



west virginia department of environmental protection

**REVISION TO THE WEST VIRGINIA
STATE IMPLEMENTATION PLAN (SIP)
TO UPDATE 45CSR40 -
*Control of Ozone Season Nitrogen Oxides
Emissions***

PROPOSED

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Acronyms and Abbreviations

BTU	British Thermal Units
CFR	Code of Federal Regulations
CO	Compliance Order
CSR	Code of State Rules
DAQ	Division of Air Quality
DEP	Department of Environmental Protection
EPA	Environmental Protection Agency
Fed. Reg.	Federal Register
LB	Pound
LB/HR	Pounds per hour
LB/MMBTU	Pounds per million BTUs
LRMRC	Legislative Rule-Making Review Committee
MMBTU/HR	Million BTUs per hour
MMBTU	Million BTUs
NAAQS	National Ambient Air Quality Standards
NO _x	Nitrogen Oxides
SIP	State Implementation Plan
US	United States
USEPA	United States Environmental Protection Agency
WV	West Virginia

**Revision to the West Virginia
State Implementation Plan (SIP) to Update 45CSR40 -
Control of Ozone Season Nitrogen Oxides Emissions**

1.0. INTRODUCTION

The West Virginia Department of Environmental Protection (DEP) last submitted to the United States EPA (USEPA) a *Revision to the West Virginia State Implementation Plan to Revise the Ozone Season NO_x Rule 45CSR40 - Control of Ozone Season Nitrogen Oxides Emissions* to EPA on July 13, 2016. On October 10, 2017, the West Virginia DEP submitted to the USEPA the *West Virginia NO_x SIP Call Non-EGU Budget Demonstration, a Non-Regulatory Supplement to the Revision to the West Virginia State Implementation Plan to Revise the Ozone Season NO_x Rule 45CSR40 - Control of Ozone Season Nitrogen Oxides Emissions*. The USEPA approved the previous SIP Revision to 45CSR40 in final rule *Approval and Promulgation of Air Quality Implementation Plans; West Virginia; Revisions to Regulation for Control of Ozone Season Nitrogen Oxide Emissions* published at 83 Fed. Reg. 62470 on December 4, 2018, with an effective date of January 3, 2019.

The West Virginia DEP revised 45CSR40, effective June 1, 2020, to reflect the federal amendments in the USEPA final rule *Emissions Monitoring Provisions in State Implementation Plans Required Under the NO_x SIP Call* [84 Fed. Reg. 8422, March 8, 2019] which allowed states to establish alternative monitoring and reporting requirements for sources that are not otherwise required to perform monitoring, recordkeeping, and reporting requirements in accordance with 40 CFR part 75. The West Virginia DEP was advised not to submit the June 1, 2020 version of 45CSR40 as a revision to the SIP and therefore, it was not submitted to the USEPA.

The West Virginia DEP revised 45CSR40, effective April 1, 2023 to update the characterization of units not subject to the rule because they are subject to a federal NO_x ozone season trading program in accordance with direction provided by USEPA.

The West Virginia DEP is herein submitting a *Revision to The West Virginia State Implementation Plan (SIP) to Revise 45CSR40 - Control of Ozone Season Nitrogen Oxides Emissions*. The revision to 45CSR40, effective April 1, 2023, reflects the characterization of units not subject to the rule and the federal amendments in the USEPA final rule *Emissions Monitoring Provisions in State Implementation Plans Required Under the NO_x SIP Call* [84 Fed. Reg. 8422, March 8, 2019] which were adopted in the June 1, 2020 version of 45CSR40.

The nitrogen oxides (NO_x) ozone season budget demonstration, required by 45CSR40, shows that West Virginia will remain in compliance with the NO_x ozone season budget of 2,184 tons for large industrial boilers and combustion turbines that have a maximum design heat input greater than 250 MMBtu/hr (non-EGUs) and satisfies the plan requirements set forth in 40 CFR §51.121.

Documentation which demonstrates state and federal administrative and procedural rulemaking requirements were satisfied and documentation of the enforceable mechanisms identified in the NO_x ozone season budget demonstration for non-EGUs are included in this submittal.

2.0. REQUEST

The State of West Virginia is requesting that the USEPA approve the latest version of 45CSR40, *Control of Ozone Season Nitrogen Oxides Emissions*, effective April 1, 2023, as a revision to the West Virginia SIP.

