



## Commercial Harbor Craft 2022 Amendments

California Code of Regulations, Title 17, Section 93118.5

# CHC Factsheet: Alternative Control of Emissions (ACE)

**Date:** January 13, 2023

Specific details on ACE can be found in the [regulation text subsection \(f\) Alternative Control of Emissions \(ACE\) \(CCR Title 17, section 93118.5\)](#). In the case of any discrepancy between this document and the regulation order, the regulation language applies.

## Background

Under the Commercial Harbor Craft (CHC) Regulation, CARB's Executive Officer (E.O.) may approve an alternative control of emissions (ACE) compliance strategy provided vessel owners/operators can demonstrate that the alternative strategy will achieve diesel particulate matter (PM) and oxides of nitrogen (NO<sub>x</sub>) emission reductions equal to or greater than those required by direct compliance with the regulation.

## ACE Application Requirements

ACE applications must demonstrate the following:

- The ACE plan will result in equal or greater emission reductions than direct compliance with the model year-based compliance schedule with a maximum of two years of feasibility-based compliance extensions applied. The emission evaluation period for the ACE is from January 1, 2023 through December 31, 2034.
- Disadvantaged communities (DACs) would not experience a higher emissions burden as a result of implementing an ACE.
- Emission reductions funded through public air quality or emission reduction incentive programs will not count toward the projected reductions in an ACE application. An applicant receiving funding or grants that are not required to take credit for emission reductions for the funded equipment can include those emission reductions in an ACE application.

An alternative emission control strategy (AECS) may include any combination of the following:

- engine modifications;
- exhaust after-treatment control;
- engine repower or rebuild to a more stringent standard;

- Zero-Emission and Advanced Technology (ZEAT) deployment in vessel categories where ZEAT is not required;
- shore-side power, where not required by subsection (i);
- fleet averaging, including ZEAT vessels unless they have been separately used to generate a ZEAT credit or had their compliance date extended by applying a ZEAT credit;
- CARB Approved Emission Control Systems (CAECS); and
- any other measures that sufficiently reduce emissions

The use of grid electricity while at dock, where required by subsection (i), or the use of renewable diesel as required by subsection (e)(7) are not valid strategies for an ACE, as they are already required by the regulation.

## Application and Approval Process

On and after January 1, 2023, ACE applications must be submitted to CARB at least 6 months prior to the first date that vessel engine compliance is required, and no later than December 31, 2025. Applications can be submitted through e-mail to [harborcraft@arb.ca.gov](mailto:harborcraft@arb.ca.gov) or physical mail, as specified in subsection (u). Staff suggest that applicants use the ACE application template available on the [CHC website](#), however use of the template is not required.

- Once applications are received, CARB will notify applicants of any deficiencies in their application. Applicants will have an opportunity to submit supplemental information.
- Complete applications will be posted for a 30-day public comment period.
- After the first public comment period, applicants will be notified of CARB’s proposed approval, disapproval, or approval with modifications.
- During the second public comment period, any person may comment on the proposed approval or disapproval of the ACE application and the application. After that, CARB shall take final action to either approve or deny an ACE application.
- A person with an approved ACE must notify CARB in writing within 30 days upon learning of any information that would alter the emissions estimates submitted during the ACE application process.

The approval process is described in detail in subsection (f)(2) of the regulation text. All ACE plan submissions and CARB responses to those Plans can be found on the [ACE Plan webpage](#).

## Frequently Asked Questions (FAQs):

### ***1. How do I determine the baseline emissions and ACE emissions?***

The Nominal Compliance Baseline (baseline) emissions correspond to the level of emissions generated if the applicant were to directly comply with subsection (e)(10), (e)(12), and (e)(13). The ACE emissions correspond to the level of emissions if the applicant fully complied with

alternative control of emissions strategies. The applicant must establish that the ACE will achieve equivalent or less emissions than the baseline emissions. CARB staff recommends using the [ISOR Appendix H, CHC Inventory Methodology \(Appendix H\)](#) as a guide for developing emissions estimates.

## **2. Where can I find emission factors and other parameters for emission calculations?**

Zero-Hour Emission factors: Emission factors using ULSD Diesel Number 2 fuel are listed in Table H-5 of [ISOR Appendix H, CHC Inventory Methodology \(Appendix H\)](#). R99 fuel is required under the regulation. R99 fuel was shown to have 30% reduction in diesel PM and 10% reduction in NOx ([Appendix E of ISOR](#)). Therefore, staff recommends using the emission factors listed in [Appendix H](#) coupled with 30% reduction in diesel PM and 10% reduction in NOx.

Engine Deterioration: Calculate non-zero-hour emission factors using deterioration factors listed in Table H-7 of [Appendix H](#), Engine Useful Life listed in Table H-8 [Appendix H](#), and equation in page H-15 of [Appendix H](#).

Engine Load Factors: Table H-9 of [Appendix H](#).

Engine Activity: Use best estimates of annual activity for each engine within Regulated California Waters (RCW). Staff will monitor the annual hours reported for each engine by checking the annual CHC Fleet Reports. The E.O. may revoke the ACE plan if the activity hours being reported for the vessels deviate substantially from the activity hours projected in the ACE plan.

The individual vessel owner/operator will have discretion to use their own parameters for emission calculations, if they can provide certified reporting, monitoring, and testing results for their engine emissions.

## **3. What pollutants of emissions will need to be evaluated for the ACE plan?**

PM and NOx emissions are required to be evaluated for the ACE Plan. CARB staff will have the discretion to evaluate other pollutants of emissions and life cycle of emissions for different alternative emission control technology to ensure that ACE plans do not result in increases of other pollutants.

## **4. Can I use a weighted emission estimate, such as a Carl Moyer weighted emission reductions estimate, for the purpose of demonstrating equivalent or greater emission reductions under an ACE plan?**

No, equivalency evaluations must be performed for PM and NOx separately.

## **5. Can I provide public and non-public information to ensure my ACE plan does not result in confidential business information being released to the public?**

As required by the regulation, ACE plans will be posted to CARB's website for public review. The plan can include both public and confidential information. If the plan includes confidential information, the plan should be submitted in two parts, where Part 1 contains

only public information and confidential information is submitted in Part 2, in accordance with the [Confidentiality Form](#).

**6. Can I use engine repowers, retrofits, or other strategies (such as ZEAT) that were in place as of January 1, 2023 in my ACE plan?**

Yes, strategies that were in place as of January 1, 2023 can be included in an applicant's ACE plan if they were surplus to the requirements in place prior to January 1, 2023, see subsection (f)(1)(A) of the regulation text. However, the time period for evaluating emissions for an ACE plan is from January 1, 2023, through December 31, 2034. Therefore, any surplus emissions reductions achieved by the strategy prior to January 1, 2023 cannot be included in the ACE because they occurred outside the ACE emissions evaluation period. Surplus emissions reductions achieved during the ACE emissions evaluation period may be included in the ACE plan.