

**Frequently Asked Questions for the
Mobile Cargo Handling Equipment (CHE) Regulation
at Ports and Intermodal Rail Yards**

This guidance does not, and cannot, modify any legal requirement of the Cargo Handling Equipment Regulation. This guidance is based in part on case-specific factual circumstances and is offered only as guidance that does not supplant the requirements of the Cargo Handling Equipment Regulation.

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Latest Updates

1. What is the current status of the CHE Regulation?

The Regulation for Mobile Cargo Handling Equipment at Ports and Intermodal Rail Yards (CHE Regulation) was adopted in 2005, and took effect on December 31, 2006. The California Air Resources Board (CARB) amended the CHE Regulation in 2011, and those amendments took effect on October 14, 2012.

- The regulatory documents for the original 2005 regulation can be found at this website link:
<https://ww3.arb.ca.gov/regact/cargo2005/cargo2005.htm>
- The regulatory documents for the 2011 amendments to the regulation can be found at this website link:
<https://ww3.arb.ca.gov/regact/2011/cargo11/cargo11.htm>
- The current regulatory text for the Cargo Handling Equipment Regulation can be found at this website link:
<https://govt.westlaw.com/calregs/Document/I9F0A16C35A1E11EC8227000D3A7C4BC3>

“In-use” equipment is defined by the CHE Regulation as equipment that was on a port or intermodal rail yard before January 1, 2007.

- All in-use non-yard truck equipment had to be fully compliant with the regulation by December 31, 2013.
- All in-use yard truck equipment had to be fully compliant with the regulation by December 31, 2017.
- All in-use non-yard truck engines that are still in service (Tier 0 – Tier 3) must have a Verified Diesel Emission Control Strategy (VDECS) installed to be considered compliant with the regulation.

“Newly purchased” equipment is defined by the CHE Regulation as equipment that was purchased after January 1, 2007.

- All Tier 3 and older engines that were compliant at the time of purchase were required to have a Level 3 VDECS installed one year after purchase.

As of today, all “newly purchased” yard truck and non-yard truck equipment brought onto a port or intermodal rail yard must have either a Tier 4 Final off-road engine or an on-road engine meeting the 2010 or newer on-road emission standards.

All equipment that is subject to the CHE Regulation must participate in annual

opacity testing. Newly purchased equipment must be tested annually starting on January 1st of the calendar year four years later than the model year of the engine.

For more information, please visit the Cargo Handling Equipment website:
<https://ww2.arb.ca.gov/our-work/programs/cargo-handling-equipment>

2. *Have any changes been proposed to the CHE Regulation?*

No, but CARB resolution 17-8 adopted in March 2017 directed CARB staff to develop new regulatory requirements for CHE that will require up to 100% zero-emissions technologies at ports and intermodal railyards by 2030.

The existing CHE Regulation, California Code of Regulations, title 13, section 2479 (13 CCR § 2479) remains in full effect until amended or superseded with new requirements.

Staff is currently evaluating the readiness of zero-emission technologies, and the feasibility of a zero-emission regulation. Additional information will be made available on the existing CHE web site as it is developed (<https://ww2.arb.ca.gov/our-work/programs/cargo-handling-equipment>).

3. *Do all CHE need to be equipped with Tier 4 Final engines?*

No; equipment that is already compliant with the CHE Regulation does not have an additional requirement to be replaced with Tier 4 Final engines by a specific date. For example, the CHE Regulation does not require that compliant non-yard truck equipment with a Tier 3 engine and a Level 3 VDECS be replaced with Tier 4 Final equipment by a specific date.

All new equipment brought onto a port or intermodal rail yard must have either a Tier 4 Final off-road engine or an on-road engine meeting the 2010 or newer on-road emission standards.

Owners and operators should check with local port or intermodal rail yard authorities to determine if additional stringency is required beyond statewide requirements.

4. *Can I sell my equipment to another business at a port or intermodal rail yard in California?*

Only if the equipment meets the requirements for “newly purchased, leased, or rented equipment” as defined in section 2479(e)(1) of the CHE Regulation. Typically, these requirements are met by purchasing equipment with Tier 4 Final off-road engines, or an on-road engine meeting the 2010 or newer on-road emission standards.