3.0. DOCUMENTATION

3.1. Final Rule 45CSR 40

The WV Legislature authorized 45CSR40 in House Bill 2640 that passed on March 6, 2023. The final rule was filed with the WV Secretary of State on March 31, 2023 and became effective April 1, 2023. Final rule 45CSR40 is provided in Appendix A, along with documentation that the state rule making requirements of Chapter 29A, Article 3 (Rulemaking) of the W. Va. Code were satisfied.

3.2. West Virginia NO_x SIP Call Non-EGU Budget Demonstration, a Non-Regulatory Component

The owner or operator of a unit with a maximum design heat input greater than 250 MMBtu/hr, except for any unit subject to a seasonal NO_x trading program established under 40 CFR part 97 in accordance with a federal implementation plan set forth in 40 CFR § 52.38(b) or subject to a seasonal NO_x trading program established under a SIP revision approved by the U.S. EPA as meeting the requirements of 40 CFR § 52.38(b), is subject to the ozone season NO_x emission limitation, and monitoring, recordkeeping and reporting requirements for ozone season emissions of NO_x set forth in sections 5 and 6 of 45CSR40 “Control of Ozone Season Nitrogen Oxides Emissions”. The rule requires the owners or operators of subject units to limit ozone season NO_x emissions pursuant to a NO_x emission rate for each unit contained in a permit issued under 45CSR13, 45CSR14, 45CSR19, or via consent order. Such ozone season NO_x limitation may also include a limitation on operating time for a unit during the ozone season.

The owner or operator of an applicable unit must comply with the provisions of 40 CFR part 75, subpart H (including use of any of the emissions monitoring methodologies which the unit qualifies to use under 40 CFR part 75) or must install and operate a certified continuous emission monitoring system (CEMS) or a certified predictive emission monitoring system (PEMS) as necessary to attribute NO_x ozone season mass emissions to each unit in accordance with §§ 45-40-6.2, -6.3, -6.4 or -6.5. Nitrogen oxides mass emissions measurements recorded and reported in accordance with §§ 45-40-6.2, -6.3, -6.4 or -6.5 must be used to determine a unit’s compliance with the ozone season NO_x emission limitation. Conditions concerning alternative monitoring scenarios are established in §§ 45-40-6.6, -6.7, -6.8, and -6.9.

The West Virginia requirements for the ozone season NO_x budget demonstration are provided in §§ 45-40-8, including the basis of maximum operating capacity or use of a limitation on operating time for a unit during the ozone season. West Virginia clearly demonstrates that the ozone season

NO_x budget of 2,184 tons for units subject to § 45-40-4.1 cannot be exceeded, considering the legally enforceable NO_x emission limits of the units currently operational or permitted. The legally enforceable maximum potential ozone season NO_x emissions total of 1,202 tons, is approximately 55 percent of the total NO_x ozone season budget and leaves 982 tons in the budget available for new units.

The West Virginia NO_x SIP Call Non-EGU Budget Demonstration can be found in Appendix B. The current units, which include units in operation, or which have a new source review permit to construct, are described below.

Altivia Services, LLC, Institute Plant

Altivia Services, LLC facility's name changed from Union Carbide Corporation, Institute Site in February 2020.

Condition 4.1.1 of Permit R13-3111E limits the 350 MMBtu/hr Boilers #16, #17, and #18 to 0.036 lb of NO_x emissions per MMBtu which equates to 23 tons of NO_x emissions for each boiler during the ozone season. Permit R13-3111E can be found in Appendix B.

Appalachian Power Company, John E. Amos Plant

Condition 4.1.17 of Permit R13-2663E limits the 642 MMBtu/hr Auxiliary Boiler #1 to 56.24 tons of NO_x emissions per year. Condition 4.1.18 of Permit R13-2663E limits the 600 MMBtu/hr Auxiliary Boiler #3 to 52.56 tons of NO_x emissions per year. Permit R13-2663E can be found in Appendix B.

Appalachian Power Company, Mountaineer Plant

Condition 4.1.3 of Permit R13-0075J limits the 600 MMBtu/hr Auxiliary Boiler #1 to 43.65 tons of NO_x emissions per year. Condition 4.1.4 of Permit R13-0075J limits the 600 MMBtu/hr Auxiliary Boiler #2 to 43.65 tons of NO_x emissions per year. Permit R13-0075J can be found in Appendix B.

Blue Racer Midstream, LLC, Natrium Power Plant (BRM)

Permit conditions 1.0 and 4.1.12.a specify BRM has permitted two (2) distinct and independent operational scenarios involving different sets of four (4) Combustion Turbines (CTs). Only one scenario will be allowed for the site. No more than four CTs (of the same set) will be permitted to be operated at the site.

