

CLEAN AIR CONSTRUCTION STANDARD – BACKGROUND INFORMATION

Need for a clean diesel standard

Everyone deserves to breathe healthy air. However, in the Portland metro area, the air is unhealthy to breathe because of the presence of fine and ultra-fine particulate matter from older dirty diesel engines. Clackamas, Multnomah, and Washington counties rank in the top 5 percent of all counties nationwide for ambient diesel particulate concentrations and have the highest exposure rate of all counties in Oregon. In some areas, like near freight corridors, rail yards or construction sites, levels of diesel pollution are over 10 times Oregon health benchmarks. Off-road equipment, primarily construction equipment, is responsible for 65 percent of diesel particulate matter in the Portland area. Children are especially vulnerable because their lungs are still in the developmental phase and they breathe, on average, 50 percent more air per pound of body weight than adults do.

According to the Oregon Department of Environmental Quality (DEQ) study, [The Concerns about Diesel Exhaust](#), diesel engines are disproportionate emitters of fine particulate matter. Exposure to diesel engine exhaust can cause cancer, increase the risk of heart attack, stroke and cardiovascular disease, cause adverse nervous system impacts, exacerbate asthma, and can lead to low-weight and preterm births. The levels of diesel pollution in Oregon have significant public health impacts; a snapshot of annual impacts include:

- Up to 460 premature deaths,
- 145 non-fatal heart attacks, and
- 25,910 work loss days.

The monetized value of health impacts in Oregon exceeds \$3 billion annually. Reducing diesel particulate pollution would yield approximately a 10:1 return in human health benefits per dollar invested in off-road engines, according to U.S. EPA's Diesel Emissions Quantifier Health Module.

The harms associated with diesel exhaust are not distributed evenly; environmental justice communities, including communities of color and low income populations, experience a disproportionate burden of exposure to diesel pollution because they often live and work in areas with higher pollution levels, such as near busy truck and bus routes, areas of chronic traffic gridlock, freight terminals and construction sites. Using DEQ air quality modeling data, an assessment by Multnomah County determined that African American and Latinx populations in the Portland Metro area face up to three times higher exposure rates.

Fortunately, solutions are available. Diesel trucks and heavy equipment built today are up to 99 percent cleaner than earlier models because of Federal regulation. EPA pollution control standards for on-road trucks with engines built after 2007, and off-road, Tier 4 equipment available in the marketplace beginning in 2008, have resulted in very low-emitting engines that are considered “clean”. For existing engines, techniques are available to reduce emissions, including cleaner fuel and modifying vehicle operations, such as idling

reduction. The most cost-effective approach is to install emission control devices, which are typically done as a muffler replacement.

Many jurisdictions across the country have procurement standards that require cleaner construction equipment on their publicly funded projects. The Clean Air Construction Collaborative hired a consultant to evaluate 14 of these programs to better understand clean diesel construction procurement standards and determine best practices. This research informed development of the Clean Air Construction Standard.

In addition, the City of Portland and Multnomah County co-funded an air quality feasibility study in 2018 to perform an in-depth assessment of various strategies actionable by local government to address Portland metro's air quality issues. A top recommended action in the study was to implement diesel engine specifications for public construction projects.

Survey of Diesel Trucks and Equipment Owned by COBID Firms in the Portland Area

The cleaner equipment and vehicles required by this standard represent a capital investment for businesses owning older diesel equipment, especially for COBID firms. To gain a better understanding of the potential impacts to COBID firms and inform policy development, the Collaborative contracted with Professional Business Development Group (PBDG) to conduct a survey to determine the emission status of diesel vehicles and equipment owned by construction firms in its membership. The survey results, covering 14 firms, showed that of the 70 pieces of nonroad equipment, 48.6% (34) were Tier 4 or Tier 4i engines; 34% (24) were either Tier 2 or Tier 3, and 17% (12) were either Tier 0 or Tier 1. This indicates that just under half of the equipment already complies with the highest requirements in the Standard. The COBID connections and information collected as part of this survey were also used by PBDG to submit a proposal for \$750,000 in funds from the EPA to replace vehicles and equipment.

Stakeholder engagement

The Collaborative has completed outreach to stakeholder groups including construction project managers, equipment operators, construction firms including COBID firms, industry associations, environmental organizations, and community and neighborhood groups. The Collaborative held a large stakeholder meeting on August 22, 2018 to take feedback on the proposed approach. The proposed contracting standard was revised based on stakeholder feedback at the Portland City Council hearing on Resolution 37387 in September 2018. In addition, the City of Portland and Multnomah County solicited public comments over a two week period in November 2018. 138 comments were received: 98% in support (with 39% calling for accelerated and additional action); and 2% opposed the Standard.

There has been significant public pressure on government entities to take action to improve local air quality. Community organizations such as Oregon Environmental Council Neighbors for Clean Air and Portland Neighbors for Diesel Action are supportive of local governments taking leadership on this issue, although they strongly advocate for an accelerated timeline for implementation.

Regulation of diesel emissions on public projects was opposed by members of the contracting community, although they acknowledge regulation of diesel emissions will ultimately occur. They advocated for an approach that keeps a level playing field across the region for contractors bidding on jobs, provides a long enough lead time to plan for equipment upgrades and provides financial resources to support COBID-certified firms. This input informed development of the Clean Air Construction Standard.

The proposed Standard balances the health and environmental concerns raised by stakeholders by lowering the equipment horsepower threshold to 25hp to include more equipment, while phasing in the standards over seven years to allow the contracting community to plan ahead for investments and spread out costs. In addition, the proposed standard includes extended compliance timelines and flexibility for COBID certified firms.

Metro staff plans to engage further with local environmental justice communities, informed by the racial equity analysis. Metro staff also plans to conduct additional outreach to contractors with particular emphasis on COBID-certified contractors and smaller firms. Outreach activities may include:

- Direct communication to existing and prospective Metro contractors
- Utilizing existing networking channels (e.g., OAME, NAMC, PBDG, etc.)
- Metro's annual Small Business Open House