

PUBLIC BENEFIT PROGRAM - CLEAN AIR CONSTRUCTION STANDARD

CONSTRUCTION VEHICLES AND EQUIPMENT IDLING AND ENGINE STANDARDS

Description

The Clean Air Construction (CAC) standard (www.portlandoregon.gov/cac) is a regional program adopted by Metro and several other agencies to reduce diesel emissions from construction. **CAC requires that all diesel nonroad equipment (except hand tools) and all diesel dump trucks and concrete mixers used on participating construction sites comply with CAC requirements.** These include engine pollution reduction, idling reduction, and equipment registration requirements that must be met by the prime contractor, subcontractors and suppliers before equipment arrives on site. CAC engine requirements become more stringent over time, and the Contractor shall ensure applicable equipment and vehicles used to perform work on the project are in compliance with the current requirements throughout the duration of the project. Failure to meet requirements may result in issuance of a stop work order or termination of contract and/or negotiations.

Definitions

Applicable Vehicles and Equipment: Any nonroad construction equipment (including, but not limited to, front-end loaders, excavators, tractors, cranes, and generators) with a diesel engine over 25 horsepower, and on-road concrete mixers and dump trucks.

CARB: California Air Resources Board, a state regulatory agency charged with regulating the air quality in California.

Diesel Particulate Matter: The solid or liquid particles found in the air released through the exhaust from diesel vehicles/equipment. Exposure to diesel particulate matter increases the risk of heart attack, stroke, and cardiovascular disease, exacerbates asthma, and can lead to low-weight and pre-term births. Diesel particulate matter is also a known human carcinogen as determined by the International Agency for Research on Cancer.

COBID: Businesses certified by the State of Oregon Certification Office for Business Inclusion and Diversity.

DOC: Diesel oxidation catalyst. A flow-through device designed to reduce harmful diesel emissions such as carbon monoxide, hydrocarbons and diesel particulate emissions, with a diesel particulate matter removal efficiency of at least 20%.

DPF: Diesel particulate filter. A device designed to trap diesel particulate matter above a certain size with a removal efficiency of at least 85%.

Emission Control Device: technology added to equipment to reduce harmful emissions; including DPFs and DOCs.

EPA: U.S. Environmental Protection Agency, a federal regulatory agency charged with regulating activities that impact the environment.

Nonroad: Construction equipment and vehicles that fall under the EPA non-road engine equipment category, which includes all diesel equipment not intended for highway use. For the purpose of this standard, these vehicles/equipment include only diesel construction vehicles/equipment with engines larger than 25 horsepower, which includes tractors, excavators, dozers, scrapers and other construction vehicles/equipment.

The Yard: Online Compliance Portal for the CAC (www.portland.gov/cac/TheYard)

Acronyms

1. BACT = Best Available Control Technology
2. CAC = Clean Air Construction
3. CAC Program = Clean Air Construction Program, the regional program developed on behalf of Clean Air Construction participating agencies.

Summary of Requirements

The Clean Air Construction standard covers diesel powered concrete mixers and dump trucks and nonroad diesel equipment over 25 horsepower. **CAC requires that all nonroad equipment (except hand tools) and on-road dump trucks and concrete mixers used on participating construction sites be registered in The Yard and comply with the CAC requirements.** Any equipment that is alternatively fueled using propane, natural gas, electricity, gasoline, etc., or under 25 horsepower also needs to be registered, though these registrations require fewer details. No on-site work shall commence until compliance with the CAC program requirements has been verified by Metro.

Prior to the pre-construction meeting, the contractor and any applicable subcontractors and suppliers shall complete registration in the online CAC Compliance Portal (The Yard), including:

1. Setting up a company profile.
2. Attesting that all applicable equipment and vehicles used on the project will comply with the CAC requirements for the duration of the project or have a valid exemption.
3. Registering and attesting all applicable vehicles and equipment, including the submittal of any engine verification documentation.
4. Ensuring that any applicable rental equipment used on the project is registered.

Before site work begins/construction equipment is brought onsite, contractor shall:

1. Verify with Project Manager that all applicable equipment has been registered and decals have been affixed, including that of all Subcontractors and Suppliers.
2. Confirm any applicable equipment that has been registered but has not yet had its decal affixed will be documented for the PM, and that no unregistered/unattested equipment will be brought on site.
3. Confirm that idling reduction education is planned, and signs are ready to be posted.

Equipment Registration

Details on how to register can be found online at: (www.portlandoregon.gov/cac). To prevent delays on this project and other agency projects subject to the CAC, it is recommended that Contractors proactively register their entire fleet in The Yard. It can take up to three weeks between equipment registration and receipt of decals, so contractors should consider this timeframe during project scheduling.