If equipment is certified to the Tier 4 Alternate PM off-road diesel engine standards, additional disclosure requirements apply. Refer to section 2479(p) of the CHE Regulation for details of this disclosure.

5. *I reported annually between 2007 and 2016. Do I still need to report to CARB to maintain compliance with the CHE Regulation?*

No, annual reporting requirements ended in 2016; however, CARB accepts voluntary reporting of in-use and newly purchased equipment at any time.

In some instances, such as when VDECS are installed on Tier 3 and older engines, reporting may still be required on a per-event basis. Additionally, owners and operators are subject to recordkeeping requirements as outlined in section 2479(i) of the CHE Regulation.

As part of a CARB enforcement inspection, opacity test result data and an updated equipment inventory may be requested. The same information may be requested as part of a compliance check for various funding projects offered by CARB or the air districts. New companies may also be requested to submit an equipment inventory by CARB enforcement staff to confirm the engines are compliant with the regulation. Once requested, submittal of information is required under the regulatory provisions.

Understanding the Regulatory Text

6. How is "In-Use" Equipment defined in the regulation?

The regulation divided equipment into two different age groups ("in-use", and "newly purchased"). "In-Use" Equipment is defined under the CHE Regulation as any equipment that was onsite when implementation of the regulation began on January 1, 2007.

"In-Use" Equipment had to meet the compliance requirements laid out in section 2479(e)(2). The compliance choices for "in-use" equipment were to repower with a new engine, replace with new equipment, retrofit with a VDECS, or retire the equipment. All "in-use" yard truck equipment had to be compliant with the CHE Regulation by December 31, 2016. All "in-use" non-yard truck equipment had to be compliant with the CHE Regulation by December 31, 2013.

7. How is "Newly Purchased" equipment defined in the regulation?

"Newly Purchased, Leased, or Rented" equipment is defined in the CHE Regulation as any equipment purchased, leased, or rented on or after January 1, 2007.

Today, "newly purchased, leased, or rented" equipment brought onto a port or intermodal rail yard must meet the "newly purchased, leased, or rented" requirements of section 2479(e)(1). This equipment must have the cleanest engines available at time of purchase.

Today, the cleanest engines available are either a Tier 4 final off-road engine, or an engine meeting the 2010 or newer on-road engine standards.

8. What is the difference between yard truck and non-yard truck equipment?

A yard truck is defined as an off-road mobile utility vehicle used to carry cargo containers with or without chassis. They are also known as utility tractor rigs (UTRs), yard tractors, yard goats, yard hostlers, yard hustlers, or prime movers.



Non-yard truck equipment refers to all other types of CHE except yard trucks. This includes, but is not limited to equipment categories such as container handling equipment, forklifts, construction equipment, gantry cranes, or maintenance equipment.

9. *Is a forklift considered a yard truck?*

No; for the purposes of the CHE Regulation, a forklift is considered non-yard truck equipment, and is considered Basic Container Handling Equipment.

10. *Is a RoRo tractor considered a yard truck?*

Yes; a RoRo tractor functions like a yard truck but usually has additional features (such as four-wheel drive and sometimes a more powerful engine).

Applicability

11. *My facility is not at a designated major "port" like the Port of Oakland or Port of Los Angeles, but we have a dock. Do I have to comply with the CHE Regulation?*

Possibly; if your dock is visited primarily by ocean-going vessels, and cargo is loaded or unloaded to or from those vessels, then your facility is included in the regulation. Please contact CARB CHE Regulation staff with details on your specific situation ([e-mail: cargohandling@arb.ca.gov](mailto:cargohandling@arb.ca.gov)).

12. *Does off-road equipment that is used only for maintenance purposes and never used to handle cargo (including manlifts) have to comply with the CHE Regulation?*

Yes; equipment used to perform maintenance and repair activities that are routinely scheduled or that are due to predictable process upsets is subject to the CHE Regulation. Examples of routine and predictable activities include repairing or replacing worn components, or components damaged due to occasional mishaps, and property maintenance.

