

HOW THE EMISSIONS INVENTORY IS CALCULATED:

Emission factors are composed of zero-hour emissions and deterioration rates. The emission factors can be expressed by the following equation:

$$EF = Z_h + dr * CHrs$$

Where: EF = emission factor, in grams per horsepower-hour (g/hp-hr)
Z_h = zero-hour emission rate or when the equipment is new (g/hp-hr)
dr = deterioration rate or the increase in Z_h emissions as the equipment is used (g/hp-hr²)
CHrs = cumulative hours or total number of hours accumulated on the Equipment

The emissions inventory is calculated by the following equation:

$$\text{Emissions in tons/day} = EF * Pop * AvgHp * Load * Activity$$

Where:
AvgHp = Maximum rated average horsepower
Load = Load factor
Activity = Annual activity in hours per year (hr/yr)
EF = Emission factor in grams per horsepower-hour (g/hp-hr)
Pop = Population

The emission factors in the OFFROAD Model vary by fuel type, horsepower group and model year.

For OFFROAD gasoline emission factors:
(*link to gas emission factors: [MSC # 98-27](#) and [MSC # 98-04](#)*)

For OFFROAD diesel emission factors:
(*link to diesel emission factors: [MSC # 99-32 Appendix D](#)*)