



# Focus on Boiler Tune-ups: Subpart JJJJJJ Requirements

## Tune-Up Requirements for Boilers Subject to JJJJJJ

Many boilers in the Olympic Region Clean Air Agency (ORCAA)'s jurisdiction are subject to boiler tune-up requirements under 40 CFR (§) 63 Subpart JJJJJJ (JJJJJJ). Tune-ups under JJJJJJ require measuring the carbon monoxide (CO), nitrogen oxides (NO<sub>x</sub>), and oxygen (O<sub>2</sub>) concentrations in the exhaust gas of the boiler while in a high-firing or typical operating load.



ORCAA is providing sources with a tune-up worksheet (see attached) to be utilized by the boiler service provider when tune-ups are conducted. The worksheet provides a guideline to consistently record and report data required by JJJJJJ. **Please note this focus sheet only addresses boiler tune-up requirements under JJJJJJ. Your boiler may also be subject to an air permit with additional tune-up requirements.**

### Which JJJJJJ Boilers Must Conduct a Tune-Up and When? <sup>1</sup> (§63.11223)

***New and Existing JJJJJJ Boilers required to have a tune-up biennially (every 2 years<sup>2</sup>) include:***

- Coal-fired boilers having a heat input capacity of less than 10 million Btu per hour that do not meet the definition of limited-use boiler or do not use oxygen trim systems that maintain an optimum air-to-fuel ratio.
- Biomass-fired boilers that do not meet the definition of seasonal boiler or limited-use boiler or use oxygen trim systems that maintain an optimum air-to-fuel ratio.
- Oil-fired boilers having a heat input capacity greater than 5 million Btu per hour that do not meet the definition of seasonal boiler or limited-use boiler, or do not use oxygen trim systems that maintain an optimum air-to-fuel ratio.

***New and Existing JJJJJJ Boilers required to have a tune-up every 5 years<sup>3</sup> include:***

- Seasonal boilers and limited-use boilers.
- Oil-fired boilers having a heat input capacity equal to or less than 5 million Btu per hour.
- Boilers with oxygen trim systems that maintain an optimum air-to-fuel ratio that would otherwise be subject to a biennial tune-up.

<sup>1</sup> If the unit is not operating on the required date for a tune-up (because it is a seasonal boiler, or because it is down for maintenance, for example), the tune-up must be conducted within 30 days of startup (§63.11223(b)(7)).

<sup>2</sup> Each biennial tune-up must be conducted no more than 25 months after the previous tune-up.

<sup>3</sup> Each 5-year tune-up must be conducted no more than 61 months after the previous tune-up.



# Focus on Boiler Tune-ups: – continued –

## How Do I Meet My Tune-Up Requirements? (§63.11223(b))

You must conduct the tune-up while burning the type of fuel (or fuels in the case of boilers that routinely burn two types of fuels at the same time) that provided the majority of the heat input to the boiler over the 12 months prior to the tune-up.

- (1) As applicable, inspect the burner, and clean or replace any components of the burner as necessary (you may delay the burner inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection). Units that produce electricity for sale may delay the burner inspection until the first outage, not to exceed 36 months from the previous inspection.
- (2) **Inspect the flame pattern**, as applicable, and **adjust the burner as necessary to optimize the flame pattern**. The adjustment should be consistent with the manufacturer's specifications, if available.
- (3) **Inspect the system controlling the air-to-fuel ratio**, as applicable, and **ensure that it is correctly calibrated and functioning properly** (you may delay the inspection until the next scheduled unit shutdown, not to exceed 36 months from the previous inspection). Units that produce electricity for sale may delay the inspection until the first outage, not to exceed 36 months from the previous inspection.
- (4) **Optimize total emissions of CO**. This optimization should be consistent with the manufacturer's specifications, if available, and with any nitrogen oxide requirement to which the unit is subject.
- (5) **Measure the concentrations in the effluent stream of CO** in parts per million, by volume, and oxygen in volume percent, before and after the adjustments are made (measurements may be either on a dry or wet basis, if it is the same basis before and after the adjustments are made). Measurements may be taken using a portable CO analyzer.
- (6) **Maintain on-site** and submit, if requested, **a report containing the following information**:
  - (i) The **concentrations of CO** 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.
  - (ii) A **description of any corrective actions taken** as a part of the tune-up of the boiler.
  - (iii) The **type and amount of fuel used over the 12 months prior to the 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.