13. *Does off-road equipment that is used for temporary activities have to comply with the CHE Regulation?*

No; rented, leased, or contracted equipment brought onto a port or intermodal rail yard to perform unexpected repairs that are not routine in nature or due to predictable maintenance activities are exempt from the CHE Regulation. Equipment used solely to support temporary activities is subject to CARB's In-Use Off-Road Diesel-Fueled Fleet (Off-Road) Regulation. More information on the Off-Road Regulation can be found at <https://ww2.arb.ca.gov/our-work/programs/use-road-diesel-fueled-fleets-regulation>.

However, if the equipment resides at the port or intermodal rail yard, or is rented, leased, or contracted to perform routine or predictable maintenance or repair activities, it is subject to the CHE Regulation.

14. Does my gasoline, natural gas, or propane-powered equipment have to comply with the CHE Regulation?

No; but it may be subject to the off-road Large Spark-Ignition (LSI) Engine Fleet Requirements Regulation. More information on the LSI Regulation can be found at <https://ww2.arb.ca.gov/our-work/programs/large-spark-ignition-lsi-engine-fleet-requirements-regulation>.

15. Are on-road trucks that come onto the terminal to pick up or deliver cargo included in this regulation?

No; on-road drayage trucks are used primarily for on-road transport and are covered under the In-Use Heavy-Duty Diesel Vehicles Regulation (Truck and Bus Regulation).

More information on the Truck and Bus Regulation can be found at:

<https://ww2.arb.ca.gov/our-work/programs/truck-and-bus-regulation>

If you have questions, please contact the Diesel Hotline at 1-866-6DIESEL.

16. Is my on-road sweeper or mobile crane that is operating at a port or intermodal rail yard included in the CHE Regulation?

No; sweepers and mobile cranes are subject to either the In-Use Off-Road Regulation or the Truck and Bus Regulation depending on their engine configuration. This covers both one- and two engine cranes. For more information, refer to Enforcement Advisory 401

(<https://www.arb.ca.gov/enf/advs/advs401.pdf>). If you still have questions, please contact the Diesel Hotline at 1-866-6DIESEL.

17. What regulation does my fuel truck or passenger van fall under?

Fuel delivery trucks operating solely at the terminal to deliver fuel to terminal equipment and vans and buses used to transport personnel are exempt from the CHE Regulation. However, they must meet the requirements of the Truck

and Bus Regulation. For questions on this type of equipment, please call the Diesel Hotline at 1-866-6DIESEL.

18. *Are vehicles that are used to transport fuel or personnel required to comply with the CHE Regulation?*

If the vehicles are only used to transport personnel or fuel, they are exempt from most requirements, including the in-use performance standards, of the CHE Regulation. However, if the vehicles are diesel-powered, they must comply with either the Truck and Bus Regulation or the Off-Road Regulation. For more information, please call the Diesel Hotline at 1-866-6DIESEL.

19. *Can a CHE owner/operator temporarily move a piece of equipment subject to the CHE Regulation off-site and then move it back to its original location?*

If any equipment subject to the CHE Regulation is moved off port or intermodal rail yard property, that equipment is no longer subject to the CHE Regulation and instead may be subject to the Off-Road Regulation.

Depending on the situation, equipment subject to the CHE Regulation that leaves and returns to the same port or intermodal rail yard property under the same ownership or lease may or may not trigger the requirements for "newly purchased, leased, or rented equipment". If you are concerned about whether these requirements apply to your specific case, please contact CARB CHE Regulation staff to help you make a determination ([e-mail: cargohandling@arb.ca.gov](mailto:cargohandling@arb.ca.gov)).

20. *Is on-rail equipment used to repair railroad rails subject to the CHE Regulation?*

Equipment used to perform maintenance and repair activities at a port or intermodal rail yard that are routinely scheduled or that are due to predictable process upsets is subject to the CHE Regulation.

Rentals and Leases

21. *What requirements apply to rented equipment?*

All of the requirements of the CHE Regulation apply to rented equipment.

All newly rented or newly purchased yard truck and non-yard truck equipment must either be equipped with a Tier 4 Final off-road engine or an on-road engine meeting the 2010 or newer on-road emission standards. If compliant equipment is not available to rent, you may be able to rent equipment powered with Tier 4 Interim engines, or Tier 3 engines retrofit with a VDECS. Please contact CARB CHE Regulation staff if this situation arises (email: cargohandling@arb.ca.gov)

Annual opacity testing and recordkeeping requirements still apply for rented or leased equipment.

