



Glossary of Emissions Inventory Questionnaire, or EIQ, Terms (These definitions paraphrase the regulations, which are the final authority.)

^: This symbol is used in mathematical equations. It means to raise the preceding quantity to the indicated power.

Example 1: $36^{.5}$ means that 36 is to be raised to the .5 (or $\frac{1}{2}$) power; i.e., find the square root of 36.

Example 2: $125^{(1/3)} = 5$ since $5 \times 5 \times 5 = 125$.

ACC (M):

The estimated accuracy (in meters) of the coordinates of the locational coordinates.

Actual Emissions (Tons/Year):

This is the amount in tons per year of the pollutant emitted at the emission unit described.

Bottleneck:

For emissions reporting purposes, a bottleneck is one that is approved in the permitting process. A bottleneck is a physical or economic limitation which reduces the throughput of a process or piece of equipment to less than the manufacturer's rated capacity. It can be either upstream or downstream of the process. When maximum design rate is reduced for bottlenecks (see **MHDR**, following) the application must document how the bottleneck reduces process throughput.

Example of a bottleneck: A paint booth is located in a furniture manufacturing plant. If the painting equipment is capable of applying more coatings per hour than is needed to paint the maximum output of the manufacturing plant, then the upstream production rate is a bottleneck and determines the paint booth's maximum design rate.

Breathing Loss (also called *standing loss*):

Breathing loss occurs daily when a liquid is stored in a tank. Breathing loss for a product such as gasoline is due to evaporation and barometric temperature changes. The frequency with which gasoline is withdrawn from the tank, allowing fresh air to enter and enhance evaporation, also has a major effect on the quantity of emissions.

Capture Efficiency (%):

This is the percentage of total emissions captured and routed to air pollution control equipment.

CAS #: Chemical Abstract Service Registry Number.

CFR: Code of Federal Regulations.

CO: Carbon Monoxide.

Condensable PM (CPM):

Material that is vapor phase at stack conditions but which condenses and/or reacts upon cooling and dilution in the ambient air to form solid or liquid PM immediately after discharge from the stack. Note that all condensable PM, if present from a source, is typically in the PM2.5 size fraction and, therefore, all of it is a component of both primary PM2.5 and primary PM10.

Control Device:

Equipment or process used to remove or prevent air contaminants from being emitted from an air pollution generating process.

Continuous Emissions Monitor (CEM):

Monitors that continuously measure emissions of SO_x, NO_x, and Particulates.

Control Efficiency:

This is the measure of how effectively emissions are removed from the effluent stream or destroyed by the control device.

County #:

Each county within the state has been assigned a unique number by the federal government. The lowest and highest, 001 and 229, are assigned to Adair and Wright counties, respectively. Every facility in New Madrid County, for example, will be assigned a county number of 143. Portable sources are given a county number of 777.

Criteria Pollutants:

The pollutants regulated by the Clean Air Act under Section 108 are:

- PM10 - Particulate Matter less than 10 microns in diameter
- NO_x - Nitrogen Oxide Compounds
- SO_x - Sulfur Oxide Compounds
- VOC - Volatile Organic Compounds
- Lead - Lead (Pb)
- CO - Carbon Monoxide
- PM2.5 - Particulate Matter less than 2.5 microns in diameter
- NH₃ - Ammonia

CSR: Code of State Regulations

Degrees R:

Degrees Rankine = F (Fahrenheit) degrees + 460 degrees F. Absolute temperatures determined by using Fahrenheit units are expressed as degrees Rankine.

Example: 10 degrees F = (10 + 460) degrees Rankine = 470 degrees R.

EIQ: Emissions Inventory Questionnaire.

Emission Factor:

An average value that relates the quantity of a pollutant released to the atmosphere with the amount of activity associated with the process releasing that pollutant. Such factors can be used to estimate the emissions from various sources generating air pollution. An emission factor for natural gas combustion is 3.0 lbs of PM10 per Million Cubic Feet

(MMCF) of gas burned. An emission factor for a haul road can be 2.7 lbs. of PM10 per Vehicle Miles Traveled (VMT).