Required information includes:

1. Equipment/vehicle owner name or rental agency name
2. Owner role (contractor, subcontractor, supplier)
3. Equipment type (e.g., excavator, dozer, loader)
4. Fuel type (e.g., diesel, electric, gasoline, hybrid electric, propane, etc.)
5. On-Road or nonroad
6. Engine manufacturer, model year and family name. Information on locating engine information is provided on the CAC Program website: www.portlandoregon.gov/cac
7. Horsepower

8. For diesel engines: indicate whether any EPA or CARB-verified aftermarket emissions control devices have been installed, and type of control device (e.g., DOC, DPF, etc.)

Vehicle and Equipment Idling

Contractor shall establish staging areas for vehicles and equipment in a location where the exhaust emissions have a minimal impact on personnel, sensitive populations or nearby communities. Examples of sensitive populations are residences, schools, hospitals and nursing homes.

Contractor(s) shall limit idling of diesel equipment to 5 minutes when not in use or in motion:

1. All nonroad diesel equipment must shut down after five (5) minutes of inactivity, and
2. All applicable nonroad diesel equipment shall have decals/prompts visible to the operator to remind them to shut down the equipment after five (5) minutes of inactivity, and
3. Contractors will post "Five Minute Limit" idling reduction signs near equipment and vehicle jobsite entrances and/or gathering areas where signage is highly visible to on-site workers, and
4. Contractors will ensure all diesel equipment operators are aware of the policy.

Diesel equipment that meets one or more of the following criteria are exempt from the five-minute idling maximum:

1. When traffic conditions or mechanical difficulties, over which the operator has no control, force the equipment to remain motionless.
2. When operating the equipment's heating, cooling or auxiliary systems is necessary to accomplish the equipment's intended use.
3. When the safety of contractors and their employees may be compromised if diesel equipment is turned off; for example, where employees are working in a trench.
4. To bring the equipment to the manufacturer's recommended operating temperature.
5. When the equipment meets the most stringent EPA emissions standards or has been retrofit with a diesel particulate filter (DPF).
6. When frequent shutdowns may be detrimental to the exhaust control system, reducing the effectiveness of that system by lowering the exhaust temperature.
7. When the outdoor temperature is below 20 °F.
8. When the equipment requires testing, servicing, inspection, or repairs.
9. Under other circumstances specifically authorized by Metro.

Diesel Engine Requirements for Reducing Diesel Particulate Matter

For this section, Best Available Control Technology (BACT) approach means that for that specific vehicle or piece of equipment, that among all potential options, the emission control device that maximizes diesel particulate matter reductions was installed. A "DPF or equivalent" emission control device is defined as capturing diesel particulate matter at a level of 85% or greater.

- a. Effective January 1, 2022, for all nonroad diesel engines over 25hp, no Tier 0 engines will be allowed on the construction site unless:
 1. The Tier 0 engine is retrofitted with a California Air Resources Board (CARB) or Environmental Protection Agency (EPA) verified DPF or equivalent; or
 2. If the Tier 0 engine cannot accept a DPF or equivalent device, the engine is retrofitted with the next best emissions control device to reduce diesel particulate matter following a BACT approach; or
 3. An exemption is granted prior to the Notice to Proceed or during the course of the project in accordance with the exemption process outlined in the Exemptions section below.

- b. Effective January 1, 2023, for all nonroad diesel engines over 25hp, no Tier 0 or Tier 1 engines will be allowed on the construction site unless:
 - 1. The Tier 0 or Tier 1 engine is retrofitted with a CARB or EPA verified DPF or equivalent; or
 - 2. If the Tier 0 or Tier 1 engine cannot accept a DPF or equivalent device, the engine is retrofitted with the next best emissions control device to reduce diesel particulate matter following a BACT approach; or
 - 3. An exemption is granted prior to the Notice to Proceed or during the course of the project in accordance with the exemption process outlined in the Exemptions section below.
- c. Effective January 1, 2024, for all nonroad diesel engines over 25hp, no Tier 0, Tier 1, Tier 2, or Tier 3 engines will be allowed on the construction site unless:
 - 1. The Tier 0, Tier 1, Tier 2, or Tier 3 engine is retrofitted with a CARB or EPA verified DPF or equivalent. An engine with a non-DPF emissions control device (or equivalent) is only allowed if it was previously approved by the CAC Program prior to 2024; or
 - 2. An exemption is granted prior to the Notice to Proceed or during the course of the project in accordance with the exemption process outlined in the Exemptions section below.
- d. Effective January 1, 2024, no on-road diesel concrete mixers or dump trucks older than 2007 will be allowed on the construction site unless:
 - 1. The engine is retrofitted with a CARB or EPA verified DPF or equivalent; or
 - 2. The equipment owner is a COBID-certified business by the State of Oregon Certification Office for Business Inclusion and Diversity and the engine was retrofitted with a non-DPF emissions control device to reduce diesel particulate matter following a BACT approach prior to 2024.
 - 3. An exemption is granted prior to the Notice to Proceed or during the course of the project in accordance with the exemption process outlined in the Exemptions section below.
- e. Effective January 1, 2025, for all nonroad diesel engines over 25hp, only Tier 4 engines will be allowed on the construction site unless:
 - 1. A Tier 0, 1, 2, or 3 engine is retrofitted with a CARB or EPA verified DPF or equivalent emissions control device. An engine with a non-DPF emissions control device (or equivalent) is only allowed if it was previously approved by the CAC Program prior to 2024 and the equipment owner is a COBID-certified business by the State of Oregon Certification Office for Business Inclusion and Diversity.
 - 2. An exemption is granted prior to the Notice to Proceed or during the course of the project in accordance with the exemption process outlined in the Exemptions section below.

