



KPPC

Kentucky's Resource Center for
Environmental Sustainability

KPPC - Kentucky Pollution Prevention Center

Area Source Boiler Rule Workshop

Energy Assessment Requirements

January 8, 2014

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What is KPPC?

KPPC – Kentucky Pollution Prevention Center

is a state-mandated, non-profit organization that provides technical assistance & outreach programs to Kentucky businesses, industries & organizations

KPPC is based at the University of Louisville
J.B. Speed School of Engineering



KPPC is an Energy Star Partner of the Year Award winner in 2011, 2012 and a Sustained Excellence Award winner in 2013

KPPC Services

KPPC's **Core Technical Services** are...
**Free, Confidential &
Non-Regulatory**

What does KPPC do?

Core Technical Services include training, site visits, and web-based tools to assist with:

- Solid & hazardous waste and toxics use reduction
- Water/wastewater conservation
- Air emission reduction

Additional Services

Additional Services are *free or grant subsidized*:

- Pollution Prevention (P2) grants
- Energy Efficiency (E2) grants
 - US DOE/DEDI KY SEN (energy-intensive industrial and commercial facilities)
- Economy, Energy, Environment (E3)
- Customized assistance in any of the above



KPPC's Experience

- Developing & delivering Energy Efficiency training & technical assistance
- **Developing energy-management plans**
- Ensuring that measurement & verification of energy savings meets industry standards
- **Providing project identification and implementation support**
- Collecting, tracking & reporting identified & implemented energy savings results



KPPC's Boiler Rule Role

KPPC will...

- Provide Workshop Training Support
- Perform a portion of the Energy Assessment Requirements
- Available to assist **up to five facilities**



Agenda – Does Rule Apply to Me?

Who is affected by the Energy Assessment Requirement?

Exceptions to the rule

Energy Assessment Decision Tree



Agenda - Assessment Requirements

Seven Items of an Assessment

Applicable Energy Use Systems

On-Site Hours

Assessor Qualification Requirements

Compliance Dates and Notifications

Resources

Who is Affected?

A one-time Energy Assessment is based upon:

- Boiler heat capacity
- Fuel utilized
- Installation date
- Frequency of use

Do I Need to Perform an Assessment?

Heat Capacity (Btu/Hr)	Existing Coal Units	New Coal Units	Existing Oil Units	New Oil Units	Existing Biomass Units	New Biomass Units
≥ 10 MM	Yes ¹	No	Yes ¹	No	Yes ¹	No
< 10 MM	No	No	No	No	No	No

¹ Provided the boiler does not meet the definition of limited-use boiler

Yes, an Energy Assessment *is* Required if:

- Boiler heat capacity is $\geq 10\text{MMBtu/Hr}$
- Fuel utilized is Coal, Oil, or Biomass
- Installation date was Before 6/4/10, and
- Boiler is Not a Limited-Use Boiler



Definition of Limited-Use Boiler

Any boiler that burns any amount of solid or liquid fuels and has a federally enforceable average annual capacity factor of no more than 10 percent.



Exceptions

Although the answer was “Yes”, an Energy Assessment **may not be required** if one of the following applies.



Prior Energy Assessment

Was a prior Energy Assessment completed on or after **January 1, 2008?**

Yes –

- Energy Assessment requirement satisfied
- Energy Assessor approval and qualification requirements are waived



Energy Management Program (EMP)

Is Facility operating under an EMP compatible with ISO 50001?

Yes –

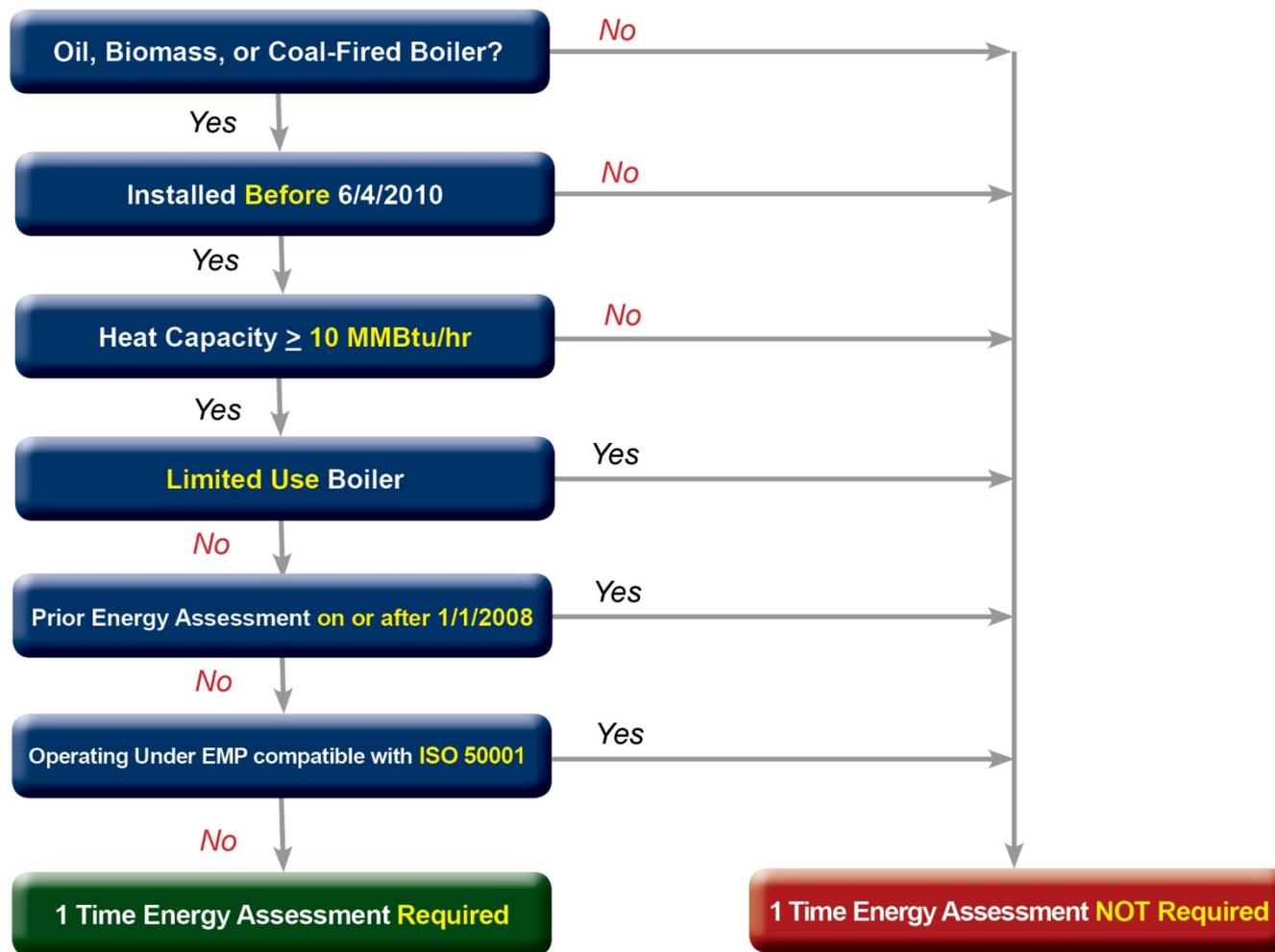
- Energy Assessment requirement satisfied provided practices and procedures are demonstrated

