

FIVE-YEAR PROGRESS REPORT
for
**ILLINOIS REGIONAL HAZE STATE IMPLEMENTATION PLAN FOR THE SECOND
IMPLEMENTATION PERIOD**

AQPSTR 24-05

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EXECUTIVE SUMMARY

The Clean Air Act (“CAA”), in Sections 169A and 169B, requires the protection of visibility in 156 mandatory Federal Class I areas (Class I areas) in the United States, consisting of all international parks, national wilderness areas and national memorial parks exceeding 5,000 acres, as well as national parks exceeding 6,000 acres that were in existence on August 7, 1977 for which visibility was found to be an important value. (CAA section 162(a) [42 U.S.C. 7472(a)]). The Regional Haze Rule (40 CFR §51.308), finalized by the United States Environmental Protection Agency (“USEPA”) in 1999, mandates states to develop and implement a State Implementation Plan (“SIP”) with revisions on a periodic basis to reduce visibility impairment, known as regional haze, in these Class I areas caused by man-made air pollution. *See* 82 Fed. Reg. 3078, (January 10, 2017).

Illinois submitted its Regional Haze SIP revision for the second implementation period, covering the ten-year period of 2019 to 2028, to the USEPA on June 3, 2024. As of the date of this report, USEPA has not yet taken final action on Illinois’ 2024 Regional Haze SIP submittal.

In addition to the periodic SIP revisions, the Regional Haze Rule requires states to provide interim progress reports outlining the status of required Regional Haze SIP elements. A five-year progress report is due January 31, 2025, for the Regional Haze SIP for the second implementation period. Following opportunities for Federal Land Manager (“FLM”) consultation and public comment, the Illinois Environmental Protection Agency (“Illinois EPA”) is submitting this five-year progress report to document and evaluate implementation of the SIP requirements and the resulting reductions in haze-causing emissions and associated visibility improvements for the second implementation period. This progress report addresses all required elements under 40 CFR 51.308(g)(1)-(6) and (h) necessary to demonstrate that the Illinois’ 2024 Regional Haze SIP submittal is adequate and does not require any revision to achieve the 2028 visibility goals in the second implementation period under 40 CFR 51.308(f).

Illinois’ 2024 Regional Haze SIP for the Second Implementation Period

The Illinois EPA, in conjunction with the Lake Michigan Air Directors Consortium (“LADCO”), has made adequate plans to meet the requirements of the Regional Haze Rule by performing the necessary modeling to determine its impact on visibility in Class I areas, setting goals to reduce the impact of Illinois sources on these areas, and achieving the identified emission reduction targets. Based on analyses prepared by LADCO using several technical approaches, including the modeling of back trajectories, Illinois EPA, in its 2024 Regional Haze SIP submittal, identified the Class I areas most likely to be impacted by Illinois. A list of these Class I areas is provided below under Section 6.0.

Illinois EPA focused on point sources for potential air emission controls since they contribute the largest percentage (56%¹ of visibility impairment to Class I areas affected by Illinois) and are more controllable at the state level, as discussed in the 2024 Regional Haze SIP submittal.

¹ “Availability of Modeling Data and Associated Technical Support Document for EPA’s Updated 2028 Regional Haze Modeling, Appendix B”, USEPA, September 2019, available at: https://www.epa.gov/sites/default/files/2019-10/documents/updated_2028_regional_haze_modeling-tsd-2019_0.pdf

Using modeling performed by the LADCO, Illinois EPA evaluated sources for existing effective controls and selected five sources for a four-factor analysis. Based on the high cost of new controls, the low emissions reductions potential for certain controls, and the reductions in nitrogen oxide (“NO_x”) and sulfur dioxide (“SO₂”) from on-the-books controls, no new control measures were found to be necessary to make reasonable progress in the second implementation period.

After fully evaluating the point sources Illinois EPA selected for further analysis, the long-term strategy developed in Illinois’ 2024 Regional Haze SIP submittal relied on the permanent shutdown of emission units, fuel switching of emission units, and increased stringency of the Combined Pollutant Standard (“CPS”) and the Multi-Pollutant Standard (“MPS”) to achieve emission reductions and reasonable progress under 40 CFR 51.308(f) in the second implementation period.