22. *As a rental agency, what are my obligations?*

Both the rental agency, as well as the renter, are responsible for ensuring the equipment is compliant with the CHE Regulation.

23. *As an operator who occasionally rents the equipment I own, what are my obligations?*

Operators who rent equipment are subject to the same requirements as any other entity renting equipment. Newly rented equipment must either be equipped with a Tier 4 Final off-road engine or an on-road engine meeting the 2010 or newer on-road emission standards.

Owners may neither operate nor rent non-compliant equipment. Both the lessee and lessor are responsible for the compliance of the equipment being rented.

24. *I purchased compliant non-yard truck equipment, but there is a manufacturing delay. What options do I have?*

If new compliant non-yard truck CHE has been purchased but there is a manufacturing delay in delivery, then the owner or operator may rent comparable compliant non-yard truck equipment until the new equipment arrives. If no comparable compliant CHE is available to rent or lease, then the CHE Regulation allows the owner or operator to lease certain non-compliant equipment meeting the highest-available off-road diesel engine emission standards for up to a six month period or until purchased equipment are available, whichever is longer.

If this is the case, the owner or operator must provide documentation to the Executive Officer, which includes the following criteria defined in section 2479(e)(1)(B)5 of the CHE Regulation:

- Identification of the equipment type and function, including required engine horsepower;
- Purchase order, letter, or other form of documentation that demonstrates that the owner/operator has entered into a contract to purchase equipment with engines compliant with the requirements of the CHE Regulation and includes the anticipated delivery date; and,
- Documentation from representatives of rental/lease equipment and/or engine manufacturers supporting claim of non-availability of equipment for rent or lease, including anticipated date of availability.

Note: section 2479(e)(1)(B)5 of the CHE Regulation does not apply to yard trucks.

25. Can CHE be transferred from one port terminal or intermodal rail yard to another?

Yard trucks can only be transferred if they are equipped with a Tier 4 Final off-road engine or an on-road engine meeting the 2010 or newer on-road emission standards.

Non-yard truck equipment that is not equipped with a Tier 4 Final off-road engine can only be transferred if the two facilities are under the same control, a transfer request is submitted to the Executive Officer within 30 days prior to the planned transfer, and approval is granted. Refer to section 2479(k) of the CHE Regulation for requirements for the transfer plan.

Recordkeeping and Reporting

26. What kind of recordkeeping is required?

Since December 31, 2006, any equipment operated at a port or intermodal rail yard must have records kept on site at all times. This requirement applies whether the equipment is owned, operated, rented, or leased. Because there is very detailed information required for recordkeeping, please refer to section 2479(i) of the CHE Regulation for a list of recordkeeping requirements.

27. Since compliance deadlines for all equipment have passed, and annual reporting is not required after 2016, what type of reporting is required to maintain compliance with the CHE Regulation?

Annual reporting requirements ended in 2016; however, CARB accepts voluntary reporting of newly purchased and in-use equipment at any time.

Additionally, end-users are subject to recordkeeping requirements as outlined in section 2479(i) of the CHE Regulation for opacity testing and other provisions.

An updated equipment inventory and opacity test result data may be requested by CARB staff as part of an enforcement inspection and as part of a compliance check for various funding projects offered by CARB or the air districts. New companies may also be asked to submit an equipment inventory and to verify that their engines are compliant with the CHE Regulation.

28. Have any alternatives to the labeling requirement been approved for use?

Yes; the individual piece of CHE may be marked with a visible, unique identification number or barcode which corresponds to the required label information in an electronic or hardcopy file that is immediately accessible at the time of inspection by the enforcement agency. Any owner or operator using this alternative in lieu of the label must contact CARB CHE regulation staff and notify them in writing. Please contact CARB CHE Regulation staff with details on your specific situation (e-mail: cargohandling@arb.ca.gov).

For more information, please refer to Enforcement Advisory 361 (https://ww3.arb.ca.gov/enf/advs/advs361.pdf?_ga=2.106784960.2144591579.1580234284-1976034526.1580234284).

