

Area Source Boiler Rule Online Training

Module: Introduction

NESHAP 40 CFR Part 63 Subpart JJJJJ, henceforth referred to as the “rule”

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Welcome to the Connecticut Department of Energy and Environmental Protection’s training modules for EPA’s Area Source Boiler Rule. The purpose of these modules is to help small industrial, commercial and institutional sources better understand and comply with federal environmental regulations applicable to boilers. All of the information in the modules is based on the most current version of EPA’s area source boiler rule which is published in Title 40 of the Code of Federal Regulations Part 63, Subpart JJJJJ. Throughout the modules we will simply refer to the area source boiler rule as the “rule”.

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These training modules will explain the following:

- Who is subject to the rule
- What the rule requires
- Compliance dates
- Provide additional resources and contact information should you have any further questions.

The training modules have been designed so that you will only need to review the requirements that pertain to your particular boiler or boilers.

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Who is affected by this rule?

You are subject to the rule if you own or operate an industrial, commercial or institutional boiler that is located at, or is part of, a facility that is classified as an “Area Source” of hazardous air pollutants. Therefore, before going any further you need to determine if your facility is an “Area Source” or “Major Source” of hazardous air pollutants. A “Major Source” has the potential to emit 10 or more tons per year of any single hazardous air pollutant or 25 tons or more per year of any combination of hazardous air pollutants. Any facility that is not a “Major Source” is classified as an “Area Source”. If you need assistance regarding what is considered a hazardous air pollutant, please visit EPA’s website: www.epa.gov/ttn/atw/orig189.html. If you determined that your facility is a “Major Source” of hazardous air pollutants then these training modules are not applicable to your boiler. If you determined that your facility is an “Area Source” please continue.

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As we stated earlier, your boiler is subject to the rule if it is located at an industrial, commercial, or institutional source. What does that mean? An industrial boiler is defined as a boiler used in manufacturing, processing, mining, and refining or any other industry to provide steam, hot water, and/or electricity. A commercial boiler means a boiler used in commercial establishments such as hotels, restaurants, and laundries to provide electricity, steam, and/or hot water. Finally, a boiler used in institutional establishments such as, but not limited to, medical centers, nursing homes, research centers, institutions of higher education, elementary and secondary schools, libraries,

religious establishments, and governmental buildings to provide electricity, steam, and/or hot water are considered institutional boilers. If you are unsure whether your boiler is included in one of these categories, you should contact your EPA regional office for assistance.

If your boiler is not considered an industrial, commercial or institutional boiler then this rule is not applicable to you.

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There are some exclusions in the rule that may be applicable to the boiler or boilers at your facility. A major exclusion to the rule is that it does NOT apply to boilers that burn only gaseous fuels or any solid waste.

Please note that gaseous fuels include, but are not limited to: natural gas, process gas, landfill gas, coal-derived gas, refinery gas, hydrogen, and bio-gas. A gas-fired boiler includes any boiler firing gaseous fuels, not combined with any solid fuels. A gas-fired boiler that periodically fires liquid fuels during gas curtailment and supply emergencies or for periodic testing, and does not exceed 48 hours per year, is still considered a gas-fired boiler.

Do you operate a gas-fired boiler or solid waste fired boiler? If you answered yes, this rule is not applicable to you. If you answered no, please continue to the next screen.

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There are other exclusions that may apply to your facility. Let's go through them to determine if your boiler is not subject to the rule.

Is the unit a hot water heater or hot water boiler? The rule defines a hot water heater as a closed vessel with a capacity of no more than 120 U.S. gallons in which water is heated by combustion of gaseous, liquid, or biomass fuel and hot water is withdrawn for use external to the vessel. Hot water boilers (*i.e.*, not generating steam) combusting gaseous, liquid, or biomass fuel with a heat input capacity of less than 1.6 million Btu per hour are included in this definition. The 120 U.S. gallon capacity threshold to be considered a hot water heater is independent of the 1.6 million Btu per hour heat input capacity threshold for hot water boilers. Hot water heater also means a tank-less unit that provides on-demand hot water.

If your boiler meets this definition then it is not subject to the rule.

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Is the unit a waste heat boiler or heat recovery steam generator? A waste heat boiler is defined as a device that recovers normally unused energy (*i.e.*, hot exhaust gas) and converts it to usable heat. Waste heat boilers are also referred to as heat recovery steam generators. Waste heat boilers are heat exchangers generating steam from incoming hot exhaust gas from industrial or power equipment. Duct burners are sometimes used to increase the temperature of the incoming hot exhaust gas.

