marine or Tier 4 Final off-road engine emission standards that would apply to a new engine, of the same or less power rating and displacement as the in-use engine, at the time of the applicable compliance date set forth in subsection (e)(6.1)(D). The replacement engine must meet the provisions of subsection 93118.5(e)(3.1).

Once an in-use engine has been replaced with either a U.S. EPA certified marine Tier 3 (below 600 kW) or marine Tier 4 engine, or off-road Tier 4 Final engine and has also been equipped with a Level 3 DPF by the applicable compliance date, as set forth above, the engine and diesel engine system is deemed to be in compliance with this subsection (e)(6.1) and no further replacements of this engine or diesel engine system are required under this subsection.



3. Method C3 – Demonstrate to the E.O.’s satisfaction that the tailpipe emissions meet the performance standards using Alternative Compliance Pathways.

A person may comply under this method by demonstrating that the tailpipe emissions otherwise meet the performance standards set forth in Table 7, Table 8, and Table 9 of subsection 93118.5(e)(4.1) using an alternative compliance pathway as outlined in subsection 93118.5(f). To comply with this method, the applicant must follow the provisions set forth in subsection 93118.5(f).

4. Method C4 – Meet CARB performance standards using a two-step phase-in method.

Any Pre-Tier 1 or Tier 1 certified engines on regulated in-use vessels may meet CARB performance standards using phase-in paths described below:

- a. replace the in-use pre-Tier 1 or Tier 1 certified engine with the most stringent of either the Tier 3 marine, Tier 4 marine or Tier 4 Final off-road engine emission standards applicable to a new engine with the same power rating and displacement as the in-use engine at issue by the compliance date set forth in Table 11 in subsection (e)(6.1)(D). The replacement engine must meet the provisions of subsection (e)(3.1).
- b. retrofit the U.S. EPA certified Tier 3 or Tier 4 marine or Tier 4 Final off-road engine with a Level 3 VDECS by the applicable compliance date set forth in Table 12, Table 13 or Table 14 in subsection (e)(6.1)(D). If Tier 3 or Tier 4 engines already meet CARB performance standard set forth in subsection (e)(4.1) in their certified condition by U.S. EPA, retrofitting with a DPF is not required.

In lieu of phase-in paths, regulated in-use vessels with pre-Tier 1 or Tier 1 certified engines may follow any of the above applicable compliance methods (e)(6.1)(C)(1) through (3) to comply with the in-use performance standards set forth in subsection (e)(6.1)(D).

(D) Compliance Dates.

Table 11, Table 12, Table 13, and Table 14 below set forth the compliance dates by which a person must meet the requirements of subsection (e)(6.1)(B). Table 11 applies only to any pre-Tier 1 and Tier 1 certified engines on regulated in-use vessels, which generally includes but is not limited to workboats, research vessels, pilot vessels, tank barges, and commercial passenger fishing vessels that were not subject to the in-use engine compliance requirements prior to January 1, 2023; Table 12 applies only to Tier 2, Tier 3, or Tier 4 engines on ferries (except short run ferries), pilot vessels, all tugboats, towboats, and push boats; Table 13 applies only to Tier 2, Tier 3, or Tier 4 engines on research vessels, commercial passenger fishing vessels, and excursion vessels, and Table 14 applies to Tier 2, Tier 3, or Tier 4 engines on barge and dredge vessels, crew and supply vessels, and workboats. The compliance dates are set forth by engine model year. For Table 11, Table 12, Table 13, and Table 14, Method D1, or D2 below may be used for determining the actual or effective engine model year.

1. Method D1 – the engine’s actual model year.

A person may determine an engine’s compliance date under this method by using the engine’s actual model year of manufacture, as documented by the sales contract, invoice, purchase order, or other legitimate proof of purchase for the engine. The actual model year of manufacture may also be shown on a label permanently affixed to the engine by the manufacturer. In the event of a conflict between the proof of purchase and the permanent label, the earlier of the two dates shall be used for the purpose of this paragraph.

2. Method D2 – the engine’s effective model year based on the “Engine’s Tier 2 or Tier 3 Rebuild Model Year” method.

A person may determine an engine’s compliance date by demonstrating, to the E.O.’s written satisfaction, that the engine is an existing pre-2009 model year engine that was rebuilt to conform with U.S. EPA Tier 2 marine standards prior to January 1, 2014. If the E.O. is thus satisfied, the effective model year of the Tier 2 rebuilt engine, for purposes of determining the compliance date in Table 11, Table 12, Table 13, or Table 14, is the actual year in which the Tier 2 rebuild occurred.

A person may determine an engine’s compliance date by demonstrating, to the E.O.’s written satisfaction, that the engine was rebuilt to conform with U.S. EPA Tier 3 marine standards. If the E.O. is thus satisfied, the effective model year of the Tier 3 rebuilt engine, for purposes of determining the compliance date in Table 11, Table 12, Table 13, or Table 14, is the actual year in which the Tier 3 rebuild occurred.

**Table 11: Compliance Dates for Any Pre-Tier 1 and Tier 1 Certified Engines on All Regulated In-Use Vessels**

| <u>Engine Model Year</u> | <u>Compliance Date</u> |
|--------------------------|------------------------|
| <u>1993 and earlier</u>  | <u>12/31/2023</u>      |
| <u>1994 – 2001</u>       | <u>12/31/2024</u>      |
| <u>2002 – 2007</u>       | <u>12/31/2025</u>      |

[Note: For example, if a 1993 model year diesel engine on a research vessel operating in Regulated California Waters, the owner or operator must bring the engine into compliance with the requirements of section (e)(6)(C) by December 31, 2023.].

**Table 12: Compliance Dates for Tier 2, Tier 3, or Tier 4 Engines on Ferries (Except Short Run Ferries), Pilot Vessels, All Tug/Towboats, and Push Boats**

| <u>Engine Model Year</u> | <u>Compliance Date</u> |
|--------------------------|------------------------|
| <u>2009 and earlier</u>  | <u>12/31/2024</u>      |
| <u>2010 – 2012</u>       | <u>12/31/2025</u>      |
| <u>2013 – 2015</u>       | <u>12/31/2026</u>      |
| <u>2016 – 2019</u>       | <u>12/31/2027</u>      |
| <u>2020 – 2021</u>       | <u>12/31/2028</u>      |
| <u>2022 and later</u>    | <u>12/31/2029</u>      |

[Note: For example, if a 2020 model year diesel engine on a tugboat operating in Regulated California Waters, the owner or operator must bring the engine into compliance with the requirements of section (e)(6)(C) by December 31, 2028.].

**Table 13: Compliance Dates for Tier 2, Tier 3, or Tier 4 Engines on Research Vessels, Commercial Passenger Fishing Vessels, and Excursion Vessels**

| <u>Engine Model Year</u> | <u>Compliance Date</u> |
|--------------------------|------------------------|
| <u>2010 and earlier</u>  | <u>12/31/2026</u>      |
| <u>2011 – 2012</u>       | <u>12/31/2027</u>      |
| <u>2013 – 2014</u>       | <u>12/31/2028</u>      |
| <u>2015 – 2017</u>       | <u>12/31/2029</u>      |
| <u>2018 and later</u>    | <u>12/31/2030</u>      |

[Note: For example, if a 2015 model year diesel engine on an excursion vessel operating in Regulated California Waters, the owner or operator must bring the engine into compliance with the requirements of section (e)(6)(C) by December 31, 2029.].

**Table 14: Compliance Dates for Tier 2, Tier 3, or Tier 4 Engines on Barges, Dredges, Crew and Supply Vessels, and Workboats**

| <u>Engine Model Year</u> | <u>Compliance Date</u> |
|--------------------------|------------------------|
| <u>2009 and earlier</u>  | <u>12/31/2028</u>      |
| <u>2010 – 2013</u>       | <u>12/31/2029</u>      |
| <u>2014 – 2017</u>       | <u>12/31/2030</u>      |
| <u>2018 and later</u>    | <u>12/31/2031</u>      |

[Note: For example, if a 2010 model year diesel engine on a workboat operating in Regulated California Waters, the owner or operator must bring the engine into compliance with the requirements of section (e)(6)(C) by December 31, 2029.].

**(E) Compliance Extensions.**

Pursuant to this subsection (e)(6.1)(E), a person subject to the requirements of subsection (e)(6.1)(C) may request that the E.O. grant an extension to a compliance date set forth in subsection (e)(6.1)(D) (i.e., extension to the “nominal” compliance date). The E.O. may grant the applicant an extension to the nominal compliance date for any one of the reasons set forth below. An applicant granted such an extension is deemed to be in compliance with the requirements of subsection (e)(6.1)(C) during the extension period, but only upon written authorization from the E.O. made pursuant to this provision and only until the end of the extension period. During the extension, the applicant must meet all other requirements of this section. Immediately upon the end of the extension period, the applicant must meet all the applicable requirements of this section, including but not limited to, subsection (e)(6.1)(C).

