



Potential to Emit Fact Sheet

What is Potential to Emit?

Potential to Emit (PTE) is defined as the maximum capacity of a source to emit any air pollutant under its physical and operational design. Thus, your PTE is the maximum amount of air pollution your facility could emit if:

- Each process unit is operated at 100% of design capacity
- Materials that emit the most air pollution are processed 100% of the time
- All the equipment is operating 24 hours per day, 365 days per year
- No pollution control equipment is used unless required by a federal, Washington, or ORCAA performance standard.

Any physical or operational limitation on the capacity of the source to emit an air pollutant (including air pollution control equipment, restrictions on hours of operation or on the type or amount of material combusted, stored, or processed) can be included as part of its operational design only if the limitation is enforceable by ORCAA.

How Do I Calculate My PTE?

This is typically a 4-step process that is repeated for each air pollutant emitted:

1. Identify all emissions sources (units and processes) at your facility. These include all emissions from vents and stacks, or emissions that could reasonably pass through a vent or stack. Fugitive emissions (i.e., those emissions that cannot reasonably be collected and routed through a stack or vent, such as dust from roads, slag pile, volatile organic compounds from open tanks, etc.) must also be considered in determining PTE.
2. Identify all pollutants. Pollutants are typically identified using three broad categories: Criteria Air Pollutants, Hazardous Air Pollutants (HAPs) and Toxic Air Pollutants (TAPs). Criteria Air Pollutants include those pollutants for which a national ambient air quality standard is established: NO_x, SO₂, CO, Ozone (as VOCs), PM₁₀, PM_{2.5}, and Lead. HAPs include pollutants regulated under Section 112 of the Clean Air Act. In addition, Washington regulates a third category of pollutants referred to as Toxic Air Pollutants (TAPs); these may include both HAPs and other air toxics.



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3. Calculate PTE on a pollutant-by-pollutant basis for each emissions source. There are several methods that can be used to calculate PTE. These methods include the emission factor method, material balances, stack tests, and emissions models. The emission factor method is probably most often used to calculate PTE:

The Emission Factor Method:

$$\text{PTE} = \text{EF} \times \text{PR} \times (1 - \text{CE}/100) \times \text{T}$$

where: PTE = potential to emit

EF = emission factor

PR = physical or operational design rate

CE = control efficiency (if required by a performance standard)

T = operating time (8,760 hours per year unless a different value is established)

4. On a pollutant-by pollutant basis, sum the emissions from all emission units at your facility to obtain the facility-wide PTE.

Emission factors quantify the average emissions of a given pollutant from a particular type of process. The factors are found in government publications such as AP-42: Compilation of Air Pollutant Emission Factors, WebFIRE (Factor Information Retrieval) database, or manufacturer specifications and/or guarantees.

How Can I Limit My PTE?

PTE can be limited and recognized by ORCAA provided the limits are real, quantifiable, verifiable and enforceable. Limits on PTE can be made enforceable by establishing the limit in an air permit. This can be accomplished through a Notice of Construction (NOC). Contact ORCAA's Engineering Staff to find out details on the process and to obtain appropriate forms.