Retrofits and Verified Controls

29. What is a VDECS?

VDECS is an acronym for Verified Diesel Emission Control Strategy and refers to an emission control device, designed primarily for reducing diesel PM emissions, which has been verified by CARB.

CARB's Verification Procedure ensures that emission reductions achieved by a control strategy are real, the device is durable and covered by minimum warranty requirements, and that production units in the field are achieving emission reductions which are consistent with their verification. More information on CARB's Verification Procedure is available at:

<https://ww3.arb.ca.gov/diesel/verdev/verdev.htm>.

30. What VDECS are available for non-yard truck equipment?

A list of all VDECS for all types of diesel engines (e.g., on-road, off-road, stationary, etc.) is available on our Verification website (<https://ww3.arb.ca.gov/diesel/verdev/vt/cvt.htm>). The website also contains specific information and requirements for each VDECS, based on the level of diesel PM emission control. The CHE Regulation requires all VDECS to be Level 3 devices, which means it reduces diesel PM by at least 85 percent.

To find a VDECS that has been verified for a specific engine, there is a Retrofit Device Verification Database at the following website:

<https://ww3.arb.ca.gov/diesel/verdev/vdb/vdb.php>. The database is designed to assist the end user in finding a retrofit device that is potentially verified for their on-road or off-road engine.

Before purchasing a VDECS for non-yard truck equipment, owners and operators should confirm VDECS are verified for use with their engine. Authorized installers shall evaluate if the VDECS is compatible with the engine and duty cycle and will not cause any safety and visibility concerns. If the installer determines that the purchased VDECS is not verified for your engine or will cause a performance or safety issue, please contact CARB CHE regulation staff (e-mail: cargohandling@arb.ca.gov).

31. I purchased non-yard truck equipment after 2007, and CARB has not verified a VDECS for my engine, or the installer has determined that the VDECS will cause a performance or safety issues. What are my obligations?

If a VDECS is not available for your non-yard truck equipment purchased after 2007, or a VDECS cannot be installed for safety or visibility reasons, you are required to keep all supporting documentation. This documentation must be provided to CARB staff upon request.

Once a safe and feasible VDECS becomes commercially available for the engine, you must install the VDECS within six months of it becoming available. You should check at least every six months with CARB staff regarding VDECS availability. Additionally, you should subscribe to the "diesel-retrofit" list serve to receive periodic updates regarding VDECS availability. Visit https://public.govdelivery.com/accounts/CARB/subscriber/new?topic_id=cargo to sign up for the list serve.

32. Do I have to install a VDECS on my Tier 4 engine?

No; VDECS are only required on Tier 3 and earlier engines and on engines certified to the Tier 4 Family Emissions Limit (FEL) Alternate PM Standard. (The emission control equipment is built into Tier 4 engines by the manufacturer.) The certification standards can be found on the emission control labels on the engines, or by model year and engine family name on the CARB website here:

https://ww3.arb.ca.gov/msprog/offroad/cert/cert.php?eng_id=OFCL .

33. *Do I have to replace a failed VDECS on my non-yard truck equipment?*

If the VDECS fails during the warranty period, the operator should work with the installer and manufacturer to replace the VDECS within 90 days.

If the VDECS fails outside the warranty period, the operator has 90 days to apply a new compliance option. The owner/operator has these options based on the requirements in section 2479(e)(3)(B) of the CHE Regulation:

- Replace the equipment with a compliant piece of equipment;
- Repower the equipment with a compliant engine;
- Install a new compliant VDECS; or
- Retire the equipment.

34. *How long is the VDECS warranty period, and how long will it last on my engine?*

The lifetime of a VDECS depends on operating conditions and maintenance practices. VDECS are sold with a manufacturer's warranty based on hours of use, which range from 1,600 hours for smaller engines to 4,200 hours for larger engines. Any failures during this period should be reported to your verified installer. CARB's experience indicates, with proper maintenance and cleaning, VDECS often operate much longer than the minimum warranted period. CARB monitors these warranty claims carefully as part of the Verification Procedure to ensure emission control devices are properly functioning in the field.

