



Commercial Harbor Craft 2022 Amendments

California Code of Regulations, Title 17, Section 93118.5

CHC Factsheet: Opacity Testing Guide

Date: December 27, 2022

Specific details on the opacity testing and emission control repair requirements can be found in the [regulation text subsection \(k\) Opacity Testing and Emission Control Repair Requirements \(CCR Title 17, section 93118.5\)](#). In the case of any discrepancy between this document and the regulation order, the regulation language applies.

Background

The 2022 Commercial Harbor Craft (CHC) Amendments require exhaust from main propulsion engines and auxiliary engines on all vessels to meet opacity limits, specified in Table 1 below. Opacity testing and reporting requirements go into effect March 31, 2024.

Table 1: Opacity Limits for Main Propulsion and Auxiliary Engines

DPF Installed (YES/NO)?	Percent Opacity Limit
YES – All Engines with DPF	5
NO – All Engines without DPF	40

Biennial Testing Requirements for Main Propulsion Engines

- Testing procedure must follow [subsection \(k\)\(1\)\(B\)](#) of the regulation text and be performed by certified testers.
- Each main propulsion engine must pass opacity testing, with results submitted to CARB once per two-year period ending on March 31 of each even-numbered calendar year (i.e., 2024, 2026, 2028, etc.).
- For example, opacity test results that must be reported by March 31, 2026, must have been performed on the engines between April 1, 2024, and March 31, 2026.
- Templates for submitting opacity testing info can be found on the [CHC website](#).

Requirements for Auxiliary Engines

- Auxiliary engines are required to meet opacity limits in Table 1 above but are not required to perform biennial opacity testing. CARB staff may perform confirmatory

opacity testing on auxiliary engines in the field or audit opacity test records at any time.

- Opacity of exhaust from auxiliary engines must be performed by certified testers and is measured using the test Method 9 – Visual Determination of the Opacity of Emissions from Stationary Sources as described in 40 CFR, Chapter I, subchapter C, Part 60 Appendix A-4 as it existed on September 26, 2022.
- Method 9 courses can be accessed through the [CARB website](#).

Failed Opacity Test – Repair Requirements:

- If the results of the opacity test exceed the opacity limits, the engine, DPF, or other emission control system must be repaired and retested within 30 calendar days from the date of the failed opacity test, or the engine must be taken out of service.
- A post-repair opacity test must be performed to ensure the measured opacity is within the applicable opacity limits in Table 1 above before the engine is returned to service.
- The records of opacity testing and repair must be recorded as specified in subsection [\(m\)\(18\) of the regulation text](#).

Certification Requirements for Testers:

- Individuals that conduct opacity testing on main engines, including third-party opacity testing vendors, vessel operators, air district staff, and CARB staff, must have successfully completed training from the California Council on Diesel Education and Technology (CCDET) and obtained certification on how to properly administer the Society of Automotive Engineers "Surface Vehicle Recommended Practice, Snap Acceleration Smoke Test Procedure for Heavy-Duty Powered Vehicles" (SAE J1667, February 1996).
- Courses will be listed on the [CCDET website](#)
- The E.O. may approve or offer alternative training courses that satisfy this requirement.

The Attachment to the Opacity Testing Guide provides more information on testing procedures, exemptions, alternative compliance methods, and other details.