



Emission Estimations

For use with Instructions for Notice of Construction Application, ECY 070-410a-g.

What are emission estimations?

Emission estimations are your calculated estimates of the amount of criteria and/or toxic air pollutants your project will emit. Emission estimates are usually presented as an emission rate in both pounds/hour and tons/year, and as an emission concentration such as parts per million volume (ppm_v) or grains per dry standard cubic foot (gr/dscf).

What emission data do I use?

You must use emission data that is verifiable using currently accepted engineering criteria. The applicant is responsible for knowing exactly what the emissions from their project will be. If data is later determined to be wrong, the applicant will have to bear the costs associated with the mistake. Below is a hierarchy of example sources of emission data, listed from most to least credible:

1. EPA reference method stack test data (used primarily for large emission units)
2. Manufacturer's emission estimates with measurement procedure (used primarily for new emission units)
3. Other sources of emission data as approved by Ecology
4. [AP-42 Air Pollutant Emission Factors](#)¹ (commonly used for small emission units)

What are potential emissions?

Potential to emit (PTE) is the maximum amount of each individual air pollutant that will be released under the emission unit's physical and operational design. Any assumptions used in the emission calculations, such as production rate or hours of operation, will be included as conditions in the final permit and may require ongoing emission testing and/or record keeping.

What are fugitive emissions?

Fugitive emissions are defined as an air pollutant that could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening. Examples of fugitive emissions include road or quarry dust and volatile organic compounds from lumber yards. Fugitive emissions are often hard to measure, and commonly rely on AP-42 Air Pollutant Emission Factors.

How do I calculate emission estimations?

The methods used to estimate emissions are all similar, and follow these basic steps:

1. Identify the best emissions data for each air pollutant released by each emission unit.
2. To calculate emissions, multiply the best emissions data for each air pollutant by the operating parameters being planned for each emission unit.
3. Calculate the emission rate in pounds per hour for each air pollutant released by each unit.
4. Calculate the annual emission rate for each air pollutant in tons per year for the total project.

¹ <http://www.epa.gov/ttn/chief/ap42/index.html>