

## Instructions

### FORM F1103

#### Actual Emissions Using Verified Emission Factors

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Form F1103 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 (DEQ). 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 F1103.

The source owner or operator must complete form F1103 and its worksheets if he or she has chosen to pay for emissions based on actual emissions using verified emission factors. To determine emissions using verified emission factors, the owner or operator must comply with OAR 340-220-0170 and meet the source test requirements described below.

- The owner or operator must have conducted at least three source tests. Each test must have consisted of at least three individual test runs. The source tests need not have been conducted within the reporting year. The DEQ source test coordinator must approve test scheduling.
- Seasonal variation:
  - If the device or process is subject to seasonal variations, the source tests must have been conducted in at least three quarters of the year with no two successive source tests performed any closer than 30 days apart.
  - If the device or process is not subject to seasonal variations, the source tests must have been conducted during equal intervals over the annual operating period (e.g. if it is a three-month operation, the owner or operator should have conducted one test per month; if it is a full-year operation, the owner or operator should have conducted one test in each of the four month periods).
- The owner or operator must conduct the source tests to test the entire range of operating levels. At least one test must be conducted at minimum operating conditions, at normal or average operating levels and at anticipated maximum operating levels. If the process rate is constant, all tests must be conducted at that rate.
- The owner or operator must monitor and record applicable process and control device operating data during each source test.

Complete form F1103 and Worksheet 1 to determine emissions from a device or process during normal operations based on verified emission factors. Normal operation includes all periods that the device or process is operating except for startups, shutdowns, maintenance periods and upsets. Complete Worksheet 2 to determine emissions that occur during startups, shutdowns, maintenance and upsets of the device or process. Startups and shutdowns are times during which an air contaminant source or emission-control equipment is brought into normal operation; or normal operation is terminated, respectively. An upset is any failure or malfunction of any pollution control equipment or operating equipment that may cause excess emissions. Worksheet 2 is required unless the owner or operator demonstrates to DEQ that no excess emissions occur during startups, shutdowns and maintenance; and that no upsets occurred during the reporting year. Refer to Worksheet 2 for details.

Complete worksheets 1 and 2 before completing form F1103. Complete as many worksheets as needed to complete form F1103. Complete a separate form F1103 for each pollutant. If determining emissions using verified emission factors for more than one device or process for the same pollutant, submit a form for each device or process. Submit the worksheets to DEQ with form F1103. Report the emissions determined on all F1103 forms 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. Enter the device or process ID. Add a short description of the device or process unless the ID contains one (e.g. “Boiler #1” shows that the device is a boiler and doesn’t need additional description).
5. Enter the pollutant.

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6. This section corresponds to **Worksheet 1**, which provides information for verified emission factors during normal operations.
- Enter the dates of the three source tests.
  - Enter the name of the company or person who conducted the source tests.
  - Enter the EPA or ODEQ test method used for each source test. Refer to Table CP702 of the Series CP700 Instructions. The table is posted on the Internet at:  
<http://www.deq.state.or.us/daq/permit/tv/CP/CP700-Instructions.pdf>
  - Describe the operating conditions (e.g. process rate) under which the tests were conducted.
  - Each source test must have had three runs. Enter data in columns a. through d. for each test. Enter the results of each of the runs, including EF units.
  - Enter the emissions estimate adjustment factor (EEAF) from Worksheet 1 (section B-3, C-1 or D-4).
  - Enter total production (P), including units, from Worksheet 1 (section B-4 or C-3 annual production; or enter the three production values from section D-3).
  - Enter the average verified emission factor ( $EF_{avg}$ ), including units, from Worksheet 1 (section B-2 or C-2; or enter the three verified emission factors from section D-2).
  - Enter the actual emissions (in tons) from Worksheet 1 (section B-5, C-4 or D-5).

