

THE DEC POLICY SYSTEM



New York State
Department of Environmental Conservation

PROGRAM POLICY

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Title: Small Boiler Tune-Up Requirements for NOx RACT Compliance

Issuing Authority:

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Signature: _____ Date: _____

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Unit: Bureau of Stationary Sources

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Abstract:

This policy explains the small boiler tune-up requirements for NOx RACT Compliance.

Related References:

All applicable rules, regulations and requirements are listed in DAR-5.

I. PURPOSE

This policy is written to delineate the requirements by owners or operators of small boilers to perform tune-ups annually.

II. BACKGROUND

This guidance is issued in order to assure that tune-ups on small boilers are performed by owners or operators of small boilers in accordance with parameters established by DEC and various regulations outlined in this guidance.

III. POLICY

This guidance will insure that owners or operators of small boilers carry out the annual tune-ups in a manner acceptable to DEC, thereby meeting the requirements of the tune up procedures as well as the necessary recordkeeping.

IV. RESPONSIBILITY

The owners or operators of small boilers are responsible to carry out the tune up of these boilers and to maintain adequate records.

V. PROCEDURE

This policy was previously issued as Air Guide-33. No substantive changes have been made to this document.

Small Boiler Tune-Up Requirements for NO_x RACT Compliance

Section 227-2.4(d) of Part 227 requires Owners or operators of small boilers to perform tune-ups prior to June 1, 1995 and annually thereafter. According to Section 227-2.2(b)(19) a tune-up for a small boiler is defined as "adjustments made to the combustion process to optimize combustion efficiency of the unit in accordance with procedures provided by the manufacturer (or an approved specialist)." Please note that if the owner or operator is using the scheduled tune-up and procedures provided by the manufacturer, then they have already met the tune-up requirements. Additionally, DEC stresses that if the owner or operator does not presently have the manufacturer's maintenance schedule, it is in their best interest to request a copy of the schedule or that a new schedule be prepared for their boiler. This guidance not only discusses specifically those owners or operators who choose to have tune-up procedures written by an approved specialist, but it also sets forth the recordkeeping requirements for all small boiler tune-ups.

Minimum Requirements for Approved Specialists

For the purposes of 227-2.2(b)(19) an approved specialist must be someone who has successfully completed coursework/training (i.e., college, technical institute, etc.) on boiler operations. At a minimum, this coursework/training must include fundamental operating principles, types of equipment, operation and control systems, maintenance and safety, pollution control, and monitoring. Additionally, the approved specialist should also attend site-specific operator training. The training information for the approved specialist must be kept with the tune-up procedures and records for the full length of time that the procedures are used. The training information must contain the course outline/description and proof of completion for each training course. This information is subject to approval upon any DEC inspection and must be available for any such inspection. If at the time of inspection it is found that the 'approved specialist' did not meet the minimum requirements for approval, not only is the facility subject to possible enforcement action, but the procedures must be rewritten. Please note that although any tune-up plan not provided by the manufacturer must be written by an approved specialist, there are no requirements that an approved specialist be present during the actual tune-up.

Plans Written by Approved Specialists

Boiler manufacturers set year-round maintenance schedules for tuning-up boilers. All aspects of the maintenance schedule depend upon the type of boiler. The maintenance program consists of corrective and preventative measures which tune-up the boiler and maintain efficiency. These measures are performed on either a daily, weekly, monthly and/or annual basis. Although all maintenance should be performed in accordance with the set schedule, our concern here is the annual tune-up maintenance. Annual tune-up maintenance usually includes not only some aspects of the daily, weekly, and monthly scheduled maintenance but also focuses on tests, evaluations and adjustments necessary for efficient combustion. Annual tune-up maintenance requirements must include a tune-up checklist (see Appendix A) and written procedures for:

- ▶ Inspection and cleaning, as necessary, of fireside and water-side surfaces.
- ▶ Inspecting, cleaning and/or reconditioning of fuel systems.
- ▶ Checking all electrical and combustion control systems.

- ▶ Testing of exhaust gases (CO, CO₂, other)¹ as necessary to calculate combustion efficiency and make necessary adjustments to the combustion system.
- ▶ Inspection and repair of all valves (relief, safety, hydraulic, pneumatic, etc.).
- ▶ Inspection and repair of refractories.
- ▶ Cleaning and inspecting fan housing, blades, and inlet screens.
- ▶ Cleaning/reconditioning and inspecting the feedwater system.