# Focus on Boiler Tune-ups: – continued –

## Recordkeeping Requirements for Tune-ups under JJJJJJ<sup>4</sup> (§63.11225(c))

*(See Combustion Monitoring Worksheet for Tune-Up Procedures)*

You must keep records to document conformance with the work practices, emission reduction measures, and management practices required by JJJJJJ including:

- Records identifying each boiler, the date of tune-up, the procedures followed for tune-up, and the manufacturer's specifications to which the boiler was tuned.
- Records of the occurrence and duration of each malfunction of the boiler, or of the associated air pollution control and monitoring equipment.
- Records of actions taken during periods of malfunction to minimize emissions in accordance with the general duty to minimize emissions in [§ 63.11205\(a\)](#), including corrective actions to restore the malfunctioning boiler, air pollution control, or monitoring equipment to its normal or usual manner of operation.
- For each boiler that meets the definition of seasonal boiler, you must keep records of days of operation per year.
- For each boiler that meets the definition of limited-use boiler, you must keep a copy of the federally enforceable permit that limits the annual capacity factor to less than or equal to 10 percent and records of fuel use for the days the boiler is operating.

## Reporting Requirements for Tune-ups under JJJJJJ (§63.11225(b))

For boilers whose only work practice and management practice requirements under JJJJJJ is to conduct a biennial or 5-year tune-up, the following reporting is required<sup>5</sup>. You must prepare, by March 1 of each year, and submit to ORCAA upon request<sup>6</sup>, an annual compliance certification report for the previous calendar year containing the following information:

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<sup>4</sup> Records must be in a form suitable and readily available for expeditious review. You must keep each record for 5 years following the date of each recorded action. You must keep each record on-site or be accessible from a central location by computer or other means that instantly provide access at the site for at least 2 years after the date of each recorded action. You may keep the records off site for the remaining 3 years.

<sup>5</sup> For all other boilers, see your permit for your boiler-specific reporting and notification requirements.

<sup>6</sup> If the source experiences any deviations from the applicable requirements during the reporting period, by March 15 submit an annual compliance certification report to ORCAA and include a description of deviations, the time periods during which the deviations occurred, and the corrective actions taken.



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1. Company name and address.
2. Statement by a responsible official, with the official's name, title, phone number, email address, and signature, certifying the truth, accuracy and completeness of the notification and a statement of whether the source has complied with all the relevant standards and other requirements of this subpart. Your notification must include the following certification(s) of compliance, as applicable, and signed by a responsible official:
  - (i) “This facility complies with the requirements in § 63.11223 to conduct a biennial or 5-year tune-up, as applicable, of each boiler.”
  - (ii) For units that do not qualify for a statutory exemption as provided in section 129(g)(1) of the Clean Air Act: “No secondary materials that are solid waste were combusted in any affected unit.”
  - (iii) “This facility complies with the requirement in § 63.11214(d) and §63.11223(g) to minimize the boiler's time spent during startup and shutdown and to conduct startups and shutdowns according to the manufacturer's recommended procedures or procedures specified for a boiler of similar design if manufacturer's recommended procedures are not available.”

## For More Information

The complete regulatory text for the National Emission Standards for Hazardous Air Pollutants for Area Sources: Industrial, Commercial, and Institutional Boilers final rule, 40 CFR part 63, subpart JJJJJ, can be found at <http://edocket.access.gpo.gov/2011/pdf/2011-4493.pdf> (March 21, 2011 final rule) and <http://www.gpo.gov/fdsys/pkg/FR-2013-02-01/pdf/2012-31645.pdf> (February 1, 2013 amendments to final rule).

If you have any questions, contact ORCAA at (360) 539-7610

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