Sections 7, 8 and 9 correspond to **Worksheet 2**. The worksheet provides for the owner or operator to determine emissions that occurred during startups, shutdowns, maintenance periods and upsets. There are two options to determine emissions during these periods (Options 1 and 2). The owner or operator may use either of the options to determine emissions during startups, shutdowns and maintenance periods. Emissions during upsets may only be determined using the procedure in Option 1. The options are described in Worksheet 2 in sections 7, 8 and 9.

- Skip sections 7, 8 and 9 if emissions did not occur during startups, shutdowns and maintenance and the device or process did not have upsets during the reporting year. Submit documentation to DEQ as described in worksheet 2. Proceed to section 10 and enter zero.
- Complete section 7 for emissions determined using Option 1. This will show emissions during startups, shutdowns, maintenance periods and upsets where the emissions are assumed to be equivalent to operation without a pollution control device. This is the most common method.
- Complete section 8 for emissions determined using Option 2. This will show emissions during startups, shutdowns and maintenance where the emissions were determined based on source test data. This method is uncommon.
- Complete section 9 for upset emissions if you have used Option 2 to calculate emissions during startups, shutdowns, maintenance periods using source testing. You may calculate the upset emissions the same way as in Option 1, where the emissions are assumed to be equivalent to operation without a pollution control device. Submit documentation to DEQ for any other calculation method.
- Complete section 10 for total emissions determined using Worksheet 2 for emissions during startups, shutdowns, maintenance periods and upsets.

7. Provide the following information for startups, shutdowns, maintenance periods and upsets for which

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emissions are assumed to be equivalent to operation without a control device (Option 1).

- a. Enter the pollution control device efficiency (PCDE) from Worksheet 2 (section B-1). If the owner or operator assumes an efficiency other than the one described in Worksheet 2, he or she must submit justification and a request for DEQ's approval.
  - b. Enter production (P) from Worksheet 2 (section B-2) for each period (startups, shutdowns, maintenance and upsets). Indicate units (e.g. hours, tons of output). Since production rates during startups, shutdowns, maintenance periods and upsets may cease or be less than normal production rates, production P may need to be adjusted to reflect the actual emissions.
  - c. Enter the actual emissions (AE) (in tons) calculated in Worksheet 2 (section B-3) for each period (startups, shutdowns, maintenance and upsets) where emissions are assumed equivalent to operation without a control device.
8. Provide the following information for startups, shutdowns and maintenance periods for which emissions are being determined based on source test data (Option 2). A minimum of one source test (with three runs) is required from each type of period being reported (e.g. a source test with three runs must be completed during a startup in order to use the emission factors to determine emissions during all startups). Complete a worksheet for each period type being reported.
- a. Enter the dates of the source test(s).
  - b. Enter the names of the people who conducted the test(s).
  - c. Enter the EPA or ODEQ test method used for each source test. Refer to Table CP702 of the Series CP700 Instructions. The table is posted on the Internet at:  
<http://www.deq.state.or.us/eq/permit/tv/CP/CP700-Instructions.pdf>
  - d. Describe the operating conditions (e.g. process rate) under which the source test(s) was conducted.
  - e. Each source test must have had three runs. Enter the results of each of the three runs.
  - f. Enter hours of operation from Worksheet 2 (section C-5 of Worksheet 2).
  - g. Enter the average emissions ( $E_{avg}$ ) from Worksheet 2 (section C-2 of Worksheet 2)
  - h. Enter the standard deviation (SD) of the test runs (section C-3).
  - i. Enter the actual emissions (AE) (in tons) from Worksheet 2 (section C-6 of Worksheet 2).
9. Enter the total assessable emissions from upsets in tons if you used Option 2 for calculating emissions during startup, shutdown and maintenance.
10. Enter the total assessable emissions in tons. This is the sum of sections 6i. and 7c for Option 1, and the sum of 6i. and 8j. and 9. for Option 2. Check your results using the following:

$$\text{Total emissions} = \text{normal emissions} + \sum \text{startup, shutdown, maintenance and upset emissions}$$