Except as provided in paragraphs XXX below, the E.O. cannot grant more than one compliance extension for any individual engine, set of engines, or harbor craft. Compliance extensions are valid only for the owner of a vessel or engines

on the date of the nominal compliance dates. Compliance extensions are not transferrable to the new owner after the sale of an engine or vessel.

1. Facility Infrastructure Installation Delays.

The E.O. may grant an applicant a one-year compliance extension, renewable once for a total of two years, to the nominal compliance date set forth in subsection (i)(1)(A) or subsection (e)(5.1) for any vessel or engine technology requiring infrastructure, due to unforeseen, temporary, or extenuating circumstances outside of the facility/vessel owner's or operator's control that prevents the installation or use of dock power or zero-emission fueling infrastructure, pursuant to the following procedures and requirements:

- a. The applicant, whether a vessel owner or facility, shall submit an application to the E.O. 90 days prior to nominal compliance dates of engines or initial requirements to provide dock power, that includes the following information:
  - i. Start and end dates of the requested extension period;
  - ii. Documentation that supports the finding of circumstances requiring an extension, such as but not limited to documentation from the electrical utility, third-party engineering evaluations, of site-specific physical constraints requiring additional time for safety review, or other documentation of extenuating circumstances;
  - iii. A description of the circumstances necessitating the request for the compliance extension; and
  - iv. Efforts taken to mitigate future need for the extension.
- b. The applicant may, 60 days prior to the expiration of the extension, apply for an additional one-year extension. In such a case, the applicant shall once again be required to demonstrate that the conditions set forth in subsection (e)(6.1)(E)1.a. above have been met.

2. Meeting Performance Standards Is Not Feasible for Specific In-Use Harbor Craft.

The E.O. may grant to an applicant a three year extension, which can be renewed once for up to a total of six years for all vessel categories, if demonstrated that no suitable engines or control technologies

physically fit within the existing vessel structure, and no amount of modifications can be made to the vessel structure without compromising its structural integrity, to meet requirements of subsection (e)(4.1), (e)(5.1), or (e)(6.1), and removing the vessel from service and replacing it with a newly acquired vessel with compliant engines is not financially tenable.

In granting or denying the extension request, the E.O., will rely on any information submitted by the applicant and utilize his or her engineering judgment to evaluate technical feasibility. For purposes of this subparagraph, the E.O. may not approve this compliance extension for engines on the vessel if the replacement engine and the retrofit device can fit within the vessel after modification and reconfiguration, and installation of the replacement engine and the retrofit device would not cause the vessel to violate U.S. Coast Guard or other applicable safety laws.

The application for and issuance of an initial extension and subsequent extensions pursuant to this paragraph are subject to the following requirements:

- a. For the initial extension and all subsequent extensions to be granted pursuant to this paragraph, the applicant must submit Compliance Extension Application (CEA) to CARB, the CEA must include, at a minimum, the following:
  - i. technical feasibility analysis demonstrating that no certified engine can be used to repower engines on their vessel(s);
  - ii. technical feasibility analysis demonstrating that no verified Level 3 DPF can be used to retrofit Tier 3 or Tier 4 engines on their vessels;
  - iii. technical feasibility analysis provided by a third-party naval architect demonstrating that no practical or safe vessel modifications are feasible to repower and retrofit the vessel;
  - iv. financial analysis demonstrating that compliance by the compliance dates associated with removing the vessel from service and/or replacing the vessel with a new build compliant vessel may cause a financial hardship for the vessel owner; and,
  - v. additional data requested by CARB for the E.O. to perform analysis using existing U.S. EPA models such as ABEL, INDIPAY, or MUNIPAY, to evaluate an entity's ability to afford compliance costs.

- b. The E.O. shall consider all information submitted in the CEA application, including but not limited to, information related to the determination of compliance capability for the person's vessel.
- c. The person must identify in the application each engine for which the extension is requested, and demonstrate that all other engines subject to the person's direct control meet the requirements of this section.
- d. The person must submit the application for an extension so that it is received by the E.O. no later than 18 months before the nominal compliance date of the engine or vessel for which the extension is requested.
- e. The person must demonstrate that meeting the performance standards in Tables 7, 8, and 9 is not feasible, and separately that repowering the vessel with an engine meeting the current marine or off-road emission standards in effect is not feasible. In situations where it is feasible to repower with engines meeting current Tier 3 marine, Tier 4 marine, or Tier 4 Final off-road emission standards, but it is not feasible to meet the performance standards in Tables 7, 8, or 9, the person must repower the vessel with the cleanest available Tier 3 marine, Tier 4 marine, or Tier 4 Final off-road certified engine. The newly repowered engines shall be subject to new nominal compliance dates, and a person may apply for a compliance extension from the compliance dates shown in Tables 12, 13, and 14 based on the model year of the newly installed engines.
- f. For each engine identified in paragraph 2 above, the person must provide in the application a detailed description of the reasons and factors that serve as the basis for the claim that compliance for the vessel is not feasible. This description must include, at a minimum, detailed engineering diagrams, calculations, and citations to applicable U.S. Coast Guard regulations that support the person's claim that compliance for the vessel is not feasible.
- g. After the initial extension, the E.O. may grant one additional three year extension for all regulated in-use vessel types except workboats, which are not limited to a total of six years of

compliance extension, provided the following requirements are met:

- i. All requirements specified in paragraph (e)(6.1)(E)2.a and (e)(6.1)(E)2.b above are followed;
- ii. The application for an additional extension demonstrates the engines identified in paragraph (e)(6.1)(E)2.c remain in compliance with this section;
- iii. The application is received by the E.O. no sooner than 12 months but no later than 6 months before the expiration of the previous extension;
- iv. The application identifies the engine(s) for which the additional extension is requested; and,
- v. For each engine identified in paragraph (e)(6.1)(E)2.g.iv above, subsection (e)(6.1)(E)2.f above shall be followed for demonstration.

h. After six years of a compliance extension, no additional compliance extensions can be issued pursuant this subsection (e)(6.1)(E)2 except for vessels meeting the workboat definition.

3. *Equipment Manufacturer Delays or Installation Difficulties.*

Upon written request, the E.O. may grant to an applicant a one-time, 6-month extension to the applicable compliance date set forth in subsection (e)(6.1)(D) or (e)(6.2), provided all the following criteria are met:

- a. the applicant ordered the new replacement engine or other equipment necessary to comply with the requirements of subsection (e)(6.1)(C) prior to the applicable compliance date set forth in subsection (e)(6.1)(D); and
- b. the purchase order identified in paragraph a above was placed with the manufacturer no later than 6 months before the engine's applicable compliance date; and
- c. the new engine or equipment has not been received or installed since it was ordered due to manufacturing delays or excessive difficulties encountered by the engine or equipment installer; and



d. the applicant for the extension provides documentation to the E.O.'s satisfaction that demonstrates the criteria in subparts a. through c. above have been met. The E.O. may, in his/her sole discretion, use any information available to rebut any of the documentation submitted pursuant to subparts a through c above.

4. *Multiple Engines on Multiple Vessels Within Same Fleet and With Same Compliance Dates.*

This provision applies only to fleets of 2 or more regulated in-use vessels that are owned by the same person. Upon written request, the E.O. may grant an extension to the applicable compliance date(s) for engines on vessels within such fleets, as set forth below;

a. If two or more engines on a vessel have the same compliance date as two or more engines on another vessel, or if one engine on three or more vessels have the same compliance date, the E.O. may grant to a person a one-time, maximum two-year extension of the applicable compliance date. To receive an extension under this provision, the applicant must submit a written request to the E.O. that meets the following requirements:

- i. The request must be received by the E.O. no later than December 31st of the year immediately preceding the applicable compliance date; and
- ii. The request identifies the engines and the vessels in the person's fleet that are subject to the requested extension.

5. *Multiple Engines on Single Vessel With Different Compliance Dates.*

Upon written request, the E.O. may grant to the applicant an extension to the applicable compliance date(s) for engines on regulated in-use vessels within such fleets, as set forth below;

a. For each set of engines (a "set" means two or more engines) on a single regulated in-use vessel with different compliance dates, the E.O. may grant to an applicant a one-time, maximum one year extension to one in-use engine that the applicant chooses for the extension. To receive an extension under this provision, the applicant must submit a written request to the E.O. that meets the following requirements:

- i. The request must be received by the E.O. no later than December 31st of the year immediately preceding the applicable compliance date for the engine with the earlier compliance date; and
- ii. The request must identify the vessel and engines that are subject to the requested extension, including vessel name, engine type, engine serial number, engine model year and nominal compliance date.