If your boiler meets this definition then it is not subject to the rule.

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Is the unit a temporary boiler? A temporary boiler is defined as any gaseous or liquid fuel boiler that is designed to, and is capable of, being carried or moved from one location to another by means of, for example, wheels, skids,

carrying handles, dollies, trailers, or platforms. A boiler is not a temporary boiler if any one of the following conditions exists:

1. The equipment is attached to a foundation.
2. The boiler or a replacement remains at a location within the facility and performs the same or similar function for more than 12 consecutive months, unless the regulatory agency approves an extension. An extension may be granted by the regulating agency upon petition by the owner or operator of a unit specifying the basis for such a request. Any temporary boiler that replaces a temporary boiler at a location within the facility and performs the same or similar function will be included in calculating the consecutive time period unless there is a gap in operation of 12 months or more.
3. The equipment is located at a seasonal facility and operates during the full annual operating period of the seasonal facility, remains at the facility for at least 2 years, and operates at that facility for at least 3 months each year.
4. The equipment is moved from one location to another within the facility but continues to perform the same or similar function and serve the same electricity, steam, and/or hot water system in an attempt to circumvent the residence time requirements of this definition.

If your boiler meets this definition of a temporary boiler then it is not subject to the rule.

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Is the unit a residential boiler? A residential boiler is defined as a boiler used primarily to provide heat and/or hot water or power for a residential dwelling containing four or fewer families, or a single unit residence dwelling that has since been converted or subdivided into condominiums or apartments. This definition includes such dwellings at an institutional facility like university campuses, military bases and church grounds or commercial/industrial facilities like farms.

If your boiler meets this definition of a residential boiler then it is not subject to the rule.

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Your boiler is not subject to the rule if it is used for the following purposes:

A research and development boiler. Boilers that solely or primarily provide steam or heat to a process or for heating at a research and development facility are NOT considered research and development boilers.

A boiler used as a control device for another NESHAP standard. Any boiler that is used as a control device to comply with Part 60, 61, 63 or part 65 is not subject provided that at least 50 percent of the average annual heat input during any 3 consecutive calendar years to the boiler is provided by regulated gas streams that are subject to another standard.

A boiler subject to other NESHAP standards, Section 129 standards, or a hazardous waste boiler.

Additionally, electric boilers are not subject to the rule even if they need to burn gaseous or liquid fuel during periods of gas electrical power curtailment or failure.

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If you have gotten this far then your boiler is subject to the rule. Now we need to determine which training module will be applicable for your particular boiler. The training module will be dependent upon when boiler construction or reconstruction commenced and the size (or heat input capacity) of the boiler. The phrase “commenced construction or reconstruction” means that a contractual obligation to undertake and complete construction was in place.

It should be noted at this time that the rule also includes standards based on boiler type, which is specified according to the fuel that the boiler is designed to combust. The fuels are coal, biomass and oil. The training modules do not include any reference to coal-fired boilers because Connecticut does not have any area source coal boilers.

If you commenced construction or reconstruction of the boiler on or before June 4th, 2010 then the unit is considered an existing boiler. Any boiler that commenced construction or reconstruction after June 4th, 2010 and meets the applicability of the rule is considered a new boiler.

If you own or operate an existing dual-fuel fired boiler that meets the definition of a gas-fired boiler but then became subject after June 4th, 2010 due to a fuel switch from gaseous fuel to biomass or liquid fuel, it is still considered an existing boiler provided that the boiler was originally designed to accommodate the alternate fuel. New dual-fuel fired boilers that make such a fuel switch would continue to be considered new sources.

If the boiler has a design heat input capacity less than 10 million Btu per hour then it is considered a small boiler. Therefore, any boiler equal to or greater than 10 million Btu per hour is considered a large boiler. If you have any questions regarding the heat input capacity of your boiler, please check the nameplate on the boiler or contact the boiler manufacturer.

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Based upon when the boiler commenced construction and its size, please choose the training module that is applicable to the boiler at your source. For your review, existing small boilers are boilers for which construction or reconstruction began on or before June 4th, 2010 and have a heat input capacity less than 10 million Btu per hour. New, small boilers must have commenced construction or reconstruction after June 4th, 2010 and have a heat input capacity less than 10 million Btu per hour. Existing, large boilers are boilers for which construction or reconstruction began on or before June 4th, 2010 and have a heat input capacity greater than or equal to 10 million Btu per hour. Finally, new, large boilers are boilers that commenced construction or reconstruction after June 4th, 2010 and have a heat input capacity greater than or equal to 10 million Btu per hour.