

1.1. EQUIPMENT EMISSIONS REDUCTION STRATEGIES

A. The following are suggested emissions reduction strategies:

1. Utilize **alternative fuels** including, Texas LED Compliant B20 (or higher) biodiesel, Compressed Natural Gas (CNG), propane and electric. (**refer to EPA Energy Policy Act for full list**: Eliminate use of vehicles in tier 0 and 1 categories per EPA and rent or purchase tier 2 and 3 compliant vehicles. (<http://www.seco.cpa.state.tx.us/alt.html>) (<http://www.epa.gov/oms/consumer/fuels/altfuels/altfuels.htm>).
2. It is recommended that the CONTRACTOR retrofit diesel-powered non-road construction equipment with engine horsepower ratings of 60 HP and above, used on the project for a period in excess of 15 working days, with **Emission Control Devices** in support of diesel emissions reduction on-site. The acceptable Retrofit Emission Control Devices for the project shall consist of diesel oxidation catalysts at a minimum that are verified by EPA or certified by the manufacturer to provide a minimum emissions reduction of 20 percent for particulate matter (PM), 40 percent for carbon monoxide (CO), and 50 percent for hydrocarbons (HC). The Emission Control Devices must be either included on the **EPA Verified Retrofit Technology List** or be judged by the OWNER to be equivalent to the EPA standards. (<http://www.epa.gov/air/caa/peg/carstrucks.html>) (<http://www.epa.gov/oms/retrofit/verif-list.htm>)
3. Utilize **Texas Emission Reduction Plan (TERP) grant incentives** to upgrade vehicles with retrofitted emission reduction technologies. Refer to listings. (<http://www.tceq.state.tx.us/implementation/air/terp/>)
4. Implement and enforce **anti-idling practices** for all equipment and vehicles on and adjacent to the site and associated with the project. (<http://www.engineoff.org/>)
5. Utilize **battery powered equipment** where available. (evtransportal.org/dieselengineidlereduction.pdf)
6. Utilize **equipment companies** that are located closest to the construction site.
7. Store equipment on site during construction use or arrange for closest overnight storage including **temporary use of the Right of Way** if possible.
8. Contractor shall maximize use of **local and regional materials** to reduce transportation emissions. (<http://www.usgbc.org/ShowFile.aspx?DocumentID=1095>)
9. Contractor shall maximize **salvage and reuse** of appropriate on-site materials. (<http://www.usgbc.org/ShowFile.aspx?DocumentID=1095>)
10. Require all diesel fuel used to perform work on the Contract to be Ultra-Low Sulfur Diesel (ULSD) fuel which also complies with **Texas Low Emission Diesel (TxLED) program** requirements. This may include TxLED-compliant Biodiesel blends. (<http://www.tceq.state.tx.us/implementation/air/sip/cleandiesel.html>)
11. Implement and enforce **local anti-idling ordinances** for all project associated vehicle and equipment operations and limit idling to no more than five (5) minutes, unless the idling is applicable to one or more of the following exceptions:

- a) Idling is being used for emergency response purposes;
 - b) Idling is idling as a necessary component of mechanical operation, maintenance, or diagnostic purposes; or
 - c) Idling is idling for the health or safety of the equipment operator.
(<http://www.tceq.state.tx.us/implementation/air/sip/vehicleidling.html>)
12. Provide **signs and install a sticker** in every vehicle to limit idling of construction equipment to five (5) minutes and provide an area of shelter from extreme weather conditions. (<http://data.capcog.org/air-quality/engineoff/template-1/HowtoOrderSign.html>)
13. Provide **education** to all staff, vendors and subcontractors about emissions hazards and anti-idling practices. Including **calculated emissions and potential reductions** through good practices and policies. (<http://data.capcog.org/air-quality/engineoff/AntidlingBrochure%282%29.pdf>) (<http://data.capcog.org/air-quality/engineoff/smartwaycalculator.xls>)
14. To the greatest extent possible, stage equipment and vehicles away from, and minimize operation near, sensitive receptors including, but not limited to, operable windows, fresh air intakes, hospitals, schools, licensed day care facilities, residences and areas where people congregate.
15. Establish a preventative **maintenance log** addressing issues including, fuel use, air emissions, tire pressure, and noise.
16. Make all efforts to **prevent oil/fuel spillage** on to site surfaces.
17. To the extent possible, not stop or idle haulage trucks directly under tree limbs and foliage overhanging the street along the haul route. Further avoid such damage from truck exhaust by means of exhaust diversion devices to redirect or diffuse exhaust from being directed in a concentrated manner to tree limbs and foliage.
18. To the extent possible, **do not stop or idle trucks** in direct sunlight.
(<http://www.epa.gov/glo/>)
19. Avoid vehicle loitering or queuing outside or inside the gates of the work area to minimize degradation of **localized air quality**.
(<http://www.ci.austin.tx.us/airquality/>)
20. Avoid unnecessary fuel use by providing **on-site fuelling** for alternate fuels.
21. Cancel operations and close the construction site on **Ozone Action Days**.
(http://www.dot.state.tx.us/public_involvement/ozone.htm)