6. No Certified Engines or VDECS Available.

If there are no certified engines or CARB verified DPFs available to meet applicable compliance dates, a renewable two-year extension may be granted if demonstrated by the applicant.

The application package must be supplied to the E.O. no later than 6 months by the applicable compliance date for the initial application or before the previous extension expires for the renewal.

Documentation must include an evaluation of all U.S. EPA certified engines meeting applicable performance standards, and all CARB verified DPFs by the applicable compliance date. Engineering analysis must be provided indicating that no combination of certified engines could be used in lieu of engines of the original horsepower rating to perform the work of the original vessel design. Applicants must consider engines of different power ratings, power densities, and other vessel powertrain modifications, including but not limited to engine controls, azimuth drives and propeller configurations. The compliance extension described in this paragraph shall only consider availability of engines and/or DPFs, and at no point can the cost of the modifications be considered to be granted this compliance extension.

In situations where engines certified to current Tier 3 marine, Tier 4 marine, or Tier 4 Final off-road are available but CARB verified Level 3 DPFs are not available, the person must repower the vessel with the available Tier 3 marine, Tier 4 marine, or Tier 4 Final off-road engines and submit an engineering analysis to evaluate the availability of CARB verified Level 3 DPFs every two years. A person must retrofit the vessel with a DPF within 6 months of this compliance extension expiring.

7. Extension for Vessels with Tier 4 Engines and Limited Operating Hours

This provision includes a renewable three-year extension that applies to regulated in-use vessels equipped with Tier 4 marine or Tier 4 Final off-road engines, where meeting Tier 4 + DPF performance standards is not technically feasible without replacing the vessel, and the vessels have not, and will not operate above the annual hour thresholds listed in Table 15. Applicants must submit technical feasibility analysis performed by a third-party naval architect to the E.O. six months prior to nominal compliance dates, or prior to the expiration of a previous extension using this provision, along with documentation of annual operating hours for the vessel.

To be eligible for this extension, applicable engines must meet Tier 4 marine or Tier 4 Final off-road standards on all vessel categories except for any barge or dredge, where all auxiliary engines must meet Tier 4 marine or Tier 4 Final off-road standards.

In the case of Tier 4 engines operating beyond the applicable vessel replacement threshold hours, applicants must notify the E.O. within 30 days and take engines out of service.

**Table 15: Vessel Replacement Thresholds**

| <u>Vessel Category</u>                        | <u>Tier 4 Only Required if Operating Below</u> |
|---|--|
| <u>Ferry, Pilot, Tug</u>                      | <u>2,000 hours/year</u>                        |
| <u>Passenger Fishing, Excursion, Research</u> | <u>2,500 hours/year</u>                        |
| <u>Dredge, Barge, Crew Supply, Workboat</u>   | <u>3,500 hours/year</u>                        |

(F) Special Provisions Applicable to the Use of a Verified Diesel Emission Control Strategies (VDECS).

The following requirements apply to any person's use of a VDECS pursuant to subsections (e)(4.1), or (e)(5.1) or (e)(6.1) or (f) and are in addition to any other applicable requirements:

1. Once the VDECS is installed on an applicant's vessel, the applicant must continue to operate and maintain the VDECS, in accordance with

the manufacturer's directions, to achieve the original level of emission reductions that the VDECS was designed and intended to achieve;

2. In the event a VDECS fails, breaks down, or is otherwise damaged (collectively referred to hereinafter as "fail" or "failure"), the vessel owner or operator must, within 90 days of the VDECS failure, do at least one of the following:
  - a. repair the VDECS to good working order;
  - b. replace the failed VDECS with another working VDECS, if it cannot be repaired; or
  - c. employ another method that meets the requirements of subsection (e)(6.1)(C) and other applicable provisions of this section, if the VDECS cannot be repaired.
3. The determination in subpart 2.b and 2.c above of whether a VDECS cannot be repaired may only be made by either the VDECS manufacturer or an authorized dealer or installer.
4. If a VDECS is replaced within 90 days of failure, the original failed VDECS may only remain on the vessel if it is not connected to the exhaust manifold of the engine for which it was originally installed.

(6.2) In-Use Engines on Commercial Fishing Vessels – Requirements for Meeting Tier 2 and Higher Emission Standards.

Beginning January 1, 2023, a person who owns, operates, sells, purchases, offers for sale, leases, rents, imports, or otherwise acquires an in-use commercial fishing vessel with a pre-Tier 1 - or Tier 1-certified marine or off-road engines may not own, operate, sell, purchase, offer for sale, lease, rent, import, or otherwise acquire an in-use engine, or a commercial fishing vessel, unless that engine meets U.S. EPA certified Tier 2 or higher emission standards by the applicable compliance date set forth in Table 16.

**Table 16: Compliance Dates for Any Pre-Tier 1 and Tier 1 Certified Engines on Commercial Fishing Vessels**

| <u>Engine Model Year</u> | <u>Compliance Date</u> |
|--------------------------|------------------------|
| <u>1987 and earlier</u>  | <u>12/31/2030</u>      |
| <u>1988 – 1997</u>       | <u>12/31/2031</u>      |
| <u>1998 and later</u>    | <u>12/31/2032</u>      |

[Note: For example, if a 1993 model year diesel engine on a commercial fishing vessel operating in Regulated California Waters, the owner or operator must bring the engine into compliance with the requirements of subsection (e)(6.2) by December 31, 2031.].

(7) Low-Use Exceptions.

Beginning January 1, 2023, in lieu of meeting the performance standards set forth in subsection (e)(4.1) with compliance methods set forth in subsection (e)(6.1)(C) or meeting the ZEAT requirements set forth in subsection (5.1), a person may apply for low-use exceptions to be able to operate non-compliant vessels in Regulated California Waters.

(A) E.O. approval.

E.O. approval letter must be obtained prior to engine’s compliance date set forth in subsection (e)(6.1)(D) or entering RCW if vessels come from outside of RCW.

(B) Requirements.

1. Low-use exception requires that the applicable engines be operated less than the limits set forth in Table 17 based on vessel category and engine tier standard in a calendar year.
2. All requirements applied to low-use engines, such as but not limited to Opacity Testing, Reporting, and Unique Vessel Identifier Requirements must be met prior to submittal of Initial Low-Use Application.
3. No more than five vessels based outside of California shall be eligible for this exception per calendar year.

**Table 17: Annual Low-Use Hours Limits for Engines on Regulated In-Use Vessels**

| <u>Current Engine Tier</u> |                       |                       |                       |
|----------------------------|-----------------------|-----------------------|-----------------------|
| <u>Tier 0</u>              | <u>Tier 1</u>         | <u>Tier 2</u>         | <u>Tier 3 or 4</u>    |
| <u>80 hours/year</u>       | <u>300 hours/year</u> | <u>400 hours/year</u> | <u>700 hours/year</u> |

(C) Initial Low-Use Application for E.O.'s Review.

1. For vessels homeported in RCW, applicants must submit application package at least 60 days prior to engine's compliance date set forth in subsection (e)(6.1)(D).
2. For vessels based outside of RCW, applicants must submit application package at least 60 days before vessels entering RCW.
3. The application package, at a minimum, must contain:
  - a. A formal request letter that includes the following:
    - i. a table to identify applicable vessels and engines from the latest report, including vessel name and Unique Vessel Identifier (UVI), engine type, make, model year, serial number and engine family name if applicable;
    - ii. current hour meter reading and evidence showing the engine is equipped with a functioning non-resettable hour meter;
    - iii. supporting documents (such as but not limited to logbooks or records indicating hour meter readings on past dates) to demonstrate that the engine has not operated more than the limits specified in Table 17 in the previous year from the date of application;
    - iv. activity plans or commitment to demonstrate that the engine will not operate more than the limits specified in Table 17 in the subsequent years; and
    - v. if engines are used in capacities not for regulated work, such as personal pleasure or in commercial fishing activities, these hours do not count toward the limits specified in subsection (e)(7)(B) only if they are clearly documented in logbooks for past operation and future activity plans demonstrate how future operation will remain below applicable limits.
  - b. A letter or attestation from a certified third party Society of Automotive Engineers (SAE) certified technician or Original Equipment Manufacturer (OEM) engine factory, distributor, or dealership certified technician demonstrating that the engine is in proper operating condition.

(D) Renewal Requirement.

The E.O. approval letter shall be subject to renewal every three years. Applicants must submit the renewal application at least 60 days before the previous approval letter expires. The renewal application package must contain the same information as the initial application.

(E) Revocation of Approved E.O. Letter.

The E.O. may revoke or modify, as needed, an approved Low-Use Exception Letter if the E.O. determines that the approved application can no longer meet or comply with the requirements for Low-Use Exception.

