§ 60.44b Standard for nitrogen oxides (NO\textsubscript{X}).

(a) Except as provided under paragraphs (k) and (l) of this section, on and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that combusts only coal, oil, or natural gas shall cause to be discharged into the atmosphere from that affected facility any gases that contain NO\textsubscript{X} (expressed as NO\textsubscript{2}) in excess of the following emission limits:

<table>
<thead>
<tr>
<th>Fuel/steam generating unit type</th>
<th>Nitrogen oxide emission limits (expressed as NO\textsubscript{2}) heat input</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ng/J</td>
</tr>
<tr>
<td>(1) Natural gas and distillate oil, except (4):</td>
<td></td>
</tr>
<tr>
<td>(i) Low heat release rate</td>
<td>43</td>
</tr>
<tr>
<td>(ii) High heat release rate</td>
<td>86</td>
</tr>
<tr>
<td>(2) Residual oil:</td>
<td></td>
</tr>
<tr>
<td>(i) Low heat release rate</td>
<td>130</td>
</tr>
<tr>
<td>(ii) High heat release rate</td>
<td>170</td>
</tr>
<tr>
<td>(3) Coal:</td>
<td></td>
</tr>
<tr>
<td>(i) Mass-feed stoker</td>
<td>210</td>
</tr>
<tr>
<td>(ii) Spreader stoker and fluidized bed combustion</td>
<td>260</td>
</tr>
<tr>
<td>(iii) Pulverized coal</td>
<td>300</td>
</tr>
<tr>
<td>(iv) Lignite, except (v)</td>
<td>260</td>
</tr>
<tr>
<td>(v) Lignite mined in North Dakota, South Dakota, or Montana and combusted in a slag tap furnace</td>
<td>340</td>
</tr>
<tr>
<td>(vi) Coal-derived synthetic fuels</td>
<td>210</td>
</tr>
<tr>
<td>(4) Duct burner used in a combined cycle system:</td>
<td></td>
</tr>
<tr>
<td>(i) Natural gas and distillate oil</td>
<td>86</td>
</tr>
<tr>
<td>(ii) Residual oil</td>
<td>170</td>
</tr>
</tbody>
</table>

(b) Except as provided under paragraphs (k) and (l) of this section, on and after the date on which the initial performance test is completed or is required to be completed under §60.8, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts mixtures of only coal, oil, or natural gas shall cause to be discharged into the atmosphere from that affected facility any gases that contain NO\textsubscript{X} in excess of a limit determined by the use of the following formula:

\[
E_n = \frac{(EL_{go}H_{go}) + (EL_{ro}H_{ro}) + (EL_cH_c)}{(H_{go} + H_{ro} + H_c)}
\]

Where:

- \(E_n\) = NO\textsubscript{X} emission limit (expressed as NO\textsubscript{2}), ng/J (lb/MMBtu);
- \(EL_{go}\) = Appropriate emission limit from paragraph (a)(1) for combustion of natural gas or distillate oil, ng/J (lb/MMBtu);
- \(EL_{ro}\) = Appropriate emission limit from paragraph (a)(1) for combustion of residual oil, ng/J (lb/MMBtu);
- \(H_{go}\) = Heat input from combustion of natural gas or distillate oil, J (MMBtu);
- \(H_{ro}\) = Heat input from combustion of residual oil, J (MMBtu);
- \(H_c\) = Heat input from combustion of coal, J (MMBtu).

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ELo = Appropriate emission limit from paragraph (a)(2) for combustion of residual oil, ng/J (lb/MMBtu); Hlo = Heat input from combustion of residual oil, J (MMBtu); ELc = Appropriate emission limit from paragraph (a)(3) for combustion of coal, ng/J (lb/MMBtu); and Hc = Heat input from combustion of coal, J (MMBtu).

(c) Except as provided under paragraph (d) and (l) of this section, on and after the date on which the initial performance test is completed or is required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts coal or oil, natural gas (or any combination of the three), and wood, or any other fuel shall cause to be discharged into the atmosphere any gases that contain NOX in excess of the emission limit for the coal, oil, natural gas (or any combination of the three), as determined pursuant to paragraph (a) or (b) of this section. This standard does not apply to an affected facility that is subject to a federally enforceable requirement that limits operation of the affected facility to an annual capacity factor of 10 percent (0.10) or less for coal, oil, and natural gas.

