

Summary of Energy Assessment Requirements
Under the National Emission Standards for Hazardous Air Pollutants for Major Sources:
Industrial, Commercial, Institutional Boilers and Process Heaters, 40 CFR Part 63, Subpart DDDDD

Existing gas, oil, biomass, and coal-fired boilers and process heaters of all sizes, except limited use boilers and process heaters, must conduct a one-time energy assessment performed by a qualified energy assessor by January 31, 2016. An energy assessment completed on or after January 1, 2008, that meets or is amended to meet the energy assessment requirements of the rule, satisfies the energy assessment requirement. Energy assessor approval and qualification requirements are waived in instances where past or amended energy assessments are used to meet the energy assessment requirements. A facility operating under an energy management program developed according to the ENERGY STAR guidelines for energy management or compatible with ISO 50001 for at least one year between January 1, 2008 and the compliance date specified in §63.7495 that includes affected units also satisfies the energy assessment requirement.

The energy assessment must include the following 8 items. The on-site technical hours required, as specified in Table 1 below, are appropriate for the extent of the evaluation for items 1) through 4).

1. A visual inspection of the boiler or process heater system (e.g. cracks, corrosion, leaks, insulation);
2. An evaluation of operating characteristics of the affected boiler or process heater systems, specifications of energy use systems, operating and maintenance procedures, and unusual operating constraints;
3. An inventory of major systems consuming energy (i.e., energy use systems) from affected boilers and process heaters and which are under the control of the owner or operator;
4. A review of available architectural and engineering plans, facility operation and maintenance procedures and logs, and fuel usage;
5. A list of major energy conservation measures that are within the facility's control;
6. A list of the energy savings potential of the energy conservation measures identified; and
7. A review of the facility's energy management practices and recommendations for improvement consistent with the definition of energy management practices, if identified.
8. A comprehensive report detailing the ways to improve efficiency, the cost of specific improvements, benefits, and the time frame for recouping those investments.

Energy Use Systems: The energy assessment applies to the boilers or process heaters and their associated components (i.e., the boiler system), and their energy use systems that meet certain energy production thresholds as identified in Table 1 below.

- Boiler system means the boiler and associated components, such as, the feedwater systems, combustion air systems, fuel systems (including burners), blowdown systems, combustion control systems, steam systems, and condensate return systems, directly connected to and serving the energy use systems.
- Energy use system includes the following systems located on the site of the affected boiler or process heater: 1) process heating; compressed air systems; machine drive (motors, pumps, fans); process cooling; facility heating, ventilation, and air conditioning systems; hot heater systems; building envelope, and lighting; or 2) other systems that use steam, hot water, process heat, or electricity, provided by the affected boiler. Energy use systems are only those systems using energy clearly produced by affected boilers or process heaters.
- The on-site energy use system(s), serving as the basis for the percent of affected boiler(s) or process heater(s) energy production required to be evaluated, as identified in Table 1 below, may be segmented by production area or energy use area as most logical and applicable to the specific facility being assessed (e.g, product x manufacturing area, product y drying area, building z).

Table 1 - Energy Assessment Duration Requirements

If your facility has Boiler Annual Heat Input, as measured in Trillion Btu/yr (Tbtu/yr), of...	Then the length of the energy assessment, in on-site technical labor hours, need not exceed^a...	And should include any on-site energy use systems that account for this percent of the energy production from these affected boilers or process heaters...
Less than 0.3	8 hours	At least 50%
0.3 to 1	24 hours	At least 33%
Greater than 1.0	24 hours for the first Tbtu/yr plus 8 hours for every additional Tbtu/yr, not to exceed 160 hours	At least 20%

^a The length may be longer at the discretion of the owner or operator of the affected source.

Qualified Energy Assessor

Qualified energy assessor means:

(1) Someone who has demonstrated capabilities to evaluate energy savings opportunities for steam generation and major energy using systems, including, but not limited to:

- (i) Boiler combustion management.
- (ii) Boiler thermal energy recovery, including
 - (A) Conventional feed water economizer,
 - (B) Conventional combustion air preheater, and
 - (C) Condensing economizer.
- (iii) Boiler blowdown thermal energy recovery.
- (iv) Primary energy resource selection, including
 - (A) Fuel (primary energy source) switching, and
 - (B) Applied steam energy versus direct-fired energy versus electricity.
- (v) Insulation issues.
- (vi) Steam trap and steam leak management.
- (vi) Condensate recovery.
- (viii) Steam end-use management.

(2) Capabilities and knowledge includes, but is not limited to:

- (i) Background, experience, and recognized abilities to perform the assessment activities, data analysis, and report preparation.
- (ii) Familiarity with operating and maintenance practices for steam or process heating systems.
- (iii) Additional potential steam system improvement opportunities including improving steam turbine operations and reducing steam demand.
- (iv) Additional process heating system opportunities including effective utilization of waste heat and use of proper process heating methods.
- (v) Boiler-steam turbine cogeneration systems.
- (vi) Industry specific steam end-use systems.

NOTE: The “qualified energy assessor” may be a company employee or outside specialist.

For more information visit: <http://www.epa.gov/ttn/atw/boiler/boilerpg.html>