

Instructions

FORM F1105

Actual Sulfur Dioxide Emissions from Fuel Burning Using Material Balance

Form F1105 is part of the form series provided to Title V Operating Permit holders to report annual emissions of regulated air pollutants subject to fees to the Department of Environmental Quality. The fee report process and the regulated air pollutants subject to fees are described in the general instructions for the F1100 form series. The instructions below are for form F1105.

The source owner or operator must complete form F1105 if he or she has chosen to pay for sulfur dioxide (SO₂) emissions from fuel burning for any device or process based on actual emissions using material balance. To determine actual SO₂ emissions from fuel burning based on material balance, the owner or operator must:

- Determine emissions of SO₂ through material balance per OAR 340-220-0160. This requires calculation using the sulfur content of all fuels used during the reporting year and the total annual fuel usage;
- Use ASTM International (ASTM) methods to measure the fuel sulfur content of each quantity of fuel burned or uses the certified fuel sulfur content for fuels obtained from and certified by a fuel dealer;
- Attach records that demonstrate the sulfur content of all fuels reported on this form; and
- Use the following equation to calculate SO₂ emissions from fuel usage: $SO_2 = S \times F \times 2$

Where: SO₂ = sulfur dioxide emissions for the quantity of fuel burned, tons
S = sulfur content of the fuel burned (fraction by weight)
F = quantity of fuel burned, based on quantity measurement, tons
2 = pounds of sulfur dioxide per pound of sulfur

Complete as many forms as needed to report all emission sources and fuel types. Report the emissions determined on form F1105 on form F1102.

Form instructions

1. Enter the reporting year.
2. Enter the facility name. Include a site identifier if the corporation has multiple facilities by the same name in Oregon.
3. Enter the permit number.
4. Complete the following sections for each emission source (device or process).
 - a. Enter the device or process ID of the emission source. Add a short description of the device or process unless the ID contains one (e.g. "Degreaser #1" shows that the device is a degreaser and doesn't need additional description).
 - b. Enter the name of the fuel (e.g. residual oil, natural gas) burned in the emission source.
 - c. Enter the total quantity of fuel burned during the reporting year in common units (e.g. gallons for residual oil, cubic feet for natural gas). Report the units.
 - d. Enter the total quantity of fuel burned during the reporting year in tons (F).
 - e. Enter the sulfur content of the fuel (as S) as the weight fraction (wt. sulfur/wt. fuel). Enter the content in *decimals* (e.g., 5 percent should be converted and entered as "0.05", NOT as "5").

Exception: If the emission source is a coal-fired steam-generating unit with an electrostatic precipitator (ESP), don't enter the fuel sulfur content. Multiply the fuel sulfur content by 0.97 and enter the product. For example, if the fuel sulfur content is one and a half percent: $4e = 0.015 \times 0.97$.
 - f. Enter the ASTM method used to measure the fuel sulfur content; or enter "dealer" if using the fuel sulfur content certified by the fuel dealer. Attach the certification of sulfur analysis for each delivery.
 - g. Determine the total SO₂ emissions in tons, as calculated in the equation above. $4g = 4e \times 4d \times 2$
 - h. Sum the total amount of SO₂ emissions (in tons) that are reported on the form.
5. Enter page numbers for the form and the total number of F1105 forms being submitted to DEQ.