

## Federal Tune-up Requirements for Industrial, Commercial and Institutional Boilers



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Quality

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*This factsheet applies to solid and liquid fuel-fired boilers with maximum heat input capacities of 10 million British Thermal Units per hour or less.*

EPA recently made updates to the *National Emissions Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers*. The NESHAPs address emissions of organic air toxics, mercury and other pollutants known or suspected to cause cancer and other serious health and environmental effects.

The updates to the Area Source Boiler NESHAPs establish new tune-up requirements for solid and liquid fuel-fired boilers located at industrial, commercial and institutional facilities. Tune-ups reduce emissions by improving the combustion efficiency of the boiler and optimizing fuel use.

### Affected boilers

Most industrial, commercial and institutional solid and liquid fuel-fired boilers are subject to the tune-up requirements. Electric and gas-fired boilers, hot water heaters with capacities less than 120 gallons and hot water boilers with a heat input capacity less than 1.6 MMBtu/hr, as well boilers used temporarily or as a control device are not subject to the rule changes and are not required to meet the tune-up requirements. For more information on the types of small liquid and solid fuel boilers exempt from the tune-up requirements, please see the Applicability Criteria in 40 CFR 63.11193 and 63.11194.

### Requirements for affected boilers

Owners or operators of boilers that are subject to the Area Source NESHAP tune-up requirements must complete the following five steps to comply:

- 1) Submit Initial Notification of Applicability  
Federal law requires that facilities with boilers that are subject to the Area Source NESHAP rules submit an Initial Notification of Applicability. Owners or operators of existing affected boilers have until Jan. 20, 2014 to submit their Initial Notification. Owners or operators of new affected boilers have to submit their Initial Notification with 120 days

of starting up the boiler. To access the Initial Notification of Applicability form, go to:  
[www.deq.state.or.us/aq/bap/neshap.htm](http://www.deq.state.or.us/aq/bap/neshap.htm)

- 2) Conduct Tune-up

To properly perform a NESHAP required tune-up on a solid or liquid fuel-fired boiler:

- Inspect the burner, and clean or replace any burner components as necessary (the burner inspection may be delayed until the next scheduled boiler shutdown, not to exceed 36 months from the previous inspection).
- Inspect the flame pattern and adjust the burner as necessary to optimize the flame pattern.
- Inspect the system controlling the air-to-fuel ratio and ensure that it is correctly calibrated and functioning properly (the inspection may be delayed until the next scheduled boiler shutdown, not to exceed 36 months from the previous inspection).
- Take steps to optimize total emissions of carbon monoxide by measuring the concentrations in the effluent stream of carbon monoxide in parts per million, by volume, and oxygen in volume percent, before and after any adjustments are made (measurements may be either on a dry or wet basis, as long as it is the same basis before and after the adjustments are made). Measurements may be taken using a portable carbon monoxide analyzer.
- The tune-up must be conducted burning the same type of fuel (or fuels in the case of boilers that routinely burn two types of fuel at the same time) that provided the majority of the heat input to the boiler over the 12 months prior to the tune-up.
- If the boiler(s) is not operating on the required date for a tune-up, the tune-up must be conducted within 30 days of start-up.

- 3) Maintain Tune-up Report

Owners and operators of liquid and solid fuel-fired boilers are required to maintain a report documenting their tune-ups. Tune-up reports are to be kept onsite and submitted to DEQ upon request for review. The report must contain the following information:

- The concentrations of carbon monoxide in the effluent stream in parts per million, by volume, and oxygen in volume percent, measured at high fire or typical operating load, before and after the tune-up of the boiler.
- A description of any corrective actions taken as a part of the tune-up of the boiler.
- The type and amount of fuel used over the 12 months prior to the biennial tune-up of the boiler, but only if the unit was physically and legally capable of using more than one type of fuel during that period. Units sharing a fuel meter may estimate the fuel use by each unit.

4) **Submit Notification of Compliance Status**  
 Owners or operators of existing boilers must submit a Notification of Compliance Status to DEQ by July 19, 2014. In the Notification of Compliance Status, owners or operators are required to certify that the initial tune-up was conducted by March 21, 2014 and as described above. To access the Notice of Compliance Status Form, please go to DEQ's Business Assistance Program page for NESHAPs at:  
<http://www.deq.state.or.us/aq/bap/neshap.htm>

5) **Repeat as scheduled**  
 Tune-ups must be conducted according to the schedule that applies to each type of affected boiler.

The following boilers are required to be tuned-up every *two* years:

- Biomass-fired boilers of any size
- Coal-fired boilers with a maximum heat input capacity of < 10 MMBtu/hr
- Oil-fired boilers with a maximum heat input capacity of > 5 MMBtu/hr

The following boilers are required to be tuned-up every *five* years:

- Seasonal boilers (boilers that are shutdown for at least 7 consecutive months or 210 consecutive days during each 12-month period due to seasonal conditions)
- Limited use boilers (boilers that have a federally enforceable average annual capacity factor of no more than 10 percent)
- Oil-fired boilers with a maximum heat input capacity of ≤ 5MMBtu/hr
- Solid and liquid fuel-fired boilers using an oxygen trim system to maintain optimum air-to-fuel ratios

**Deadline for initial tune-ups**

The following table provides the deadlines related to the federal tune-up requirements for

new and existing solid and liquid fuel-fired boilers.

| Due Dates for Boiler Tune-ups                   |  |  |
|---|--|--|
|   | Existing                                   | New/Reconstructed  |
| <b>Submit Initial Notification</b>              | Jan. 20, 2014                              | 120 days after initial startup   |
| <b>Complete Initial Tune-up</b>                 | March 21, 2014                             | Not required   |
| <b>Subsequent Tune-ups</b>                      | Within 25 or 61 months of previous tune-up | Within 25 or 61 months of startup and within 25 or 61 months of the previous tune-up |
| <b>Submit Notification of Compliance Status</b> | July 19, 2014                              | Not required   |

**Other requirements for small boilers**

All liquid and solid fuel-fired boilers located at industrial, commercial and institutional facilities are subject to Oregon laws for visible emissions and construction approval, even if they are too small to need an air quality permit.

If a business or individual intends to install a new boiler or modify an existing one, they must submit a Notice of Intent to Construct and receive construction approval from DEQ prior to taking action. A Notice of Intent to Construct is used to determine what requirements apply to your facility as a result of the anticipated changes. Owners and operators of small, unpermitted solid fuel-fired boilers must register with DEQ if requested in writing. Registration confirms that the unpermitted boiler is in compliance with applicable state and federal standards. For more information on the Notice of Intent to Construct and Registration processes, please see the DEQ factsheets for each.

You can obtain more information about the new federal boiler tune-up requirements by calling Carrie Capp at (503) 229-5868 or by visiting DEQ's webpage for boiler tune-ups at:  
<http://www.deq.state.or.us/aq/boiler/index.htm>

The U.S. EPA requirements which this factsheet summarizes can be found at:  
[www.epa.gov/airquality/combustion/actions.html](http://www.epa.gov/airquality/combustion/actions.html)

**Alternative Formats**

*Alternative formats of this document can be made available. Contact DEQ's Office of Communications & Outreach for more information at (503) 229-5696.*

*Hearing impaired please call 711.*