(d) On and after the date on which the initial performance test is completed or is required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility shall cause to be discharged into the atmosphere any gases that contain NOX in excess of the emission limit for the coal, oil, natural gas (or any combination of the three), as determined pursuant to paragraph (a) or (b) of this section. This standard does not apply to an affected facility that is subject to a federally enforceable requirement that limits operation of the affected facility to an annual capacity factor of 10 percent (0.10) or less for coal, oil, and natural gas.

(e) Except as provided under paragraph (l) of this section, on and after the date on which the initial performance test is completed or is required to be completed under § 60.8, whichever date comes first, no owner or operator of an affected facility that simultaneously combusts only coal, oil, or natural gas with byproduct/waste shall cause to be discharged into the atmosphere any gases that contain NOX in excess of the emission limit determined by the following formula unless the affected facility has an annual capacity factor for coal, oil, and natural gas of 10 percent (0.10) or less and is subject to a federally enforceable requirement that limits operation of the affected facility to an annual capacity factor of 10 percent (0.10) or less:

(i) Any owner or operator of an affected facility that combusts byproduct/waste with either natural gas or oil may petition the Administrator within 180 days of the initial startup of the affected facility to establish a NOX emission limit that shall apply specifically to that affected facility when the byproduct/waste is combusted. The petition shall include sufficient and appropriate data, as determined by the Administrator, such as NOX emissions from the affected facility, waste composition (including nitrogen content), and combustion conditions to allow the Administrator to confirm that the affected facility is unable to comply with the emission limits in paragraph (e) of this section and to determine the appropriate emission limit for the affected facility.

(1) Any owner or operator of an affected facility petitioning for a facility-specific NOX emission limit under this section shall:

(i) Demonstrate compliance with the emission limits for natural gas and distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) or (l)(1) of this section, as appropriate, by conducting a 30-day performance test as provided in §60.46b(e). During the performance test only natural gas, distillate oil, or residual oil shall be combusted in the affected facility; and

(ii) Demonstrate that the affected facility is unable to comply with the
(d) The NO\textsubscript{X} emission limits for natural gas or distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) or (l)(1) of this section, as appropriate, when gaseous or liquid byproduct/waste is combusted in the affected facility under the same conditions and using the same technological system of emission reduction applied when demonstrating compliance under paragraph (f)(1)(i) of this section.

(2) The NO\textsubscript{X} emission limits for natural gas or distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) or (l)(1) of this section, as appropriate, shall be applicable to the affected facility until and unless the petition is approved by the Administrator. If the petition is approved by the Administrator, a facility-specific NO\textsubscript{X} emission limit will be established at the NO\textsubscript{X} emission level achievable when the affected facility is combusting oil or natural gas and byproduct/waste in a manner that the Administrator determines to be consistent with minimizing NO\textsubscript{X} emissions. In lieu of amending this subpart, a letter will be sent to the facility describing the facility-specific NO\textsubscript{X} limit. The facility shall use the compliance procedures detailed in the letter and make the letter available to the public. If the Administrator determines it is appropriate, the conditions and requirements of the letter can be reviewed and changed at any point.

(g) Any owner or operator of an affected facility that combusts hazardous waste (as defined by 40 CFR part 261 or 40 CFR part 761) with natural gas or oil may petition the Administrator within 180 days of the initial startup of the affected facility for a waiver from compliance with the NO\textsubscript{X} emission limit that applies specifically to that affected facility. The petition must include sufficient and appropriate data, as determined by the Administrator, on NO\textsubscript{X} emissions from the affected facility, waste destruction efficiencies, waste composition (including nitrogen content), the quantity of specific wastes to be combusted and combustion conditions to allow the Administrator to determine if the affected facility is able to comply with the NO\textsubscript{X} emission limits required by this section. The owner or operator of the affected facility shall demonstrate that when hazardous waste is combusted in the affected facility, thermal destruction efficiency requirements for hazardous waste specified in an applicable federally enforceable requirement preclude compliance with the NO\textsubscript{X} emission limits of this section. The NO\textsubscript{X} emission limits for natural gas or distillate oil in paragraph (a)(1) of this section or for residual oil in paragraph (a)(2) or (l)(1) of this section, as appropriate, are applicable to the affected facility until and unless the petition is approved by the Administrator. (See 40 CFR 761.70 for regulations applicable to the incineration of materials containing polychlorinated biphenyls (PCB's).) In lieu of amending this subpart, a letter will be sent to the facility describing the facility-specific NO\textsubscript{X} limit. The facility shall use the compliance procedures detailed in the letter and make the letter available to the public. If the Administrator determines it is appropriate, the conditions and requirements of the letter can be reviewed and changed at any point.