NOTE: Those owners or operators using the manufacturer's tune-up procedures, must develop a checklist for the manufacturer's written procedures. The checklist must contain the same information as the example checklist included as Appendix A.

Recordkeeping Requirements for All Tune-Ups

Not only is the owner or operator of a boiler required to perform annual tune-ups, but they must maintain a permanently bound log book or other Department approved format. Although the checklists are not required as a part of the permanently bound log, the completed checklist must be kept with the permanently bound log. Because of the extensive use of computerized logs and records, the Department has deemed that permanent computer logs/records (i.e., diskette, cd, computer tapes) are an acceptable format, provided that all of the required information can be input to the system. All annual tune-up records are required to be maintained for at least three years. Any log format which does not meet the above criteria must have prior approval by the Department.

Concern has been expressed regarding the requirement for both the Department of Labor (DOL) Safety Inspections and DEC Annual Tune-ups. In order to assure that repetition of certain tasks does not provide an additional burden, any information which is required for both the DOL inspection and the DEC tune-up may be transferred to the tune-up checklist, provided the DOL inspection is done during the same calendar year and is prior to the annual tune-up. In this manner, the safety aspects of the annual tune-up are not repeated and the adjustments for efficiency remain the primary focus.

If you have questions regarding either the small boiler tune-ups **or** the log requirements, please contact the Combustion Section of the Division of Air Resources at (518) 457-7688.

¹ The facility owner or operator may use a portable analyzer, a combustion test kit for oil burners, or any applicable approved stack test method (i.e., Method 7E) when testing the exhaust gases.

APPENDIX A

EXAMPLE ANNUAL TUNE-UP CHECKLIST

DATE: _____

FACILITY NAME: _____

FACILITY ADDRESS: _____

BOILER OPERATOR: _____

BOILER NUMBER: _____

TUNE-UP CONDUCTED BY: _____

(Please Print)

Item No.	Requirement	Description of Items to Clean/Inspect/Repair	S or U*	Comments
1	Clean Fireside Surfaces	<ul style="list-style-type: none">▶ Deposits on Furnace Wall▶ Evidence of Wall Heating▶ Boiler Tube Banks		
2	Clean Waterside Surfaces	<ul style="list-style-type: none">▶ Scale Deposits on Surfaces▶ Heating Surfaces		
3	Fuel System	<ul style="list-style-type: none">▶ Pumps▶ Filters▶ Burners/Pilots▶ Preheaters▶ Storage Tanks		
4	Electric Control Systems	<ul style="list-style-type: none">▶ Electrical Terminals▶ Controls/Switches		
5	Combustion Control System & Adjustments	<ul style="list-style-type: none">▶ Test Exhaust Gas Composition▶ Firing Position▶ Firing Temperature▶ Burners/Pilots▶ - flame safe guard scanner▶ Burner Observation Glasses		Combustion efficiency calculation

Item No.	Requirement	Description of Items to Clean/Inspect/Repair	S or U*	Comments
6	Valves	<ul style="list-style-type: none"> ▶ Safety ▶ Relief ▶ Hydraulic ▶ Pneumatic ▶ Other 		
7	Refractories	<ul style="list-style-type: none"> ▶ Front of Furnace ▶ Rear of Furnace ▶ Sides of Furnace ▶ Burner Throat Refractory 		
8	Fan System	<ul style="list-style-type: none"> ▶ Housing ▶ Blades ▶ Inlet Screen 		
9	Feedwater System	<ul style="list-style-type: none"> ▶ Condensate Receivers ▶ Deaeration System ▶ Pumps / Motors ▶ Low Water Cut-off 		

* Enter an "S" for satisfactory or a "U" for unsatisfactory. Anything denoted with a "U" should be explained under comments and should also note the date that it became satisfactory.

TUNE-UP COMPLETED: _____ DATE: _____

(Signature)

NOTE: This Appendix is given as an example of what should be included in a checklist. The checklist may need additional detail depending on the type of boiler and fuel system. This list is not all inclusive as it is not modeled after a particular system, but instead gives only general information which is applicable to most systems.