Emission factors should be the same as were used in the approved permit for the facility, unless updated by the EPA.

Emission Release Point:

An Emission Release Point is the point at which pollutants are released into the ambient air. This emission may be fugitive or it may be vented through a device such as a stack or vent.

Emission Unit:

Any part or activity of an installation that emits or has the potential to emit any regulated air pollutant or any pollutant listed under section 112(b) of the Act (10 CSR 10-6.020). The emission units in the EIQs should be consistent with the permit.

For example, an EIQ for Facility B lists Emission Release Point 1 as a stack which emits pollutants from two boilers and a kiln. The three emission units are boiler 1, boiler 2, and the kiln.

Filterable Particulate Matter:

Any particles that are directly emitted by a source as a solid or liquid at stack or release conditions and captured on the filter of a stack test train are considered filterable. Filterable PM2.5 is particulate matter with an aerodynamic diameter equal to or less than 2.5 micrometers. Filterable PM10 is particulate matter with an aerodynamic diameter equal to or less than 10 micrometers

FIPS County #: See County #.

Hazardous Air Pollutant (HAP):

Any of the air pollutants defined and listed in 10 CSR 10-6.020(3)(C).

Maximum Hourly Design Rate (MHDR):

Maximum Hourly Design Rate is the maximum throughput that could be processed in one hour of continuous operation at peak efficiency with no restrictions on its production levels for the equipment at this emission unit. The throughput and MHDR must be expressed in the same Source Classification Code (SCC) units. If specific equipment information on the MHDR is not available, contact the Air Pollution Control Program for alternative methods to estimate the MHDR.

The MHDR was determined in permit review and approval process. The values from the permit should be used in all emissions reporting.

Example: Suppose the maximum capacity of a dump pit at a country elevator is 5,000 bushels an hour and wheat is the typical grain processed. Because the SCC units for grain receiving are in tons, the MHDR must be stated in terms of tons, not bushels.
 $5,000 \text{ bushels} \times 60 \text{ lbs/bushel} \div 2,000 \text{ lbs/ton} = 150 \text{ tons MHDR.}$

MCF: Thousand Cubic Feet.

MMCF: Million Cubic Feet .

NAICS:

North American Industry Classification System. This is a newer version of the SIC and is used to identify industrial process according to production descriptions.

NOx: Nitrogen Oxide Compounds, a criteria air pollutant.

Particulate Matter less than ten microns (PM10):

Any liquid or solid material with aerodynamic diameter equal to or less than 10 micrometers is considered PM10. When reported as PM10 Primary (PM10 PRI), PM10 is the summation of filterable and condensable components.

Particulate Matter less than two and a half microns (PM2.5):

Any liquid or solid material with aerodynamic diameter equal to or less than 2.5 micrometers is considered PM2.5. When reported as PM2.5 Primary (PM2.5 PRI), PM2.5 is the summation of filterable and condensable components

Plant #:

This is the second of a pair of identification numbers assigned to all facilities in the APCP database. Each facility within a county has been assigned this unique identification number by the APCP. The lowest plant number will always be 0001 but the highest will be dependent upon the number of facilities in the county.

PSIA:

Pounds per square inch of absolute pressure.

Release Flow Path:

The Release Flow Path describes the route the emission takes from the emission unit to the emission release point. This path would include any control equipment that reduces the emission levels along the way. In MoEIS, release flow path is the mechanism used to document how emission units (such as boiler), control equipment (such as baghouse), and emission release points (such as stack) are connected.

Reporting Level (Reporting Threshold):

If 2000 lbs (1 ton) or more of SO_x, NO_x, or CO, or if 876 lbs or more of PM10, PM2.5, VOC, or Ammonia are emitted from an **emission unit**, then all criteria pollutant emissions from that unit must be reported.