EMP Requirements to be ISO 50001 Compatible

Includes practices and procedures to manage energy use demonstrated by:

1. Energy policies
2. Energy manager and other staffing
3. Performance measurement and tracking methods
4. Energy savings goal
5. Action plans
6. Operating procedures
7. Internal reporting requirements
8. Periodic review intervals

Energy Assessment Decision Tree



Seven Items of an Assessment

The Energy Assessment must include the following 7 items

1. Visual Inspection of Boiler System

- Cracks
- Corrosion
- Leaks
- Insulation – Missing or damaged

2. Evaluation of Boiler and Energy Use System:

- Operating Characteristics
- Specifications
- Operating and Maintenance Procedures
- Unusual Operating Constraints

3. Inventory of major systems consuming energy produced by affected boilers

- HVAC
- Process Equipment
- Lighting
- Compressed Air
- Drives

4. A review of:

- Available architectural and engineering plans
- Operation and Maintenance procedures and logs
- Fuel usage

5. List of major energy conservation measures.

- Energy usage reduction items with potential to reduce boiler energy consumption

6. List of energy savings potential

- What are the savings associated with conservation measures listed in item 5.

7. A comprehensive report

- Ways to improve efficiency
- Cost of improvements
- Benefits
- Return on Investments

The Energy Assessment applies to:

- Boilers and associated boiler components
- Systems using energy clearly produced by affected boilers

On-Site Hours and % Energy Use Systems

Facility Annual Heat Capacity (TBtu/yr)	On-Site Technical Labor Hours	% of Energy Use Systems
Less than 0.3	8	At least 50%
0.3 to 1	24	At least 33%
Greater than 1.0	24 for 1 st TBtu/yr, plus 8 for each additional TBtu/yr, not to exceed 160 hrs	At least 20%

Length May be longer at discretion of Owner

May be segmented by production area or energy use area as most logical and applicable

Assessor Qualifications

- **Demonstrated capabilities** to evaluate energy savings opportunities for steam generation and major energy using components
- **Capabilities and knowledge** including experience performing assessment activities, data analysis, report preparation, O&M practices for steam, reducing steam demand, process heating system opportunities, cogeneration systems, etc.

Note: Qualified Energy Assessor may be a company employee or outside specialist

Compliance Dates and Notifications

- Submit an Initial Notification by **January 20, 2014**
- Complete an Energy Assessment by **March 21, 2014**
- Submit Notification of Compliance Status by **July 19, 2014**
- Have completed report on file at facility.

Forms – Initial Notification

- Contains three sections pertaining to:
 - General Information
 - Source Description
 - Certification Signature
- Currently must be submitted by hard copy
- Form available on line – See Resources

Forms - Notification of Compliance

- Has three sections pertaining to or certifying:
 - Boiler is subject to the requirement to conduct an energy assessment.
 - Energy Assessment was performed
 - Facility Information, Signature, Certification
- Currently must be submitted by hard copy
- Form available on line – See Resources

Resources

- Summary of Energy Assessment Requirements

<http://www.epa.gov/ttn/atw/boiler/imptools/SummaryEnergyAssessmentsAreaSourceBoilersFinal.pdf>

- Forms <http://www.epa.gov/boilercompliance/>

- Fast Facts

<http://www.epa.gov/ttn/atw/boiler/imptools/fastfactsareasourcemarch2013.pdf>

What KPPC can do for you

Four items KPPC can complete are:

- Inventory of major systems
- List of major energy conservation measures
- List of energy savings potential
- Comprehensive report



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