

Good Neighbor Plan for 2015 Ozone NAAQS: Industrial Source Boiler Requirements

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Disclaimer: To the extent there are differences between the content of this presentation and the final record for the Good Neighbor Plan, the content of the record for the Good Neighbor Plan is controlling.

Outline

- Overview of Good Neighbor Plan
- Environmental Benefits
- Requirements for Industrial Sources
- Regulatory Requirements for Boilers
- Webpage for Industrial Sources
- Current Coverage of the GNP

Good Neighbor Plan – Industrial Sources

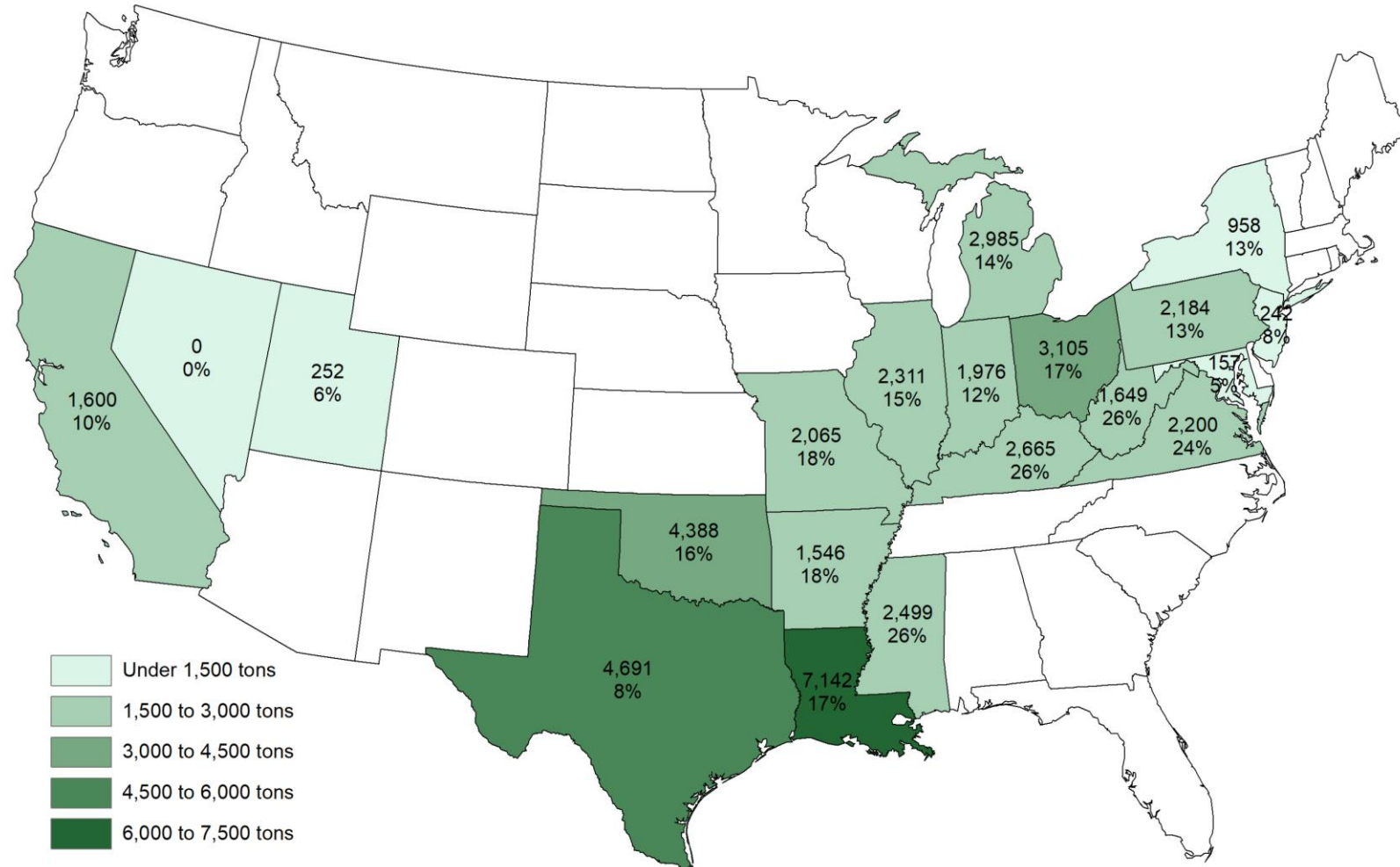
The final Good Neighbor Plan includes NO_x emissions reduction requirements for the following types of emissions sources:

- Reciprocating internal combustion engines in **Pipeline Transportation of Natural Gas**
- Kilns in **Cement and Cement Product Manufacturing**
- Reheat Furnaces in **Iron and Steel Mills and Ferroalloy Manufacturing**
- Furnaces in **Glass and Glass Product Manufacturing**
- Boilers in **Iron and Steel Mills and Ferroalloy Manufacturing, Metal Ore Mining, Basic Chemical Manufacturing, Petroleum and Coal Products Manufacturing, and Pulp, Paper, and Paperboard Mills**
- Combustors and Incinerators in **Solid Waste Combustors or Incinerators**

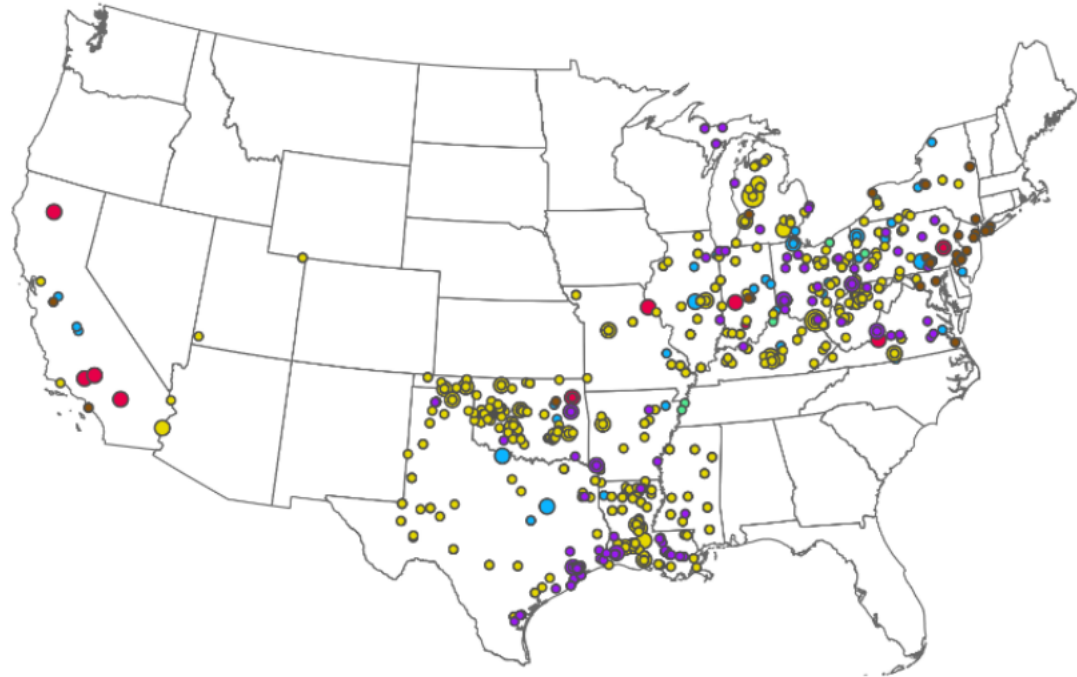
Good Neighbor Plan – Environmental Benefits

- EPA estimates that the final Good Neighbor Plan will reduce Ozone forming NO_x emissions from the 23 significantly contributing upwind states by approximately 70,000 tons during the 2026 Ozone season (May 1 – September 30).
 - Approximately 25,000 tons of those emissions reductions would come from fossil-fuel power plants.
 - The remaining 45,000 tons of NO_x emissions reductions would come from the non-EGU industrial sources covered by the final rule.
- EPA also expects the emissions reductions projected for the Good Neighbor Plan will result in improved visibility in national parks and increase protection for sensitive ecosystems, coastal waters and estuaries, and forests.

Industrial Source Ozone Season Emissions Reductions in 2026 Relative to 2019 Under the Final Good Neighbor Plan, as Signed



Geographical Distribution of Ozone Season NO_x Reductions in 2026 and Summary of Estimated Reductions by Industry and by State as a Result of the GNP, as Signed



- 500-1000 tons
- 100-500 tons
- Under 100 tons
- Cement and Concrete Product Manufacturing
- Glass and Glass Product Manufacturing
- Iron and Steel Mills and Ferroalloy Manufacturing
- Pipeline Transportation of Natural Gas
- Applicable Boilers from Affected Industries
- Municipal Waste Combustors