A graphical representation of these requirements is available on the CAC Program website (www.portlandoregon.gov/cac).

Compliance Options Protocols

The Compliance Options Protocols guide equipment owners through which compliance option applies to their equipment following a "Best Available Technology" approach. The compliance option for a specific piece of equipment must be the option that reduces the diesel particulate matter the most within the capabilities of that piece of equipment. A graphical representation of these Compliance Options Protocols is available on the CAC Program website (www.portlandoregon.gov/cac).

Exemptions to Diesel Engine Requirements for Reducing Diesel Particulate Matter

Exemptions for safety and technology:

Contractors or Subcontractors may apply for exemptions to the diesel engine requirements on a per equipment/vehicle basis (for their own fleet or that of a supplier) in circumstances where:

- The equipment/vehicle is required for an emergency (including for underground equipment operators); or
- After following a BACT approach, the required emission control device would obscure operator lines of sight or otherwise impact worker safety or the equipment is not able to be retrofit with a verified emission control device; and no compliant rental equipment is available within 100 miles of the job site; or
- After following a BACT approach, the Contractor or Subcontractors can demonstrate that due to the uniqueness of the equipment/vehicle or similar special circumstances, it is not reasonable to comply with the diesel engine requirement for a specific piece of equipment/vehicle.

If Contractors or Subcontractors believe an exemption is warranted, they may apply for an exemption:

- When registering their (or their suppliers') equipment or vehicles via the CAC Compliance Portal, "The Yard" (Portland.gov/cac/TheYard). Non-emergency exemption requests to the diesel engine requirements shall be submitted to the CAC Program via The Yard for approval at this time. Approved exemptions shall be valid for the calendar year, at which time contractors may request to extend exemptions. Extension requests shall be reviewed by the CAC Program and either retired or renewed.
- During the project, when a noncompliant piece of equipment/vehicle is needed to respond to unforeseen and unforeseeable circumstances occurring during the course of the project, including but not limited to an emergency, or the need to provide a substitute for equipment/vehicles requiring repair/maintenance. In such cases, the Contractor shall seek approval from the Project Manager in writing and request approval for an exemption online via "The Yard". Such exemptions will be valid only for the duration of the unique circumstance provided for under this paragraph, such as the duration of an emergency, repair timeframe, or similar temporary timeframe as applicable.

Continual Compliance, On-Site Inspections, and Violations

The Contractor shall ensure applicable equipment and vehicles used on the project are in compliance with the current requirements throughout the course of project.

During the course of the project, Metro may conduct an on-site inspection of CAC-applicable equipment and vehicles to confirm accuracy of fleet information submitted to The Yard, the CAC Compliance Portal, and that compliance decals are properly displayed on equipment and vehicles.

If the Project Manager determines that the Contractor or its Subcontractor or Suppliers are violating or have violated the diesel engine requirements during the course of their work on the Project, the Project Manager will issue a written Notice to Cure to the Contractor. The Notice to Cure will state the specifics of the violation and the timeframe within which the Contractor must remedy the violation, not to exceed seven (7) calendar days. If the Contractor fails to remedy the violation within the time period set forth in the Notice to Cure, the Project Manager may issue a Stop Work order, directing that Contractor stop all work until the violation is remedied. Any delays caused by said work stoppage due to failure to remedy the violation are Inexcusable Delays. Costs incurred by Metro due to such Inexcusable Delays must be paid promptly by Contractor. Costs incurred by Contractors, Subcontractors and Suppliers due to such Inexcusable Delays are the responsibility of Contractor. Additionally, Metro may exercise any

other remedy available to it under this Contract, including liquidated damages (if stated), Suspension and Termination.