**(f) *Alternative Control of Emissions-Compliance Pathways (ACEP).***

The purpose of this subsection is to allow a person (“person” or “applicant”) the option of complying with the requirements of this subsection in lieu of all of the requirements of subsection (e). As set forth in this subsection, an applicant may be deemed in compliance with subsection (e) by implementing an alternative emission control strategy(ies) (AECS) that achieve equivalent or additional emission reductions compared to complying with requirements in subsection (e) (Option 1) or by adopting zero-emission and advanced technology (ZEAT) (Option 2) in advance or surplus of requirements outlined in subsection (e)(5.1). Option 2 can apply to new build vessel categories where ZEAT is not required.

**(1) Requirements for ACP Option 1.**

(A) ~~The purpose of this subsection is to allow a person (“person” or “applicant”) the option of complying with the requirements of this subsection in lieu of the requirements of subsection (e). As set forth in this subsection, a person~~ An applicant may be deemed in compliance with subsection (e) by implementing an alternative emission control strategy(ies) (AECS) approved by the E.O. In no case may the E.O. approve an AECS that results in or has the potential to result in any increase of diesel PM and NO<sub>x</sub> emissions or any increase in emissions greater than 10 percent for any other pollutant, relative to the emissions of diesel PM, NO<sub>x</sub>, and other pollutants that would have occurred under compliance with subsection (e).

(B) An applicant wishing to participate in an ACEP may include one or more harbor craft in the ACEP, but the applicant may only include harbor craft that the person owns or operates under the person’s direct control.

- (C) No harbor craft may be included in more than one ACEP plan.
- (D) Harbor craft included in an ACEP must continue to be included in and operated pursuant to the approved ACEP for the duration of the ACEP.
- (E) AECS may only apply to emissions from harbor craft subject to this section, and may not apply to other mobile or stationary source categories. AECS may include, but are not limited to, any combination of the following:
  - 1. engine modifications;
  - 2. exhaust treatment control;
  - 3. engine repower;
  - 4. use of alternative fuels or fuel additives;
  - 5. shore-side power;
  - 6. fleet averaging; ~~and~~
  - 7. CARB Approved Emission Control System (CAECS); and

~~87.~~ any other measures that sufficiently reduce emissions.

CAECS may be used in ACP Option 1 application to meet the performance standards set forth in subsection (e)(4.1). To receive the E.O.'s approval, the application must meet the following requirements:

- i. the CAECS must be approved pursuant to At Berth Regulation, title 17 section 93130.5; and
- ii. the applicant must demonstrate that the CAECS is applicable to the harbor craft specified in the application and meet the performance standards;

For purposes of the demonstration, the E.O. may request additional emissions testing based on good engineering judgment.

- (F) A person complying under this provision must obtain E.O. approval of an ACEP application that demonstrates compliance with this subsection and contains, at a minimum, the following information:
  - 1. the company name, address, and contact information;
  - 2. the harbor craft and engine(s) subject to the ACEP, including the vessel name and identification number(s), engine make, model, and serial numbers, and other information that uniquely identify the engine;
  - 3. documentation, calculations, emissions test data, or other information that establishes the diesel PM and NO<sub>x</sub> reductions, expressed in



pounds, are equal to or greater than the emission reductions that would have been achieved upon compliance with subsection (e), including but not limited to the requirements specified in subsection (e)(6)(C) and (e)(6)(D) prior to January 1, 2023 and in subsection (e)(6.1)(C) and (e)(6.1)(D) on and after January 1, 2023; and

4. the proposed recordkeeping, reporting, monitoring, and testing procedures that the applicant will use to demonstrate continued compliance with the ACEP.
- (G) For each ACEP, the emission reduction calculations demonstrating equivalence with the requirements of subsection (e) may include only those diesel PM and NO<sub>x</sub> emissions from harbor craft with its homeport within a single specified California air district, or another defined geographic area approved by the E.O.
- (H) A person subject to an approved ACEP must maintain operating records in the manner and form as specified by the E.O as an element of any approved ACEP. Required records must include, at a minimum:
1. all the reporting and recordkeeping requirements specified in subsections ~~(e)(m)~~ and ~~(h)(n)~~ prior to January 1, 2023 and in subsection (m) and (n.1) on and after January 1, 2023;
  2. maintenance procedures; and
  3. emissions test results.
- A person subject to an approved ACEP must retain records and reports on each vessel or at an office at the vessel's homeport for the lifetime of each engine and must submit these records and reports to the E.O. in the manner specified in the approved ACEP or upon request by the E.O.
- (I) Emission reductions included in an ACEP may not include reductions that are otherwise required by any local, State, or federal rule, regulation, or statute, or that are achieved or estimated from equipment not located in the region to which the ACEP applies.
- (J) A person subject to an approved ACEP may not operate any harbor craft under the ACEP unless the person has first been notified in writing by the E.O. of the ACEP's approval. Prior to such approval, the applicant must comply with the provisions of this section, including the requirements in subsection (e)(6)(C) and (e)(6)(D) prior to January 1, 2023 and in subsection (e)(6.1)(C) and (e)(6.1)(D) on and after January 1, 2023.

(2) Application Process for ACP Option 1.

- (A) Applications for an ACEP must be submitted in writing to the Executive Officer for evaluation by February 28 of the first year that vessel engine compliance is required prior to January 1, 2023, and at least 18 months prior to the first year that vessel engine compliance is required on and after January 1, 2023.
- (B) The E.O. shall establish an internet site (“ACEP internet site”) in which all documents pertaining to an ACEP application shall be made available for public review. The E.O. shall also provide a copy of all such documents to each person who has requested copies of the documents; these persons shall be treated as interested parties. The E.O. shall provide two separate public comment periods during the ACEP application process, as specified in subsection (f)(2)(D) and (f)(2)(E).
- (C) Completeness Determination.

Within 4530 days after receiving an ACEP application, the E.O. shall notify an applicant whether the application is deemed sufficiently complete to proceed with further evaluation. If the application is deemed incomplete, the notification shall identify the application’s deficiencies. The E.O. shall have an additional 4530-day period for reviewing each set of documents or information submitted in response to an incomplete determination. Nothing in this subsection prohibits the E.O. from requesting additional information from the applicant, during any part of the ACEP application process, which the E.O. determines is necessary to evaluate the application.

(D) Notice of Completeness and 30-Day First Public Comment Period.

After an ACEP application has been deemed complete, the E.O. shall provide a 30-day public comment period to receive comments on any element of the ACEP application and whether the E.O. should approve or disapprove the ACEP application based on the contents and merits of the application. The E.O. shall notify all interested parties of the following:

1. the applicant(s);
2. the start and end dates for the 30-day first comment period; and
3. the address of the ACEP internet site where the application is posted.

The E.O. shall also make this notification available for public review on the ACEP internet site.

(E) Proposed Action and 15-Day Second Public Comment Period.

Within 30 days after the first public comment period ends, the E.O. shall notify the applicant and all interested parties of CARB's proposed approval or disapproval. This notification shall propose to approve the application as submitted, disapprove the application, or approve the ACEP application with modifications as deemed necessary by the E.O. The notification shall identify the start and end dates for the 15-day second public comment period.

During the second public comment period, any person may comment on the E.O.'s proposed approval or disapproval of the ACEP application and any element of the application. The E.O. shall also make this notification available for public review on the ACEP internet site.

(F) Final Action.

Within 45~~30~~ days after the second public comment period ends, the E.O. shall take final action to either approve or deny an ACEP application and shall notify the applicant accordingly. If the application is denied or modified, the E.O. shall state the reasons for the denial or modification in the notification. The notification to the applicant and approved ACEP plan, if applicable, shall be made available to the public on the ACEP internet site. In addition, the E.O. shall consider and address all comments received during the first and second public comment periods, and provide responses to each comment on the ACEP internet site.

(G) Renewal of an Approved ACEP.

An applicant may apply for renewal of an approved ACEP by forwarding the E.O. updated information for all elements of the approved ACEP for review and re-approval. The applicant must submit the renewal application so that the E.O. receives the application no later than 30 days prior to the end of the ACEP compliance period.

(H) Notification to the E.O. of Changes to an Approved ACEP.

A person with an approved ACEP must notify the E.O. in writing within 30 days upon learning of any information that would alter the emissions

estimates submitted during any part of the ACEP application process. If the E.O. has reason to believe that an approved ACEP has been granted to a person that no longer meets the criteria for an ACEP, the E.O. may, pursuant to subsection (f)(35) below, modify or revoke the ACEP as necessary to assure that the applicant and subject vessel(s) meet the emission reduction requirements in this section.

(3) Requirements for ACP Option 2.