State	Cement and Concrete Product Manufacturing	Glass and Glass Product Manufacturing	Iron and Steel Mills and Ferroalloy Manufacturing	Pipeline Transportation of Natural Gas	Applicable Boilers from Affected Industries	Municipal Waste Combustors	Total
LA	0	115	0	6,200	827	0	7,142
TX	0	818	0	3,171	702	0	4,691
OK	276	101	0	3,596	314	100	4,388
OH	0	275	114	2,244	472	0	3,105
MI	0	27	0	2,637	262	59	2,985
KY	0	22	13	2,624	7	0	2,665
MS	0	0	0	2,428	71	0	2,499
IL	0	297	0	1,943	71	0	2,311
VA	398	93	0	969	495	246	2,200
PA	171	791	9	574	173	466	2,184
MO	114	76	0	1,875	0	0	2,065
IN	478	220	228	737	96	217	1,976
WV	0	0	0	1,475	174	0	1,649
CA	1,135	160	0	213	0	92	1,600
AR	0	37	35	1,065	409	0	1,546
NY	0	80	9	230	116	523	958
UT	0	0	0	252	0	0	252
NJ	0	18	0	0	0	224	242
MD	0	0	0	13	0	145	157

Good Neighbor Plan – Requirements for Each Industry

Industry	Emissions Unit Type	Final Ozone Season NOx Emissions Limits	Submissions for Regulatory Compliance
Pipeline Transportation of Natural Gas	Reciprocating Internal Combustion Engines	Four Stroke Rich Burn: 1.0 g/hp-hr Four Stroke Lean Burn: 1.5 g/hp-hr Two Stroke Lean Burn: 3.0 g/hp-hr	Annual Report (January 30 th of each year) Facility-Wide Averaging Plan (October 1 st of the year prior to each emissions averaging year)
Cement and Concrete Product Manufacturing	Kilns	Long Wet: 4.0 lb/ton Long Dry: 3.0 lb/ton Preheater: 3.8 lb/ton Precalciner: 2.3 lb/ton Preheater/Precalciner: 2.8 lb/ton	Initial Notifications (December 4, 2023) Annual Report (January 30 th of each year)
Iron and Steel Mills and Ferroalloy Manufacturing	Reheat Furnaces (and boilers below)	Test and set limit based on installation of Low-NOx Burners	Initial Notifications (December 4, 2023) Work Plans (August 5, 2024) Annual Report (January 30 th of each year)
Glass and Glass Product Manufacturing	Furnaces	Container Glass Furnace: 4.0 lb/ton Pressed/Blown Glass Furnace: 4.0 lb/ton Fiberglass Furnace: 4.0 lb/ton Flat Glass Furnace: 7.0 lb/ton	Initial Notifications (December 4, 2023) Startup and Shutdown Notifications (30 days before startup/shutdown) Annual Report (January 30 th of each year)
Iron and Steel Mills and Ferroalloy Manufacturing Metal Ore Mining Basic Chemical Manufacturing Petroleum and Coal Products Manufacturing Pulp, Paper, and Paperboard Mills	Boilers	Coal: 0.20 lb/mmBtu Residual Oil: 0.20 lb/mmBtu Distillate Oil: 0.12 lb/mmBtu Natural Gas: 0.08 lb/mmBtu	Annual Report (January 30 th of each year) Alternative Monitoring Plan (no deadline)
Solid Waste Combustors and Incinerators	Combustors or Incinerators	110 ppmvd on a 24-hour average 105 ppmvd on a 30-day average	Annual Report (January 30 th of each year)

Good Neighbor Plan – Boiler Applicability and Reductions

Industry	NAICS Code	Ozone Season Emissions Reductions
Iron and Steel Mills and Ferroalloy Manufacturing	3311xx	440
Metal Ore Mining	2122xx	18
Basic Chemical Manufacturing	3251xx	1,748
Petroleum and Coal Products Manufacturing	3241xx	147
Pulp, Paper, and Paperboard Mills	3221xx	1,836
Total		4,189

Applicability: all new and existing boilers found within any of the 22 states with non-EGU emissions reduction obligations that are within these five industries and have a design capacity of 100 MMBtu/hr or greater.

Based on comments received, added low-use exemption to boilers that operate less than 10% per year, on an hourly basis, based on the 3 most recent years of use and no more than 20% in any one of the 3 years.

Good Neighbor Plan – Boiler Emissions Limits

Unit Type	Emissions Limit (lbs NO _x /MMBtu)
Coal	0.20
Residual Oil	0.20
Distillate Oil	0.12
Natural Gas	0.08

Good Neighbor Plan – Boiler Post-Signature Changes

Boiler Definitions

52.45 (a) Definitions.

Natural gas means “natural gas” as defined in 40 CFR 60.41~~b~~.

