

### **3.5 AIR QUALITY**

#### **3.5.1 Off-Road Diesel Emission**

In 2004, EPA released the latest in a series of regulations (called Tiers) requiring off-road diesel engine companies, such as Catapillar, Detroit and International, to manufacture engines with reduced emissions. In light of significant environmental and public concerns associated with the Project, the Administration has implemented a Diesel Emissions Reduction Program. Accordingly, the Design-Builder shall prepare a plan demonstrating means and methods for compliance with the strategies below and/or prepare a similar program for review by the Administration.

#### **3.5.2 Control Methods**

Diesel powered construction equipment with engine horsepower (HP) ratings of 60HP and above that are assigned to the contract for a period in excess of 30 days, shall meet the following requirements by engine manufacturer, or be properly retrofitted with Emission Control Devices and/or use Clean Fuels in order to meet the requirements. The total off-road diesel fleet (prime contractor and subcontractors) shall meet, as a minimum, the following EPA Tiered percent usage requirements:

- A) EPA Tier 0: 0-10;
- B) EPA Tier 1: 0-60;
- C) EPA Tier 2: 20-90; and
- D) EPA Tier 3: 10-100.

All motor vehicles and/or construction equipment shall comply with all pertinent State and Federal regulations relative to exhaust emission controls and safety.

Any and all retrofit equipment shall consist of oxidation catalysts, or similar retrofit equipment control technology, that is included in the EPA Verified Retrofit Technology List.

Clean Fuels may consist of PuriNOx™, or other low NOx and PM emission diesel fuel.

The Design-Builder shall submit a list prior to the start of construction and each quarter during construction of the off-road 60+ HP diesel powered construction equipment which specifically demonstrates and details compliance with the numbers above. The list shall include:

- 1) The equipment number, type, make, and contractor/sub-contractor name;
- 2) Any emission control device make, model and EPA certification number; and
- 3) The type and source of fuel to be used.

Unnecessary idling of delivery and/or dump trucks, or other diesel powered equipment will not be permitted.

Noncompliance with the diesel emissions reduction program will require the Design-Builder to immediately submit a plan to regain compliance for review by the Administration. If the plan does not meet requirements and/or the Administration's comments are not satisfactorily resolved or not successfully implemented within 5 working days, the Design-Builder shall discontinue use of any and all equipment necessary to regain compliance.

#### **3.5.3 Control of Odors and Dust**

The Design-Builder shall to the best of their ability limit hazardous odors and nuisance odors

encountered or created during Work on this Contract, including odors associated with site sanitation.

The Design-Builder shall also allay dust within the Project limits. Fugitive dust (beyond Project limits) is strictly prohibited and shall be immediately addressed. Dust control shall include practices that will reduce or prevent the surface and air transport of dust during construction. Dust control measures for construction activities may include minimization of soil disturbance, applying mulch and establishing vegetation, water spraying, surface roughening, applying polymers, spray-on tackifiers, and barriers.

The practices shall be used to:

- A) Reduce wind erosion and dust,
- B) Minimize deposition of dust and wind transported soils into water bodies through run-off or wind action,
- C) Reduce respiratory problems, and
- D) Minimize low visibility conditions caused by airborne dust.

Dust Control measures shall be applied at any portion of the Project with dry exposed soils, that may be exposed to wind or vehicular traffic.

The Design-Builder shall comply with applicable federal, state and local laws, rules and regulations and permit requirements governing dust control during construction.

This specification establishes the minimum standards for design, installation, and the following performance requirements:

- 1) The implementation of dust control shall limit the area of exposed dust generation;
- 2) Asphalt and petroleum based products shall not be used for dust abatement;
- 3) Mulch and vegetation-mulch or seed and mulch may be applied to protect exposed soil from wind erosion;
- 4) Water shall be applied until the surface is wet. Repeat as needed. Water shall be applied at rates so that run-off does not occur. Treated soil surfaces that receive vehicle traffic require a stone tracking pad or tire washing at all points of access;
- 5) Polymers can be an effective practice for areas that do not receive vehicle traffic. Dry polymers shall be initially watered for activation to be effective for dust control;
- 6) Tackifiers and Soil Stabilizers Type A –Products shall be selected from and installed at rates conforming to Administration and MDE standards;
- 7) Barriers may be placed at right angles to prevailing wind currents at intervals of about 15 times the barrier height. Solid board fences, snow fences, burlap fences, crate walls, bales of hay and similar material may be used to control air currents and blown soil.; and
- 8) Tillage is a control measure performed with chisel type plows on exposed soils. Tillage shall begin on the windward side of the site and is only applicable to flat areas.

- 9) Pavement shall be regularly cleaned where trucks enter and leave the Project. If the Administration determines the Design-Builder is not performing an adequate job of controlling such sediments, the Design-Builder shall install erosion and sediment controls to preclude and adjacent aquatic resources from receiving sediment laden runoff.

The Design-Builder shall maintain opacity limits of 20% on site and 15% at the right of way line. The Design-Builder's Opacity Monitor shall be certified through EPA approved opacity training and certification course.

The Design-Builder shall document compliance by conducting regular monitoring, which is defined as daily or as reasonably requested by the Administration, in accordance with EPA standards. The Administration will be conducting quality assurance monitoring for dust control to ensure compliance.

Noncompliance with this performance specification shall require timely modification and/or mitigation of activities to bring the operation into compliance within 2 hours of discovery, or cessation of any and all operations in sufficiency to bring the overall operation into full compliance with opacity thresholds.

### **3.6 HAZARDOUS MATERIALS**

- A) The Design-Builder shall prepare and implement a plan for management and disposal of controlled hazardous materials and contaminated soil and groundwater that may be encountered during structure demolition, land clearing, or excavation activities.
- B) The plan shall address worker safety and health in accordance with applicable federal, state, and local regulations.
- C) The plan shall provide procedures for management, handling, transportation, and disposal of demolition debris and contaminated soils and groundwater that contain controlled hazardous substances in accordance with applicable federal, state, and local regulations.
- D) Structure demolition will be required at 28 properties (21 residences, 4 state-owned properties and 2 businesses) within the Project. The Design-Builder shall perform a pre-demolition survey to determine the presence of asbestos containing materials (ACM), lead based paint (LBP), universal wastes, and other regulated materials in each structure to be demolished. Results of the pre-demolition survey will be the basis for determining appropriate methods for structure demolition and management, transportation, and disposal of demolition debris. The Design-Builder shall provide a copy of the pre-demolition survey results to the Administration for review and comment before demolition proceeds.

### **3.7 CONSTRUCTION ACCESS AND MOBILITY PLAN**

The Design-Builder shall diligently work to minimize impact upon the local environment and community. The Design-Builder shall prepare an Access and Mobility Plan depicting major haul routes and access points. This plan shall include potential material staging areas, truck staging areas, and access routes through the Project limits. All documentation and/or permitting for off-site areas shall be the responsibility of the Design-Builder including but not limited to NEPA, NHPA, Section 7 of ESA, Section 401/404 of CWA, and MDE ESC/SWM.

The Design-Builder shall prevent the tracking of sediment onto private and public roads and shall