(h) For purposes of paragraph (i) of this section, the NO\textsubscript{X} standards under this section apply at all times including periods of startup, shutdown, or malfunction.

(i) Except as provided under paragraph (j) of this section, compliance with the emission limits under this section is determined on a 30-day rolling average basis.

(j) Compliance with the emission limits under this section is determined on a 24-hour average basis for the initial performance test and on a 3-hour average basis for subsequent performance tests for any affected facilities that:

1. Combust, alone or in combination, only natural gas, distillate oil, or residual oil with a nitrogen content of 0.30 weight percent or less;
2. Have a combined annual capacity factor of 10 percent or less for natural gas, distillate oil, and residual oil with a nitrogen content of 0.30 weight percent or less; and
3. Are subject to a federally enforceable requirement limiting operation of the affected facility to the firing of natural gas, distillate oil, and/or residual oil with a nitrogen content of 0.30

\[ \text{weight percent} \]
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weight percent or less and limiting operation of the affected facility to a combined annual capacity factor of 10 percent or less for natural gas, distillate oil, and residual oil with a nitrogen content of 0.30 weight percent or less.

(k) Affected facilities that meet the criteria described in paragraphs (j)(1), (2), and (3) of this section, and that have a heat input capacity of 73 MW (250 MMBtu/hr) or less, are not subject to the NO\textsubscript{X} emission limits under this section.

(l) On and after the date on which the initial performance test is completed or is required to be completed under 60.8, whichever date is first, no owner or operator of an affected facility that commenced construction after July 9, 1997 shall cause to be discharged into the atmosphere any gases that contain NO\textsubscript{X} (expressed as NO\textsubscript{2}) in excess of the following limits:

(1) 86 ng/J (0.20 lb/MMBtu) heat input if the affected facility combusts coal, oil, or natural gas (or any combination of the three), alone or with any other fuels. The affected facility is not subject to this limit if it is subject to and in compliance with a federally enforceable requirement that limits operation of the facility to an annual capacity factor of 10 percent (0.10) or less for coal, oil, and natural gas (or any combination of the three); or

(2) If the affected facility has a low heat release rate and combusts natural gas or distillate oil in excess of 30 percent of the heat input on a 30-day rolling average from the combustion of all fuels, a limit determined by use of the following formula:

\[ E_s = \frac{(0.10 \times H_{go}) + (0.20 \times H_{r})}{H_{go} + H_{r}} \]

Where:

- \( E_s \) = NO\textsubscript{X} emission limit, (lb/MMBtu);
- \( H_{go} \) = 30-day heat input from combustion of natural gas or distillate oil; and
- \( H_{r} \) = 30-day heat input from combustion of any other fuel.

(3) After February 27, 2006, units where more than 10 percent of total annual output is electrical or mechanical may comply with an optional limit of 270 ng/J (2.1 lb/MWh) gross energy output, based on a 30-day rolling average. Units complying with this output-based limit must demonstrate compliance according to the procedures of §60.48Da(i) of subpart Da of this part, and must monitor emissions according to §60.49Da(c), (k), through (n) of subpart Da of this part.


§ 60.45b Compliance and performance test methods and procedures for sulfur dioxide.

(a) The SO\textsubscript{2} emission standards in §60.42b apply at all times. Facilities burning coke oven gas alone or in combination with any other gaseous fuels or distillate oil are allowed to exceed the limit 30 operating days per calendar year for SO\textsubscript{2} control system maintenance.

(b) In conducting the performance tests required under §60.8, the owner or operator shall use the methods and procedures in appendix A (including fuel certification and sampling) of this part or the methods and procedures as specified in this section, except as provided in §60.8(b). Section 60.8(f) does not apply to this section. The 30-day notice required in §60.8(d) applies only to the initial performance test unless otherwise specified by the Administrator.

(c) The owner or operator of an affected facility shall conduct performance tests to determine compliance with the percent of potential SO\textsubscript{2} emission rate (% P\textsubscript{E}) and the SO\textsubscript{2} emission rate (E\textsubscript{S}) pursuant to §60.42b following the procedures listed below, except as provided under paragraph (d) and (k) of this section.

(1) The initial performance test shall be conducted over 30 consecutive operating days of the steam generating unit. Compliance with the SO\textsubscript{2} standards shall be determined using a 30-day average. The first operating day included in the initial performance test shall be scheduled within 30 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup of the facility.