35. *Do California Department of Industrial Health's Division of Occupational Safety and Health's (Cal/OSHA) Vehicle Exhaust Retrofits Safety Orders for construction equipment apply to CHE at ports or intermodal rail yards?*

Cal/OSHA's Vehicle Exhaust Retrofits Safety Orders for construction equipment apply only to haulage vehicles and earthmoving equipment used at construction sites, and therefore, do not apply to CHE at ports and intermodal rail yards.

However, there are other Cal/OSHA and federal OSHA marine safety orders that apply for "industrial trucks" or "gantry cranes". These other safety orders state that the original manufacturer of the equipment or a professional engineer, experienced with the equipment (if available), must provide written approval before a retrofit can be installed.

36. *Can a CHE owner or operator remove a previously installed VDECS that presents a potential safety hazard?*

Yes. Any VDECS that presents a safety hazard may be immediately removed. A CHE owner/operator must also:

- Notify CARB that the VDECS was removed;
- Provide CARB staff with written documentation explaining the reasons for removal; and,
- Amend the compliance plan for the equipment.

The CHE from which the VDECS is removed must comply with the CHE Regulation within 60 days. No other compliance extension set forth in section 2479(f) of the CHE Regulation will be available with the exception of manufacturer delays.

Replacing and Repairing CHE engines

37. *Can I repair an engine?*

Yes, you can make repairs to an engine under the regulation. In fact, CARB staff acknowledge that diesel engines regularly require repairs to maintain safe and proper operation. Reparative maintenance is required after failing to meet annual opacity standards. If repairs require replacing the engine block, additional requirements apply.

38. *What if the entire engine or engine block needs to be replaced?*

If the entire engine or engine block needs to be replaced, then the new engine needs to be either a Tier 4 final off-road engine or an on-road engine meeting the 2010 or newer on-road emission standards.

39. *My company has a unique piece of equipment that was on-site when the regulation began on January 1, 2007 ("in-use" equipment). The engine needs to be replaced, but the Tier 4 final engine will not fit. I have*

documentation that shows that the Tier 4 final engine will not fit and operate safely in the piece of equipment. Can I purchase a new engine that is the same as the existing engine?

Yes. Because this is an "in-use" piece of equipment (on-site before January 1, 2007), AND it can be shown that no other manufacturer is making a similar piece of equipment, AND no other manufacturer is making a Tier 4 final engine that will fit into the equipment, section 2479(e)(5) applies.

- Section 2479(e)(5) says that for "in-use" equipment, the new engine can be the cleanest available "taking into consideration the physical and performance characteristics of the vehicle or equipment".
- In this case, a lower Tier engine (the cleanest available) can be installed that will fit into the chassis that will allow it to operate properly and safely.

40. *My Tier 3 engine has failed and needs to be replaced. Can I replace it with another Tier 3 engine?*

No. Unless there is documentation to show that the Tier 3 engine was in-service at a port or intermodal rail yard before January 1, 2007, the replacement engine needs to meet the requirements for "newly purchased, leased, or rented" equipment. The new engine must be a Tier 4 Final engine. The purchase of a new engine triggers the "newly purchased, leased, or rented" requirements in section 2479(e)(1) of the CHE Regulation.

41. *My yard truck has a 2008 on-road engine that needs a new engine block. Can I purchase a new block that meets the same 2008 emission requirements?*

No. For the CHE Regulation, a new engine block is considered a new engine. The purchase of a new engine block triggers the "newly purchased, leased, or rented" requirements in section 2479(e)(1) of the CHE Regulation. All new yard truck engines must be a Tier 4 Final off-road engine or meet the 2010 or newer on-road emission standards.

42. *What are the requirements for a replacement engine if the original engine has failed?*

Unless the engine is being replaced under warranty, a replacement engine must meet the CHE Regulation requirements for newly purchased, leased, or rented equipment in section 2479(e).

If an engine fails during the warranty period, it can be replaced with the exact engine model, engine family, and engine model year even if new emissions standards have taken effect.

Enforcement

43. *Who enforces the CHE Regulation and how do they do it?*

CARB is enforcing the CHE Regulation. In most cases, enforcement staff will contact facility operators to schedule an inspection. However, unannounced inspections may also occur.