This provision allows harbor craft owners or operators that elect to deploy ZEAT in advance of, or in addition to, the requirements in subsection (e)(5.1) on new build or in-use vessels, to receive additional compliance time as shown in Table 18 for other vessels within their fleet operating within the same air district. No emissions analysis is required for ACP Option 2, unless performed in partial fulfillment of meeting requirements of CARB approval of technologies as listed in (e)(5.1)(D)1 .

(A) A person may choose to adopt ZEAT in advance of, or in addition to the requirements of subsection (e)(5.1), to receive additional compliance time on another vessel in their fleet:

1. If a person's vessel is not subject to ZEAT requirements set forth in subsection (e)(5.1), and ZEAT is deployed on or before compliance dates for all engines set forth in subsection (e)(6.1)(D), additional compliance time shown in Table 18 below shall be granted to all engines on another vessel in that person's fleet.
2. For short-run ferries, the additional compliance time shown in Table 18 may only be applied to another vessel in a person's fleet if ZEAT is deployed three (3) years prior to ZEAT compliance dates set forth in subsection (e)(5.1).

For example, a pilot boat required to meet performance standards by December 31, 2027 is removed from service and replaced with a zero-emission vessel December 31, 2026. A person may request for an additional seven years to be granted for another vessel in the fleet and air

district to comply with requirements of subsection (e)(6.1) pursuant to subsection (f)(3)(A)1.

**Table 18. Additional Compliance Time for Vessels Where ZEAT is not Required**

| <b><u>Marine Technology Type</u></b> | <b><u>Additional Compliance Time</u></b> |
|--------------------------------------|--|
| <u>Zero-Emission Capable Hybrid</u>  | <u>3 Extra Years</u>                     |
| <u>Zero-Emission</u>                 | <u>7 Extra Years</u>                     |

- (B) An ACP under this provision must contain and meet the requirements listed in subsection (f)(1)(B), (C), (D), (I) and (J).
- (C) A person complying under this provision must obtain E.O. approval of an ACP application that demonstrates compliance with this section and contains, at a minimum, the requirements listed in subsection (e)(5.1)(D)1.
- (D) Identification of the specific harbor craft and engine(s) on which three years additional compliance time will be applied if ZEAT is adopted early or adopted in vessel categories where ZEAT is not required, including the vessel name and identification number(s); engine make, model, and serial numbers; and all other information that uniquely identify the engine.
- (E) A person subject to an approved ACP must maintain operating records in the manner and form as specified by the E.O as an element of any approved ACP. Required records must include, at a minimum:
1. all the reporting and recordkeeping requirements specified in subsections (m) and (n.1); and
  2. maintenance procedures.
- A person subject to an approved ACP must retain records and reports on each vessel or at an office at the vessel's homeport for the lifetime of each engine and must submit these records and reports to the E.O. in the manner specified in the approved ACP or upon request by the E.O.
- (F) The additional compliance time granted in Table 18 shall not be combined with the compliance extensions in subsection (e)(6.1)(E) for any individual engine, set of engines, or harbor craft.

(4) Application Process for ACP Option 2.

(A) Applications for an ACP must be submitted in writing to the Executive Officer for evaluation at least 18 months prior to the first year that vessel engine compliance is required.

(B) Application process set forth in subsection (f)(2)(C), (F) and (H) shall be followed.

(35) Revocation or Modification of Approved ACEPs.

This provision applies to both ACP Option 1 and Option 2. With 30 days of notice of violation to the ACE holder, the E.O. may revoke or modify, as needed, an approved ACEP if any of the following apply:

- (A) there have been multiple violations of the ACEP provisions or the requirements of the approved ACEP plan;
- (B) the E.O. has reason to believe that an approved ACEP has been granted that no longer meets the criteria or requirements for an ACEP; or
- (C) the person can no longer comply with the requirements of the approved ACEP in its current form.

Public notification of a revocation or modification of an approved ACEP shall be made available on the ACEP internet site for ACP Option 1.

(g) Unique Vessel Identifier Requirement.

(1) All Harbor Craft operating in Regulated California Waters are required to have a CARB Unique Vessel Identifier (UVI).

(A) The CARB UVI is a unique set of letters and numbers that is assigned to a vessel to ensure traceability and permanent identification of the vessel.

(2) Requirements.

(A) On or before January 1, 2024 all harbor craft will need to have their CARB UVI permanently affixed to their vessel.

(B) Beginning March 1, 2023, or within 30 calendar days of fulfilling the vessel registration and reporting requirements in subsection 93118.5(m) and 93118.5(n.1), whichever occurs later, the Executive Officer shall issue CARB UVI numbers via electronic mail or hard copy mailed to the business address provided on the application.

(C) Vessel owners or operators shall permanently affix or paint the identification number vessel in clear view according to the following specification:

1. Letters and numbers shall be readily legible during daylight hours. Each character of the CARB UVI must be at least 5 inches (12.7 centimeters) in height and 2.5 inches (3.8 centimeters) in width.
2. Each character of the CARB UVI must remain legible for the entire life of the vessel.
3. Letters and numbers shall contrast sharply in color with the color of the background surface on which the letters are placed.
4. The location of the CARB UVI shall be as follows:
  - a. CARB UVI shall be affixed, above the waterline, to both the port and starboard side of the vessel hull either;
    - i. below, above, or adjacent to the vessel's name; or
    - ii. on the port and starboard bow or port and starboard quarter.
5. Marking shall be kept maintained in a manner that retains the legibility required by the subparagraphs (1-4) immediately above.

**(h) Main Idling and Auxiliary Engine Operating Limits.**

Harbor craft operating in California shall meet the following requirements. Any failure to perform any specific items in this subsection shall constitute a separate violation for each calendar day that the failure occurs.

(1) Beginning on January 1, 2024, no vessel subject to this regulation may idle propulsion engines or operate auxiliary generator engines for more than 15 consecutive minutes when docked, berthed, or moored at its homeport or any regularly scheduled service locations. Prior to reaching the idling limit a harbor craft shall shut down its engine(s). The idling and operational limits do not apply to:

(A) idling or operation for testing, servicing, repairing or diagnostic purposes;

(B) idling necessary to accomplish work for the vessels intended use, including, but not limited to, ship-assist tug vessels while at dock if it is in position to

maneuver another vessel away, or tank barges engines to offload product from a vessel onto a terminal;

(C) operation of direct-drive or other non-generator specialty auxiliary engines while at a dockside location; and,

(D) idling if no locations at the facility that are accessible to the vessel operator are equipped with dock power.

(E) idling or operation at facilities where dock power is not required pursuant to vessel visit thresholds as defined in subsection (i)

(2) Vessel owner and operator dock power responsibilities. If elected as an idling compliance strategy, vessel owners and operators are responsible for the installation, maintenance, and operation of equipment on their vessel to enable a dock power connection. Additionally, vessel owners and operators are responsible for establishing a dock power connection each time on-board power is required beyond the idling limits specified in subsection (h)(1).

(3) If vessel owners or operators require use of dock power, the owner of the facility must provide access to power and accessible connection points as outlined in subsection (i)(2)(A).

**(i) Facility Infrastructure Requirements.**

Facilities that allow more than 50 vessel visits per year are required to aid vessel owner/operators by allowing the installation of charging or fueling infrastructure for zero-emission and other advanced technologies.

For the purpose of this subsection, a vessel visit is a period of time lasting between 1 and 24 hours with main engines idling or auxiliary engines operating at a facility. For example, 50 different vessels operating 2 hours each, or 1 single vessel operating consecutively for 50 days, would each equal 50 visits for a given facility.

**(1) Applicability.**

In addition to the vessel owner/operators as applicable in subsection 93118.5 (b), the requirements of this subsection apply to any person who owns, or operates a facility that allows more than 50 vessel visits per year.

**(2) Implementation and Requirements.**



- (A) Facility owner/operators are responsible for installing and maintaining all infrastructure to support vessel operator dock power requirements in subsection (h)(3) of this section. Dock power must be made available at all facilities by January 1, 2024.
  - 1. A facility owner/operator that is not able to install the infrastructure required by subsection (i)(2)(A) by January 1, 2024, may request an extension of compliance from the Executive Officer following requirements outlined in subsection (e)(6.1)(E)(1).
- (B) Facility owner/operators must work with vessel owner/operators to accommodate zero emission infrastructure including but not limited to, providing slips/berths that are best suited for the installation of fast-charging equipment, or for hydrogen delivery trucks coming to dock. Facility owner/operators must allow vessel owner/operators to install and maintain this infrastructure for the operation of zero emission vessels beginning January 1, 2022 to facilitate zero emission operation by January 1, 2023.
- (C) Except for shore-based dock power infrastructure, vessel owner/operators are responsible for the installation and maintenance of all zero emission infrastructure on both the vessel and the facility including infrastructure for electric charging, hydrogen or other alternative refueling, or other advanced technologies.