The citation changed the reference of the definition from NSPS Subpart Db to Subpart D

Under the newly revised citation, natural gas does not include refinery gas.

Boiler Applicability

52.45 (b) Applicability. (1) The requirements of this section apply to each new or existing boiler with a design capacity of 100 mmBtu/hr or greater that receives 90% or more of its heat input from coal, residual oil, distillate oil, natural gas, or combinations of these fuels **in the previous ozone season, is ~~that~~** located at a source that is within the Basic Chemical Manufacturing industry, the Petroleum and Coal Products Manufacturing industry, the Pulp, Paper, and Paperboard industry, the Metal Ore Mining industry, and the Iron and Steel and Ferroalloys Manufacturing industry and is located within any of the States listed in § 52.40(c)(2), including Indian country located within the borders of any such State(s). The requirements of this section do not apply to an emissions unit that meets the requirements for a low-use exemption as provided in paragraph (2) below.

Good Neighbor Plan – Compliance Requirements for Boilers

- **Annual Report § 52.45(f)(4):**
 - Sources are required to submit Annual Reports that contain the testing and monitoring and recordkeeping requirements of § 52.45.
 - Annual Reports shall be submitted by January 30th of each year via CEDRI using the appropriate spreadsheet template.
- **Alternative Monitoring Procedure for Boilers (≥ 250 mmBTU/hr) § 52.45(d)(2)(vii):**
 - Affected units that demonstrate during the initial performance test that NO_x emissions are less than 70 percent of the applicable emissions limit and choose to not install CEMS must submit a request to the Administrator that documents the results of the initial performance test and includes an alternative monitoring procedure that will be used to track compliance with the applicable emissions limit.
 - Alternative Monitoring Procedures shall be submitted via CEDRI in PDF format.
 - EPA then approves or denies the request.

Good Neighbor Plan – Compliance Requirements for Boilers

- **Alternative Monitoring Plan for Boilers (<250 mmBTU/hr) § 52.45(d)(3)(iii):**
 - In lieu of monitoring NO_x emissions via the applicable requirements, affected units may monitor NO_x emissions by conducting an annual test in conjunction with the implementation of a monitoring plan that meets the following requirements:
 - Conduct an initial performance test
 - Develop and comply with a monitoring plan that relates the operational parameters to emissions of the affected unit
 - Identify specific operating parameters to be monitored
 - Identify the relationship between these operating parameters and the applicable NO_x emissions rates
 - Include the data and information used to identify this relationship
 - Identify how these operating parameters will be monitored
 - Identify the quality assurance procedures employed
 - Identify the type and format of the records of these operating parameters
 - Alternative Monitoring Plans shall be submitted via CEDRI in PDF format.

Good Neighbor Plan – Compliance Requirements for Boilers

- **Compliance Extension Requests § 52.40(d):**
 - Sources may request a 1-year extension, followed by a 2-year extension.
 - Compliance Extension Requests shall be submitted by 180 days prior to May 1, 2026, and May 1, 2027 via CEDRI in PDF format.
 - EPA notifies source of completeness within 60 days and decides to grant or deny the request within 60 days of that completeness determination.
- **Case-by-Case Emissions Limit Requests § 52.40(e):**
 - Sources may request case-by-case limits if they can demonstrate for technical or economic impossibility with meeting the standards.
 - Case-by-Case Emissions Limit Requests shall be submitted by August 5, 2024 (425 days after the date of Federal Register (FR) publication) via CEDRI in PDF format.
 - EPA notifies source of completeness within 60 days and decides to grant or deny the request within 60 days of that completeness determination.

Good Neighbor Plan – Industrial Sources Webpage

Webpage for Industrial Sources

- Highlights the requirements in the GNP for industrial sources
- Contains links to implementation tools to aid in the submission of notifications, workplans, reports and requests
- Provides instructions for uploading reports to CEDRI
- Will include a list of frequently asked questions

Good Neighbor Plan – Current Coverage (as of 9/1/2023)

Disclaimer: These lists below are subject to change.

List of states for which the FIP is stayed.

1. Arkansas
2. Kentucky
3. Louisiana
4. Mississippi
5. Missouri
6. Texas
7. Minnesota
8. Nevada
9. Oklahoma
10. Utah
11. Alabama
12. West Virginia

List of states for which the FIP is still in effect.

1. California
2. Illinois
3. Indiana
4. Maryland
5. Michigan
6. New Jersey
7. New York
8. Ohio
9. Pennsylvania
10. Virginia
11. Wisconsin

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Questions?