

Public Benefit Program Requirement - Clean Air Construction Standard

This master should be used by designers working on Metro construction projects. This section should be evaluated and edited to fit specific project needs.

Use only for Metro construction contracts of \$500,000 or more.

CONSTRUCTION VEHICLES AND EQUIPMENT IDLING AND ENGINE STANDARDS

Description

This section describes idling and engine standards for construction vehicles and equipment.

The Contractor, its subcontractors and suppliers shall minimize diesel emissions generated by Applicable Vehicles and Equipment at all times during performance of the work in accordance with this section.

The requirements herein apply to all construction activity, vehicles and equipment, as specified.

COBID-certified businesses are exempt from the engine requirements until such time that the Volkswagen Settlement, Diesel Emissions Reduction Act (DERA), or other grant funds are available to the Contractor and Subcontractor(s) to offset or reduce the costs of equipment and/or retrofits needed to comply with the engine requirements, or 2024, whichever is earlier.

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

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larger than 25 horsepower, which includes tractors, excavators, dozers, scrapers and other construction vehicles/equipment.

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.

Equipment Registration

Prior to contract execution, Early Work Amendment or Guaranteed Maximum Price Amendment (whichever action brings applicable vehicles and equipment on site first), the Contractor and all applicable proposed subcontractors and suppliers shall register all known nonroad construction equipment, concrete mixers and dump trucks that will be used in the contract in the CAC Compliance Portal. All additional applicable nonroad equipment, concrete mixers and dump trucks brought on site shall be registered in the Portal before being brought on site. The Contractor will also coordinate with any rental firm to register applicable equipment and vehicles in the Portal. Details on how to register can be found online at: (www.portlandoregon.gov/cac). No work shall commence until compliance with the CAC program requirements have been verified by Metro.

Required information includes:

1. Equipment/vehicle owner name or rental agency name
2. Owner role (contractor, subcontractor, supplier)
3. Type (e.g., excavator, dozer, loader)
4. Fuel type (e.g., diesel, electric, gasoline, hybrid electric, propane, etc.)
5. On-Road or nonroad
6. Make
7. Model year
8. Horsepower
9. Engine information including serial number, manufacturer, and family number (information on locating engine information is provided on the CAC Program website: (www.portlandoregon.gov/cac))
10. 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.)
11. For nonroad equipment over 25hp and on-road cement mixers and dump trucks, provide the CAC registration number to Metro.

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

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4. Contractors will ensure all diesel equipment operators are aware of the policy.

Diesel equipment that meet 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:

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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 are 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 are 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 outlined in this section 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) and such need is approved verbally by the Project Manager and subsequently confirmed in writing; or

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- 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; or
- 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.

Exemptions for COBID-certified businesses:

COBID-certified businesses are exempt from the engine requirements until such time that the Volkswagen Settlement, Diesel Emissions Reduction Act (DERA), or other grant funds are available to the Contractor and Subcontractor(s) to offset or reduce the costs of equipment and/or retrofits needed to comply with the engine requirements, or 2024, whichever is earlier. COBID-certified businesses must comply with idling reduction requirements. COBID-certified businesses may submit a single request for this exemption but must register all equipment subject to this standard in the CAC Compliance Portal.

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

- In writing, when registering their (or their suppliers') equipment or vehicles via the CAC Compliance Portal. Non-emergency exemption requests to the diesel engine requirements shall be submitted to the CAC Program via the CAC Compliance Portal for approval at this time. Approved exemptions shall be valid for a specified timeframe, after which the exemption shall be reviewed by the CAC Program and either retired or renewed. Non-emergency exemption validity timeframes will vary by type of exemption but will be valid for a minimum of one-year.
- Verbally, 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 Project Manager may provide verbal approval for an exemption, conditioned upon prompt receipt of Contractor or Subcontractor's written exemption request subsequent to the initial verbal approval. 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.

Noncompliance with Diesel Engine Requirements for Reducing Diesel Particulate Matter

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.