These three elements of Illinois’ 2024 Regional Haze SIP submittal are founded in requirements contained in federally enforceable permits as well as federally enforceable provisions in Illinois State regulations found in the CPS (Title 35 Illinois Administrative Code (“35 Ill. Adm. Code”) Section 225.293 – 225.299) and the MPS (35 Ill. Adm. Code Section 225.233), which are incorporated into Illinois’ SIP at 40 CFR 52.720(c) EPA-Approved Illinois Regulations and Statutes, Part 225, Subpart B.

So far during the second implementation period from 2019-2023, seven facility-wide coal-fired electric generating unit (“EGU”) sources and five individual coal-fired EGUs retired including Illinois’ largest point source emitter. An additional source also fuel switched from coal to natural gas, which is included in federally enforceable permits. In the case of the 18 EGUs that are part of the MPS group, only three currently remain in operation. In the case of the 15 EGUs that are part of the CPS group, only two currently remain in operation.

Status of Control Strategies in the Regional Haze SIP, 40 CFR 51.308(g)(1)

All measures submitted by Illinois for the 2024 Regional Haze SIP submittal and relied upon for reasonable progress to address regional haze at the identified Class I areas during the period of 2019 to 2023 have already been implemented or are being implemented according to the proposed schedule. Illinois EPA has included a detailed list of the measures and the status of their implementation in this Five-Year Progress Report.

Emission Reductions from Regional Haze SIP Strategies, 40 CFR 51.308(g)(2)

Due to a number of factors, including measures related to other federal requirements, emission reductions of visibility-impairing pollutants in Illinois are meeting or exceeding the current anticipated emission reductions projection for 2028 in the 2024 Regional Haze SIP submittal. Illinois EPA has included in this report a summary of the emission reductions resulting from the control strategies in its 2024 Regional Haze SIP submittal covering the period of 2019 to 2023.

Visibility Progress, 40 CFR 51.308(g)(3)

There are no Class I areas located in Illinois, and so the requirements for the progress report in 40 CFR 51.308(g)(3) are not applicable to Illinois.

Emissions Progress, 40 CFR 51.308(g)(4)

Illinois is on schedule in its progress toward reducing visibility-impairing emissions from the State. Illinois EPA has included data and figures in this report showing trends in emissions of pollutants contributing to visibility impairment from all sources and activities across Illinois' emissions inventory.

Assessment of Changes Impeding Visibility Progress, 40 CFR 51.308(g)(5)

Illinois does not anticipate significant changes to anthropogenic emissions in its 2024 Regional Haze SIP submittal that would impede visibility progress during the second implementation period nor during the 2019-2023 period covered by this Five-Year Progress Report. Illinois EPA has not observed any such changes.

Assessment of Current Strategy, 40 CFR 51.308(g)(6)

Illinois anticipates that the elements and strategies in its 2024 Regional Haze SIP submittal are sufficient to enable Illinois to meet the 2028 reasonable progress goals.

Review of Smoke Management Program, 40 CFR 51.308(g)(8)

The Illinois smoke management plan is not federally enforceable, therefore the summary requirements for the progress report in CFR 51.308(g)(8) are not applicable to Illinois.

Determination of Adequacy, 40 CFR 51.308(h)

Although USEPA has not yet taken final action on Illinois' 2024 Regional Haze SIP submittal, Illinois has determined that its 2024 Regional Haze SIP submittal is adequate to achieve the established goals for visibility improvement and emissions reductions as a revision to its current Regional Haze SIP, which was approved by USEPA on July 6, 2012. *See* 77 Fed. Reg. 39943, (July 6, 2012). Accordingly, this report satisfies the requirements of 40 CFR 51.308(h) and provides a negative declaration to the Administrator that further revision of the existing implementation plan, beyond the 2024 Regional Haze SIP submittal, is not needed at this time.

1.0 Status of Control Strategies in the Regional Haze SIP

This section is intended to satisfy Regional Haze Rule requirements for providing a detailed description of the control strategies a state is employing in its Regional Haze SIP.

40 CFR 51.308(g)(1): A description of the status of implementation of all measures included in the implementation plan for achieving reasonable progress goals for mandatory Class I Federal areas both within and outside the State.

1.1 Measures Included in Illinois' Regional Haze SIP

Illinois EPA relied primarily on strengthening the MPS and CPS, source and unit retirements, and unit fuel switches for its long-term strategy for the second implementation period. These

strategies relied upon source-specific limits for EGUs resulting from MPS and CPS requirements found in the Illinois Mercury Rule (35 Ill. Adm. Code Part 225) and withdrawal of federally enforceable permits due to source retirements. All control strategies have been implemented or are being implemented according to the schedules set forth in Illinois' 2024 Regional Haze SIP submittal.