**(j) Facility Recordkeeping and Reporting Requirements.**

- (1) Beginning January 1, 2023 owners and operators of a facility regularly conducting business with a facility tenant must provide the following information to CARB.
  - (A) An initial list of all tenants subject to this regulation that have use agreements to rent or lease a slip or dock, berth, or moor for seven (7) days or longer (per month) at the reporting facility. This list must be submitted to CARB no later than January 1, 2023.
  - (B) On and after January 1, 2023, facility owners or operators are required to report facility tenants quarterly.
- (2) Facility reporting shall be performed according to the procedures set forth in subsection (s.1). Facilities must report the following information:

- (A) Facility Information.
1. Applicable facility name;
  2. Applicable facility address, state, zip code;
  3. Applicable facility geographic coordinates, using a series of latitude and longitude, or alternatively a geographic information system shape file or "geofence", delineating the property boundaries;
  4. Property owner name;
  5. Applicable facility owner;
  6. Applicable facility owner address; and
  7. Responsible official and applicable facility owner contact information.

- (B) Vessel CARB UVI, Vessel Name, Vessel Type, and if no CARB UVI is available, or prior to January 1, 2024, one of the following unique identifying numbers: US Coast Guard Documentation Number, California Department of Motor Vehicles CF number, or International Maritime Organization number;

- (C) Vessel owner/operator information including:
1. company name;
  2. company mailing address;
  3. primary contact;
  4. vessel owner/operator primary phone number; and
  5. vessel owner/operator e-mail address.

- (D) Start date of vessel and facility use agreement;

- (E) Dock, berth or slip location or number at facility;

- (F) If applicable, the end date of use agreement; and

- (G) If applicable, the date when a vessel has left the facility.

- (3) Facilities with shore-based dock power infrastructure must report the following additional information, and reporting shall be performed according to the procedures set forth in subsection (s.1):

- (A) Infrastructure type, manufacturer, serial number, installation date;

- (B) Equipment type supported, number of equipment supported;

- (C) Capacity (fuel/energy storage volume), amp/voltage; and

(D) Public or private use, number of plugs.

(4) Beginning January 1, 2023 any person subject to this subsection shall retain and maintain daily records in English, that contain the following information for at least three years following the date when the records were made:

(A) Date, local time, and position (e.g. slip number) for each facility tenant, and if applicable, the date of vacancy for each facility tenant.

**(k) Opacity Testing.**

This subsection applies to all main propulsion diesel engines operating on all in-use vessels, including swing engines, low-use engines regardless of engine model year, engine tier level or compliance date. Applicable opacity limits set forth in subsection (k)(3) must be met whenever the test procedure is administered.

**(1) Requirements.**

(A) Beginning January 1, 2023, a vessel owner/operator subject to this subsection must perform opacity testing set forth in subsection (k)(2) biennially. The results must be submitted to CARB within 30 days of the completed test and no later than December 31 through the online Freight Regulation Reporting System (FRRS).

((B) Engines with model year 2019 or subsequent model year engines are exempt from subsection (k) until January 1 of the calendar year that is four years after the model year of the engine. For example, a 2020 model year engine is exempt until January 1, 2024.

(C) CARB has authority to perform opacity testing in the field, or audit opacity test records at any time.

(D) Swing engines are not subject to subsection (k) when maintained at a dockside location, but are subject to subsection (k) once installed into a vessel with regulated in-use engines. Opacity testing shall be performed prior to the vessel entering normal revenue service unless the swing engines are model year 2019 or subsequent model years and are within the exemption period granted under subsection (k)(1)(B) until four years after the model year of the swing engine.

- (E) If any vessel(s) based outside of California will be in RCW for more than 30 consecutive days, opacity testing must be performed on all applicable engines within 30 days of entering RCW. The test result remain effective for two years from the date of the test.
- (F) Individuals conducting opacity tests must have completed training from the California Council on Diesel Education and Technology and obtained certification on the proper administration of the specified test procedure. The E.O. may approve or offer alternative training courses that satisfy this requirement.
- (G) The smoke opacity measurement equipment shall consist of a light extinction-type smoke meter that has an optical detection unit, a control/indicator unit, and a strip chart recorder, and is capable of recording test results continuously when vessel is operating at steady-state and transient conditions.
- (H) If the opacity exceeds the applicable opacity limits set forth in subsection (k)(3), the engine shall be repaired within 30 calendar days from the date of the failed opacity test or the engine shall be taken out of service. The information shall be recorded as specified in subsection (m)(18). Before being put back into service the engine, VDECS, or other emission control systems shall be repaired such that it meets the opacity requirements before being returned to service. A post-repair opacity test shall be performed to determine if the measured opacity is within the requirements in subsection (k)(3).
- (I) If the post-repair opacity measure is greater than the opacity requirement in subsection (k)(3), the engine shall remain out of service. The engine may be returned to service if it can be repaired so that the post-repair opacity meets opacity limits in subsection (k)(3).
- (J) If it can be demonstrated that complying with the requirements of subsection (k) is not feasible due to a safety concern, or the engine configuration, then an alternative method of compliance may be used if approved by the Executive Officer. In approving a request for use of an alternative method, the E.O. shall consider whether the owner/operator is able to demonstrate that alternative method will be able to detect increase in soot accumulation rates in the aftertreatment control device and be able to provide necessary maintenance and repair.

(2) Test Procedure and Recording.

Opacity shall be measured with a calibrated smoke meter consistent with Society of Automotive Engineers “Surface Vehicle Recommended Practice, Snap Acceleration Smoke Test Procedure for Heavy-Duty Powered Vehicles” (SAE J1667, February 1996), which is incorporated by reference herein. For the purpose of this subsection, smoke opacity shall be defined over a five inch optical path length, and be using two operating modes according to the following procedure:

(A) Steady-state mode

1. Vessel Operation.

Vessels shall operate main engines underway at the typical vessel steady state transit speed until engine oil temperature reaches 160 degrees F. The vessel must remain at the steady state transit speed in a straight line for at least 60 seconds without turning or adjusting throttle positions before commencing the opacity measurements.

2. Testing.

Three consecutive 30-second steady state opacity tests shall be conducted on each main engine within a single ten-minute period and the maximum instantaneous value recorded by the chart recorder shall be recorded as the maximum opacity reading for each test.

3. Opacity Determination.

Final opacity will be the average measurement of the three maximum opacity readings obtained in step 2 above.

(B) Transient mode

1. Vessel Acceleration Operation.

Vessels shall accelerate in a straight line from a standing stop to full engine power by applying the throttles from the idle clutched-in position to the full throttle position within 2 seconds, and remain in the full throttle position for 30 seconds or until the vessel reaches maximum speed.

2. Testing.

Three consecutive tests shall be conducted on each engine within a single fifteen-minute period and the peak instantaneous opacity value

recorded by the chart recorder shall be recorded as the maximum opacity reading for each test.

3. Opacity Determination.

Final opacity will be the average of the three peak opacity readings obtained in step 2 above.

(3) Opacity Limits.

No engine shall exceed the smoke opacity levels provided below when tested in accordance with this subsection.

(A) Engines meeting the Tier 3 + DPF or Tier 4 + DPF performance standards, tested under transient mode shall not exceed 5 percent smoke opacity when tested in accordance with this subsection;

(B) Engines without DPFs tested under transient mode shall not exceed XX percent smoke opacity when tested in accordance with this subsection;

(C) Engines with or without DPFs tested under steady-state mode shall not exceed XX percent smoke opacity when tested in accordance with this subsection.

**(l) Compliance Fee Requirements.**

This subsection applies to owners or operators of all regulated in-use harbor craft subject to reporting requirements in subsection (n.1):

(1) The Executive Officer shall assess and collect reasonable fees for deposit in the Certification and Compliance Fund to recover the estimated costs to the Executive Officer administering this subsection.

(2) Fees shall be due and payable to CARB via XXX to the Executive Officer by January 1 of each calendar year beginning in 2023.

(3) Fees are nonrefundable except in circumstances as determined by the Executive Officer.

(4) Owners or operators of vessels must submit fees to the Executive Officer in accordance with the fee schedule in Table 19.

For example, for a regular vessel with two main engines, the vessel owner or operator shall pay a total of  $\$466 + \$193 \times 2 = \$852$  per year. For fleet with one vessel only,

with three main engines total, one of which is a low use engine, the vessel owner or operator shall pay a total of  $\$349 + \$145 \times 2 + \$290 = \$929$  per year.