Table 4.1.2(e) of Permit R13-3493 limits NO_x emissions from each of the four (4) GE LM6000PG Sprint CTs to 3.35 pounds per hour during steady-state operations and 41.86 pounds per hour during startup and shutdown operations. Table 4.1.2(e) of Permit R13-3493 limits NO_x emissions from each of the four (4) Siemens SGT-800 CTs to 3.49 pounds per hour during steady-state operations, 25.68 pounds per hour during startup operations, and 20.88 pounds per hour during shutdown operations. The hourly emission rates for steady-state operation are provided in the demonstration and are not used in any calculations.

Table 4.1.2(e) of Permit R13-3493 limits each of the four (4) GE LM6000PG Sprint CTs to 15.13 tons per year or limits each of the four (4) Siemens SGT-800 CTs to 20.35 tons per year. The higher annual emission limits from the Siemens SGT-800 CTs are used in the demonstration and it assumes all annual NO_x emissions occur during the ozone season. The CTs have not yet been installed.

The Chemours Company FC, LLC, Belle Plant

Condition 1 of Compliance Order CO-R40-C-2016-30 limits the 275 MMBtu/hr Boiler #10 to 0.20 pounds of NO_x emissions per MMBtu during the ozone season which equates to 101 tons of NO_x emissions. Compliance Order CO-R40-C-2016-30 can be found in Appendix B.

Kentucky Power Company, Mitchell

Condition 5.1.1 of Permit R13-2608E limits the 663 MMBtu/hr Auxiliary Boiler #1 to 43.65 tons of NO_x emissions per year. Permit R13-2608E can be found in Appendix B.

Union Carbide Corporation, South Charleston

Condition 4.1.1 of Permit R13-2033D limits the 352 MMBtu/hr Boiler #26 to 70.4 pounds of NO_x emission per hour which equates to 129 tons of NO_x emissions during the ozone season. Condition A.6 of Permit R13-2141C limits the 353 MMBtu/hr Boiler #27 to 70.6 pounds of NO_x emissions per hour which equates to 130 tons of NO_x during the ozone season. Permits R13-2033D and R13-2141C can be found in Appendix B.

Westlake Natrium LLC, Natrium Plant

Eagle Natrium, LLC facility's name changed to Westlake Natrium LLC in April 2022.

Condition 4.1.1 of Permit R14-0027F limits the 540 MMBtu/hr Boiler #4 to 0.16 lb of NO_x emissions per MMBtu which equates to 159 tons of NO_x emissions during the ozone season. Condition 4.1.2 of Permit R14-0027F limits the 999 MMBtu/hr Boiler #5 to 0.16 lb of NO_x emissions per MMBtu which equates to 293 tons of NO_x emissions during the ozone season. Permit R14-0027F is provided in Appendix B.

4.0. PUBLIC PARTICIPATION

4.1. 45CSR40

The public notice was published in the *West Virginia State Register* and the *Charleston Gazette Mail* on June 3, 2022 announcing the opening of a 30-day public comment period. A public hearing for the 2023 DAQ legislative rules was held virtually July 5, 2022 at 6:00 p.m. The public notice, along with a copy of the proposed DAQ rules for the 2023 legislative session was also posted on the DEP website under the public information office section for proposed legislative rules at www.dep.wv.gov/pio/Pages/Rules.aspx and the DAQ website, under the public notice and comment section, at www.dep.wv.gov/daq/. Additionally, a communication was sent to subscribers of WV DEP's Mailing List.

There were not any written comments received during the public comment period. One person provided oral comments during the public hearing. The public participation documentation for 45CSR40 is provided in Appendix A.

4.2. West Virginia NO_x SIP Call Non-EGU Budget Demonstration

A public notice was published in the West Virginia State Register and the Charleston Gazette Mail on February 9, 2024, announcing the opening of a 30-day public comment period. The public notice also announced that a Public Hearing would be held virtually at 6:00 PM on March 12, 2024. The public notice, along with a copy of the West Virginia NO_x SIP Call Non-EGU Budget Demonstration and supporting documentation were posted on the DAQ website, under the public notice and comment section, at www.dep.wv.gov/daq/.

The public participation documentation for the West Virginia NO_x SIP Call Non-EGU Budget Demonstration is provided in Appendix B.

5.0. CONCLUSION

The WV DEP is requesting that the EPA approve the revision to the SIP submitted herein.