44. *Does ARB have authority to enforce all of the CHE Regulation requirements?*

Yes, CARB has received full authorization from the administrator of the U.S. Environmental Protection Agency to enforce all sections of the CHE Regulation.

45. *If I retire equipment in order to comply with the regulation, but I am not able to sell or scrap it right away, will I be cited during an inspection if the equipment is still on my property after my required compliance date?*

If the owner or operator is unable to remove retired CHE from the facility by the required compliance date, the owner or operator must remove all working fluids (fuel and oil), disconnect the battery(ies), and remove the vehicle within 18 months of the compliance deadline. Additional information can be found in Enforcement Advisory 401 (https://ww3.arb.ca.gov/enf/advs/advs401.pdf?_ga=2.107455681.2144591579.1580234284-1976034526.1580234284).

46. *If CARB enforcement staff identify non-compliant CHE on my facility, how much will my fine be? How will I be notified of my violation?*

Potential penalties for violations of the CHE Regulation are outlined in Health and Safety Code section 39674. Strict liability penalties may be assessed up to \$10,000/day per violation. However, there are a number of mitigating and aggravating factors that are considered when assessing penalties. For a complete description of the enforcement process and how penalties will be assessed, please see the CARB enforcement policy that can be accessed at <https://ww2.arb.ca.gov/resources/documents/enforcement-policy>.

Exhaust Opacity Monitoring Program

47. *Must all equipment subject to the CHE Regulation participate in an exhaust opacity monitoring program?*

Yes, all equipment subject to the CHE Regulation must participate in annual opacity testing. Newly purchased equipment must be tested by January 1 of the calendar year four years later than the model year of the engine. For example, a model year 2010 engine is exempt until January 1, 2014.

48. *How often does opacity need to be measured?*

Annually; CHE owners or operators must periodically test their equipment for exhaust opacity within 12 months of the previous test. For example, a model year 2010 engine must be tested the first time by January 1, 2014, the second time by January 1, 2015, then annually by January 1 of every year thereafter.

49. *What procedure is used to measure opacity?*

CHE should be tested following the *SAE J1667 Snap Acceleration Smoke Test Procedure*.

However, the calculation method and opacity limits that apply to CHE are different than those that apply to the Periodic Smoke Inspection Program (PSIP) and Heavy-Duty Vehicle Inspection Program (HDVIP) for on-road heavy-duty diesel trucks. Some of these differences are addressed in other FAQs within this header grouping.

50. Is opacity measured upstream (before) or downstream (after) the diesel particulate filter (DPF)?

It depends; opacity should be measured with the engine in its original configuration as it was certified and initially sold. This means that opacity should be measured upstream (before) any aftermarket VDECS (for Tier 0-Tier 3 engines), but downstream from (after) any DPFs originally equipped on the engine in its certified condition (Tier 4 and on-road engines).

51. What are the exhaust opacity requirements?

The exhaust opacity limits that must be met are determined based on the diesel PM emissions standard to which the engine was originally certified. The table below summarizes the opacity limits defined in the CHE Regulation:

PM Emission Standard		Maximum Opacity
g/kw-hr	g/bhp-hr	
Greater than 0.54	Greater than 0.40	55 percent
$0.42 \leq x \leq 0.54$	$0.31 \leq x \leq 0.40$	45 percent
$0.28 \leq x \leq 0.41$	$0.21 \leq x \leq 0.30$	35 percent
$0.15 \leq x \leq 0.27$	$0.11 \leq x \leq 0.20$	25 percent
$0.07 \leq x \leq 0.14$	$0.05 \leq x \leq 0.10$	15 percent
Less than 0.07	Less than 0.05	5 percent

The executive orders for the off-road engines can be found at this website: <https://ww3.arb.ca.gov/msprog/offroad/cert/cert.php>

The executive orders for the on-road engines can be at this website: <https://ww3.arb.ca.gov/msprog/onroad/cert/cert.php>

52. Will my opacity meter automatically calculate the final value needed to assess compliance with the CHE Regulation?

Likely not; the final opacity result will likely need to be manually calculated using the average of the closest two, rather than all three of the final snap accelerations of the SAE J1667 procedure.