**Table 19. Annual Fees for Owners or Operators of Regulated In-Use Vessels**

| Category  | Fee Amount |
|---|------------|
| Per vessel, for single-vessel fleets  | \$349      |
| Per vessel, for all other fleets  | \$466      |
| Per engine, for single-vessel fleets  | \$145      |
| Per engine, for all other fleets  | \$193      |
| Per engine, if complying by low use exception as set forth in subsection (e)(7) | \$290      |

**(gm) Recordkeeping Requirements.**

Beginning January 1, 2009, the owner or operator of a harbor craft must maintain the records specified in this subsection on the vessel or at the vessel’s homeport for the life of each engine subject to this section, including fleet swing engines and marinized land-based engines. The owner or operator must provide such records for inspection to an agent or employee of CARB upon request for all harbor craft subject to this section. Records may be provided as a hard copy, electronic, or any alternative reporting strategy approved by the E.O. Records provided by the person under this provision must include, at a minimum, the following (if applicable):

- (1) Owner or Operator Contact Information:
  - (A) Company name;
  - (B) Contact name, phone and fax number, address, e-mail address;
  - (C) Address where vessel is registered prior to January 1, 2023; Address where company is located on and after January 1, 2023; and
  - (D) Reporting year.
  
- (2) Vessel information:
  - (A) Harbor craft name;
  - (B) Specify vessel use(s) (ferry, excursion vessel, tugboat, ocean-going tugboat, towboat, push boat, work boat, commercial fishing vessel, charter fishing vessel, crew and supply vessel, pilot vessel, or other if none of the preceding apply;
  - (C) Vessel homeport;
  - (D) Vessel build year;
  - (E) U.S. Coast Guard documentation number;
  - (F) California Fish and Game license number;

- (G) International Maritime Organization (IMO) number;
  - (H) Call Sign number; and
  - (I) Maritime Mobile Service identity number.
- (3) Engine Information (for each diesel engine on the vessel, including swing engines):
- (A) Current hour meter reading;
  - (B) Make of engine;
  - (C) Model of engine;
  - (D) Engine family (if applicable);
  - (E) Engine serial number;
  - (F) Year of manufacture of engine (if unable to determine, provide its approximate age) prior to January 1, 2023; Engine model year on and after January 1, 2023;
  - (G) Rated brake horsepower;
  - (H) Total engine displacement; and
  - (I) Number of cylinders.
- (4) Operational Information:
- (A) Describe the general use of engine (propulsion or auxiliary engine);
  - (B) Total annual hours of commercial operation, based upon readings of the non-resettable hour meters for previous calendar year per engine, and records retained in the following item in this list;
  - (C) Total hours of operation per calendar year in each of the regulated in-use vessel categories, other commercial operation, and non-commercial operation, based upon readings of the non-resettable hour meters for previous calendar year per engine and as needed, daily operational logbooks;
  - (D) Estimated annual fuel usage per engine; and
  - (E) Estimated percent operating time as a function of distance from shore at the distances below:
    - 1. 0-3 nautical miles; and
    - 2. >3-24 nautical miles; and
    - 3. >24 nautical miles from shore.
- (5) Control Equipment (if applicable):
- (A) Type of diesel emission control strategy;
  - (B) Manufacturer of installed diesel emission control strategy;
  - (C) Model of installed diesel emission control strategy;
  - (D) Level of control – air pollutants controlled and percent reductions;
  - (E) Emission control serial number;



- (F) Date control equipment installed.
- (6) Maintenance records for each installed engine and diesel emission control strategy:
- (A) Hour meter reading at last top end rebuild (i.e., less than full rebuild);
  - (B) Hour meter reading at last full engine rebuild; and
  - (C) Number of times full engine rebuild completed.
- (7) The retirement date for each near-retirement vessel for which an owner or operator is claiming an exemption pursuant to subsection (c)(13). This provision is only applicable until December 31, 2022.
- (8) This subparagraph is only applicable until December 31, 2022. For each engine for which the model year is determined using the “Engine’s Model Year + 5” method pursuant to subsection (e)(6)(D)2:
- (A) the name and contact information (representative, address, and phone number, and e-mail address) for the manufacturer of the emission control strategy
  - (B) the name and type of emission control strategy;
  - (C) the installation date of the emission control strategy; and
  - (D) if a VDECS is not being used for this purpose, the test plan, and the data demonstrating the emission reductions achieved due to the emission control strategy.
- (9) For each engine for which an owner or operator is claiming an extension pursuant to subsection (e)(6)(E)3 or (e)(6.1)(E)3, the purchase order or signed contract between the owner or operator and seller of the new engine or equipment that has been purchased to comply with subsection (e)(6)(C), ~~and (e)(6)(D), (e)(6.1)(C) and (e)(6.1)(D).~~
- (10) For each engine an owner or operator claims to have replaced, for purposes of compliance with the requirements of (e)(6) or (e)(6.1), written documentation that the engine has been: dismantled, destroyed, or sold out of Sstate. Alternately, the engine may be used to replace an older engine if:
- (A) The older engine is subject to the in-use engine requirements, and
  - (B) the original compliance date of the older engine is retained for the newer engine.
- (11) Records for each engine or VDECS must be retained by the owner or operator for the entire engine or VDECS life.

- (12) All records specific to an E.O. approved ACEP plan.
- (13) All records specific to a BACT approved by the E.O. pursuant to subsection (e)(5). This provision is only applicable until December 31, 2022.

Beginning January 1, 2023, the owner or operator of a harbor craft must report the following additional records:

- (14) Vessel Information:
  - (A) Specify vessel use(s);
  - (B) Vessel activity description;
  - (C) A photo of the vessel;
  - (D) Percent time operated in each vessel category;
  - (E) Homeport address;
  - (F) California DMV CF number;
  - (G) Whether the vessel operates exclusively or periodically in RCW; and
  - (H) If sold, the date of sale the purchasing entity name and contact information.
- (15) Engine Information (for each diesel engine on the vessel, including swing engines):
  - (A) General location on vessel (port, starboard, center, bow, upper deck or other);
  - (B) Engine Tier level (e.g. Off-Road Tier 3, Marine Tier 4, etc.).
- (16) Operational Information:
  - (A) Record the operating time as a function of distance from shore for vessels operating inside and outside of Regulated California Waters.
- (17) Control Equipment (if applicable):
  - (A) Diesel Exhaust Fluid (DEF) consumption if engines equipped with Selective Catalytic Reduction (SCR) systems; and
  - (B) Installer information (e.g. installer name, address, phone, and e-mail address)
- (18) Records of Opacity Testing Results:
  - (A) Brand name and model of the opacity meter;
  - (B) Dates of last calibration of the opacity meter and chart recorder;
  - (C) Name of the smoke meter operator who conducted the test;
  - (D) Name and address of the contracted smoke test facility or vehicle repair facility that conducted the test (if applicable);

- (E) Unique Vessel Identifier, vessel's engine model, engine make, engine model year, engine family number if applicable, engine serial number, and test date;
  - (F) Initial smoke test opacity levels (for three successive test readings) and average of the three readings;
  - (G) If test failed, date engine was taken out of service and hour meter reading on that date;
  - (H) Indication of whether the engine passed or failed the initial smoke test;
  - (I) For engines that have failed the smoke test and been repaired, the following information:
    - 1. name of the mechanic;
    - 2. date of the repair;
    - 3. hour meter reading at start of repair;
    - 4. a statement identifying the nature of the repairs made;
    - 5. an itemized list of parts used in the repair; and
    - 6. hour meter reading at end of repair.
  - (J) Post-repair test date and hour meter readings pre- and post-test;
  - (K) Post-repair smoke test opacity levels (for three successive test readings), and average of the three readings;
  - (L) Indication of whether the engine passed or failed the post-repair smoke test;
  - (M) If engine fails retest, repair is required. The engine cannot put back into service until post-repair test meets the applicable opacity limit; and
  - (N) Date engine put back in active service and current hour meter reading.
- (19) For each vessel adopting ZEAT, the following motor information shall be kept:
- (A) Manufacturer, model number, and model year of each component of a ZEAT system;
  - (B) Hours of operation for the engine and fuel usage;
  - (C) Usage of any alternative fuels or additives;
  - (D) Maintenance procedures for the component(s), engine(s) and its related equipment for powertrain;
  - (E) hydrogen, electricity, or other zero-emission fuel usage; and
  - (F) all other records specific to a particular ZEAT required by its approval process or as required by the E.O. pursuant to subsection (e)(5.1)(D)1.
- (20) For each vessel adopting ZEAT, the following zero-emission infrastructure information shall be submitted:
- (A) Infrastructure type, manufacturer, serial number, installation date;
  - (B) Equipment type supported, number of equipment supported;
  - (C) Capacity (fuel/energy storage volume), amp/voltage; and
  - (D) Public or private use, number of plugs.

(21) All records specific to a particular ZEAT approved by the E.O. pursuant to subsection (e)(5.1).