HAP reporting thresholds are different. The HAPs are separated into two groups or categories with different emission point level reporting thresholds based on the toxicity of the specific HAP chemical. The first group (Category 1) consists of a small set of the most hazardous or toxic chemicals that have an annual emission point reporting level of **20 pounds** or more emitted per year. If a total of 20 lbs. or more of Category 1 HAPs is emitted from an emission unit, then **all** HAP emissions must be reported from the unit. All other HAP chemicals are in the second group (Category 2) with an annual **emission point reporting level of 200 pounds** or more emitted per year. If the total of all Category 2 HAPs emitted at an emission unit exceeds 200 lbs. or more, then all Category 2 HAP emissions must be reported from the unit. Also remember, when reporting a HAP as PM10 or VOC, the emissions are subject to **HAP** reporting thresholds.

Responsible Official:

Includes one (1) of the following:

- A. The president, secretary, treasurer or vice-president of a corporation in charge of a principal business function, or any other person who performs similar policy and decision-making functions for the corporation, or a duly authorized representative of this person if the representative is responsible for the overall operation of one (1) or more manufacturing, production, or operating facilities applying for, or subject to, a permit and either:
 - (I) The facilities employ more than two hundred and fifty (250) persons or have a gross annual sales or expenditures exceeding twenty-five million dollars (in second quarter 1980 dollars); or
 - (II) The delegation of authority to his representative is approved in advance by the permitting authority.
- B. A general partner in a partnership or the proprietor in a sole proprietorship.
- C. Either a principal executive officer or a ranking elected official in a municipality, state, federal, or other public agency. For the purpose of this part, a principal executive officer of a federal agency includes the chief executive officer having responsibility for the operations of a principal geographic unit of the agency; or
- D. The designated representative of an affected source insofar as actions, standards, requirements or prohibitions under Title IV of the Clean Air Act or the regulations promulgated under the Act are concerned and the designated representative for any purposes under Part 70. (10 CSR 10-6.020).

Rounding Numbers:

This term involves approximating numerals. The reason for the approximation is to make the representation less complicated. For emissions reporting, no value should be carried beyond the second decimal.

Example: Round 4.527 to two decimal places, i.e., approximate this number to the nearest hundredths. (Allow only two digits to the right of the decimal.) Since 7 is greater than or equal to 5, in rounding we "drop" the 7 and add 1 to the 2 (the hundredths position). Thus, 4.527 rounded = 4.53.

Example: Round 3.524 to the nearest hundredths. "Drop" the 4 since 4 is less than 5; do not add 1 to the 2; therefore, 3.524 rounded = 3.52.

Rounding is different than truncation. In truncation, digits are "dropped" with no effect on digits to the left.

Example: Truncate to two decimal positions.
4.527 truncated = 4.52; 3.514 truncated = 3.51.

RVP 7: Reid vapor pressure of 7 psi. This is the typical RVP of diesel gasoline.

RVP 10: Reid vapor pressure of 10 psi. This is the typical RVP of normal gasoline.

RVP 13: Reid vapor pressure of 13 psi. This is the RVP of typical ethanol-blended gasoline.

SCC: Source Classification Code. This is an eight digit number associated with a unique process from which air pollutants are emitted.

SCC Units:

The measure by which annual throughput is denoted; examples are tons, gallons, million cubic feet, vehicle miles traveled, etc.

Seg. No.:

Segment Number. This is a two-digit number assigned by the facility used to uniquely identify processes associated with an emission unit. Generally, if an emission unit, e.g., EP01 has three processes associated with it, then Segment Numbers 01, 02 and 03 will be assigned to those processes. Once assigned, this number should remain constant from year to year. If there is a change in the SCC used by the facility to identify a process, a new segment number will be assigned to that process or SCC.

SIC: Standard Industrial Classification. This is a designation system used by the federal Government to identify industrial processes according to production description.

SO_x: Sulfur Oxide Compounds, a criteria air pollutant.

Stack Test:

A quantitative examination of air samples taken from a facility's stacks.

Vapor Pressure:

Pressure of a liquid exerted by vapor when liquid and vapor are in dynamic equilibrium. Each liquid exerts its own vapor pressure at a given temperature. As temperature increases, more vapor forms and vapor pressure increases.

VMT: Vehicle Miles Traveled.

VOC: An organic compound with sufficient volatility to affect air quality as defined by the EPA.

Working Loss:

Evaporative loss occurring as a result of the filling and the withdrawal of liquid to and from a storage tank. Also called *withdrawal loss*.