A list of Smoke Meter Manufacturers can be found on the CARB web site here: <https://ww2.arb.ca.gov/our-work/programs/heavy-duty-diesel-inspection-periodic-smoke-inspection-program/smoke-meter>.

Previously, the Wager USA 7500 Smoke Meter was the only model that has software customized for testing CHE to aid with compliance to the CHE Regulation. Owners or operators should contact Wager USA directly.

Refer to sections 2479(e)(2)(A)(5)(a) through (g) of the CHE Regulation for more information about opacity testing requirements.

53. *Do individuals conducting exhaust opacity monitoring need to have specific training?*

Yes. Per the CHE Regulation, individuals conducting exhaust opacity monitoring must have completed training and be certified to conduct the SAE J1667 procedure.

The California Council on Diesel Education and Technology (CCDET) provides one-day training courses on exhaust opacity monitoring. A description of the CCDET courses can be found at the following website: <http://ccdet.org/>. The "CCDET III" course provides CHE specific training. Through classroom and hands-on components, participants will learn how to properly apply the SAE J1667 Snap Acceleration Test Procedure to a wide range of CHE, including RTG cranes. Additionally, the course includes information on the environmental and health impacts of particulate matter, and general information on other opacity testing regulations.

Note: CCDET training certification is valid for four years and then the training class must be taken again in order to maintain certification.

54. *What if my engine fails the opacity test?*

The equipment needs to be taken out of service, undergo reparative maintenance, and before being put back into service, it must be retested for opacity using the same procedure and calculation methodology. Post-repair, opacity may not be more than 5 percent opacity greater than the maximum opacity defined in the CHE Regulation.

Example: A yard truck is certified to the Tier 4 Final standard of 0.015 g/bhp-hr, and has a 5 percent maximum opacity under the CHE Regulation. The measured opacity was 11 percent, and therefore it underwent reparative maintenance. Post-repair opacity was measured at 7 percent, which was within

the 5 percent of the maximum opacity post-repair opacity margin, and therefore the equipment is allowed to return to service.

55. *Do rubber-tired gantry (RTG) cranes need to be exhaust opacity tested?*

Yes; RTG cranes need to be tested along with all other types of CHE. The engines in RTG cranes are often not compatible with the SAE J1667 procedure. CCDET has developed and released guidance applying the SAE J1667 Snap Acceleration Test Procedure to RTG cranes. This guidance should be followed when testing RTG cranes that are subject to annual opacity testing requirements in the CHE regulation. Note that this guidance may not apply to all CHE due to some unique equipment configurations. In those cases, alternative methods approved by CARB's Executive Officer must be used.

The guidance document can be downloaded here:

<https://www.arb.ca.gov/ports/cargo/documents/saej1667rtg091118.pdf>

If you have questions regarding the testing procedure, please contact us (email: cargohandling@arb.ca.gov)

56. *What type of reporting and recordkeeping is required for opacity testing requirements?*

Recordkeeping is required for opacity testing as defined in section 2479(i)(1)(D) of the CHE Regulation. Reporting is required upon request by CARB staff.

Other Information

57. *Will I have to replace my yard trucks powered by on-road model year 2007 engines with off-road engines certified to the Tier 4 Final standard or model year 2010 or newer on-road engines?*

No; the CHE Regulation does not require replacement or upgrades for yard trucks or non-yard truck equipment equipped with model year 2007 or later certified on-road engines. However, if the yard truck with a model year 2007 engine reaches the end of its useful life or is otherwise in need of replacement, it must be replaced with a yard truck equipped with a Tier 4 Final off-road or model year 2010 or newer on-road engine.

Owners and operators should check with local port or intermodal rail yard authorities to determine if additional stringency is required beyond statewide requirements.

58. *What conditions must a rural small port meet to be exempt from the requirements of the CHE Regulation?*

The rural small port exemption applies only to ports that have an average annual throughput of less than one million tons and are located more than 75 miles from an urban area. Currently, there is only one California port that qualifies for the rural small port exemption, the Port of Humboldt Bay. The equipment operating at the Port of Humboldt is subject to the Off-Road Regulation.