***(hn) Initial and Compliance Plan Reporting Requirements (Applicable Until December 31, 2022).***

- (1) Initial Reporting of California Harbor Craft Fleet. By February 28, 2009, a person subject to this section must submit the information specified in subsections (g)(m)(1) through (g)(m)(6) for all harbor craft vessels in his/her California fleet. For purposes of this paragraph, "California fleet" means the total population of harbor craft under the person's direct control as of January 1, 2009.
- (2) Compliance Plan. By February 28 of the year vessel engine compliance is required, a person subject to the requirements of subsection (e)(6)(C) and (e)(6)(D) must submit a Compliance Plan to the E.O. that describes in detail the engine replacements, rebuilds, upgrades, use of DECS, and any other measures the person plans to use to meet the requirements of subsection (e)(6)(C) and (e)(6)(D) for each of the person's engines and harbor craft. The person may revise the Compliance Plan, as needed, but the person must notify the E.O. within 10 business days of any changes to the Compliance Plan after the initial Compliance Plan is submitted. The Compliance Plan is for the E.O.'s informational and planning use only, and the substantive contents of the plan are not binding on either the E.O. or the person who submitted the Compliance Plan. The E.O.'s receipt and acceptance of a submitted Compliance Plan shall not constitute or be interpreted as evidence of compliance with the requirements of subsection (e)(6)(C) or (e)(6)(D).
- (3) Demonstration of Compliance. By no later than the applicable compliance date specified in subsection (e)(6)(D), a person subject to the requirements of subsection (e) must provide the following information to the E.O.:
  - (A) All information specified in subsections (g)(m)(1) through (g)(m)(6), and
  - (B) The implementation date and the emission control strategy implemented for each engine in accordance with the requirements of subsection (e)(6)(D) and (e)(6)(C), respectively, for purposes of demonstrating compliance.
- (4) Reporting for Change of Annual Hours of Operation, Vessel Category/Use, Transfers of Vessels, Change of Ownership of Vessel or Engine, or Vessel Operation in Regulated California Waters.

- (A) A person subject to this section must submit to the E.O. the information specified in subsection ~~(e)(m)~~(1) through ~~(e)(m)~~(6) within 30 days of a significant change of annual hours of operation (i.e., enough to change the engine's compliance date), vessel category/use, purchase, lease, rental, or change of ownership of the vessel or engine. In the case of a purchase, lease, rental, or change in ownership, the party in control or possession of the engine or vessel after the transaction is responsible for meeting the requirements of this paragraph;
- (B) A person subject to this section must submit to the E.O. the information specified in subsection ~~(e)(m)~~(1) through ~~(e)(m)~~(6) within 30 days of the initial operation of a vessel brought into Regulated California Waters;
- (C) Within 90 days of a significant change of annual hours of operation, vessel category/use, purchase, lease, rental, change of ownership, or initial operation of a vessel brought Regulated California Waters, or by the earliest applicable compliance date specified in subsection (e)(6)(D), whichever is later, a person subject to subsection (e)(6) shall submit a new Compliance Plan with the updated information pursuant to the Compliance Plan requirements specified in paragraph 2 above.

**(n.1) Reporting Requirements (Applicable On and After January 1, 2023).**

- (1) Annual Reporting of California Harbor Craft Fleet. Beginning January 1, 2023, a person subject to this subsection must submit the information specified in subsections (m)(1) through (m)(6) and applicable (m)(14) through (m)(20) annually for all harbor craft vessels in his or her California fleet by December 31 of each year. For purposes of this subparagraph, "California fleet" means the total population of harbor craft that operate in Regulated California Waters for any amount of time under the person's direct control.
- (2) Reporting for Change of Annual Hours of Operation, Vessel Category/Use, Transfers of Vessels, Change of Homeport, Change of Hour Meter, Change of Ownership of Vessel, Engine, or VDECS, or Vessel Operation in Regulated California Waters.
  - (A) A person subject to this subsection must submit to the E.O. the information specified in subsection (m)(1) through (m)(6) and applicable (m)(14) through (m)(20) within 30 days of a significant change of annual hours of operation (i.e., from low-use hour to above low-use limit), vessel category/use, change of hour meter, purchase, sell, lease, rental, or

change of ownership of the vessel, engine, or VDECS. In the case of a purchase, sell, lease, rental, or change in ownership, both the party in control or possession of the engine or vessel before and after the transaction is responsible for meeting the requirements of this paragraph;

(B) A person subject to this subsection must submit to the E.O. the information specified in subsection (m)(1) through (m)(6) and applicable (m)(14) through (m)(20) within 30 days of the initial operation of a vessel brought into Regulated California Waters;

(C) A person subject to this subsection must submit to the E.O. the information specified in subsection (m)(1) through (m)(6) and applicable (m)(14) through (m)(20) within 30 days of transferring a vessel from a California homeport to outside of California, or establishing a new homeport within California.

**(io) Violations.**

- (1) A person who is subject to this section and commits a violation of any provision, standard, criteria, or requirement in this section is subject to the penalties, injunctive relief, and other remedies specified in H&S section 42400 et seq.; H&S section 42402 et seq.; other applicable sections in the Health and Safety Code; and other applicable provisions as provided under California law for each violation. Nothing in this section shall be construed to limit or otherwise affect any applicable penalties or other remedies available under federal law.
- (2) Any failure to meet any provision, standard, criteria, or requirement in this section, including but not limited to the applicable emission limits; recordkeeping requirements; and ACEP provision, including the requirements of any approved ACEP plans, shall constitute a single, separate violation of this section for each ~~hour~~ part of a day that a person operates a vessel within the Regulated California Waters until such provision, standard, criteria, or requirement has been met.
- (3) A person who is subject to this section is liable for meeting the requirements of this section, notwithstanding any contractual arrangement that person may have with any third-parties.

**(jp) Methods to Demonstrate Compliance with Engine and Fuel Standards.**

- (1) Diesel PM, NO<sub>x</sub>, NO, CO, HC, NMHC, and CO<sub>2</sub> testing must be done in accordance with the applicable method specified in the following procedures: International Organization for Standardization (ISO) 8178-2: 1996(E) (“ISO 8178 Part 2”); (2) ISO 8178-4: 1996(E) (“ISO 8178 Part 4”); and applicable methods and procedures specified in 40 CFR Part 94 (as amended in 2007), all of which are incorporated herein by reference, or 40 CFR Part 1042 for marine engines or in 40 CFR Part 89 or 40 CFR Part 1039 for nonroad (off-road) engines, as those Parts existed on April 27, 2010. Each of the procedures specified in this subsection is incorporated by reference herein.
- (2) The E.O. may approve in writing any alternative test method not specified in paragraph (1) above that the method’s proponent has demonstrated to the E.O.’s satisfaction provides equivalent or better results to the methods in paragraph (1).

***(kq) Right of Entry.***

An agent or employee of the CARB has the right of entry to board any harbor craft for the purpose of inspecting propulsion and auxiliary engines, emission control strategies, fuel systems, and fuel storage; collecting fuel sample(s) not to exceed one liter per fuel tank; and acquiring and inspecting records required pursuant to this section.

***(lr) 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.

***(ms) Submittal of Documents (Applicable Until December 31, 2022).***

- (1) Prior to January 1, 2023, all documents required under this regulation must be submitted to the Executive Officer as follows:

California Air Resources Board  
~~Stationary Source-Transportation and Toxics Division~~  
~~Emissions Assessment-Freight Activity Branch~~  
~~Control Strategies-Freight Technology~~ Section, Harbor Craft  
P.O. Box 2815  
Sacramento, California 95812-2815

- (2) Electronic submittals of information associated with compliance with this section may be approved by the E.O. upon request, provided such electronic submittals use digital signatures that meet the requirements specified in Government Code section 16.5. The E.O. may request the submittal of a hard copy of any electronic submittal.

**(s.1) Submittal of Documents (Applicable On and After January 1, 2023)**

- (1) Beginning January 1, 2023, all documents/reporting required under this regulation must be submitted to the E.O. electronically via online Freight Regulation Reporting System, or a hard copy to the E.O. as follows:

CHIEF, TRANSPORTATION AND TOXICS DIVISION  
CALIFORNIA AIR RESOURCES BOARD  
1001 I STREET  
SACRAMENTO, CA 95814

- (2) All information submitted to CARB shall be:

- (A) Written in the English language; and  
(B) True, accurate, and complete, signed under penalty of perjury by individual(s) with the authority to certify that the regulated party comply with applicable requirements of this Regulation.

NOTE: Authority cited: Sections 39600, 39601, 39650, 39658, 39659, 39666, 41511, 43013, and 43018, Health and Safety Code. Reference: Sections 39650, 39658, 39659, 39666, 41510, 41511, 43013, and 43018, Health and Safety Code.