1.1.1 MPS and CPS Amendment Requirements for Illinois EGUs

Amendments to MPS for NO_x Emission Requirements

The MPS, originally effective in 2012, required fleet-wide average emission limits for SO₂ and NO_x for three groups of EGUs that comprised the great majority of Illinois' coal-fired generation capacity. Each MPS group had an overall NO_x annual emission rate of 0.11 lb/mmBtu, or an emission rate equivalent to 52 percent of the Base Annual Rate of NO_x emissions, whichever was more stringent. During the ozone season, the NO_x emission rate was equivalent to 80% of the Base Seasonal Rate of NO_x emissions or better.

The MPS amendments merge all previous MPS EGU sources into one singular MPS group and place new, more stringent emission limits on that MPS group. *See* 86 Fed. Reg. 33527, (June 25, 2021). Beginning in 2019, the EGUs in the MPS Group are limited to a combined annual NO_x emission of 19,000 tons from all EGUs, and from May 1 to September 30 a limit of 11,500 tons from all EGUs.

Furthermore, the MPS amendments always require operation of selective catalytic reduction ("SCR") on Baldwin Units 1 and 2, Coffeen Units 1 and 2, Duck Creek Unit 1, Edwards Unit 3, and Havana Unit 9. From May 1 through September 30, the combined NO_x average emission rate is limited to 0.10 lb/mmBtu.

As of 2023, the Baldwin and Newton Plants are the only sources remaining as all other MPS sources have retired. As shown in Table 5 below, Baldwin and Newton also have scheduled shutdown dates before the end of the second implementation period in 2025 and 2027, respectively.

Amendments to CPS for SO₂ Emissions Requirements

The CPS, originally effective in 2012, required fleet-wide average emission limits for SO₂ and NO_x for EGUs that are located at the Fisk, Crawford, Joliet, Powerton, Waukegan, and Will County power plants.

Beginning in 2013 and every year thereafter, the CPS group must comply with the applicable CPS group average annual SO₂ emissions rate listed as follows:

Table 1. CPS Group Fleet SO₂ Emissions Requirements

Year	lb/mmBtu
2013	0.44
2014	0.41
2015	0.28
2016	0.195

2017	0.15
2018	0.13
2019	0.11

The CPS Amendments allow an alternate means of compliance with the emissions standards for mercury within the CPS through permanent shut-down, the installation of activated carbon injection, the application of pollution control technology for NO_x, particulate matter (“PM”), and SO₂ emissions, or the conversion of an EGU to a fuel other than coal.

In addition, the CPS Amendments require that, on and after April 16, 2015, Will County Unit 3 must not combust coal. Additionally, on and after December 31, 2016, Joliet Units 6, 7, and 8 must not combust coal. The other CPS EGUs must permanently shut down, permanently cease combusting coal, or install flue gas desulfurization (“FGD”) equipment on each specified EGU (except Will County Unit 4), on or before December 31, 2018, unless an earlier date is specified in the CPS. As of December 31, 2023, Powerton is the only source remaining in the CPS Group as all other CPS sources have retired.

1.1.2 Source Retirements and Fuel Switches

Listed below are the names and locations of facilities addressed in Illinois’ 2024 Regional Haze SIP submittal that have either retired, that will retire, or that have switched fuels to natural gas during the second implementation period or shortly thereafter. These lists include facilities from 2016 forward in recognition of units that contributed to the 2016 base year calculations and modeling used in Illinois’ 2024 Regional Haze SIP submittal. Documentation of the retirements that have already occurred was provided in Appendix G of Illinois’ 2024 Regional Haze SIP submittal.

Table 2 Facility-wide EGUs Retired

Agency ID	Facility Name	Location	Units	Retirement Date
119020AAE	Dynegy Midwest Generation LLC	Wood River	4, 5	November 17, 2016
155010AAA	Dynegy Midwest Generation LLC	Hennepin	1, 2	January 1, 2020
125804AAB	Dynegy Midwest Generation LLC Havana Power Station	Havana	9	January 1, 2020
135803AAA	Illinois Power Generation Co	Coffeen	1, 2	January 1, 2020
197810AAK	Will County Generating Station	Will County	3, 4	June 1, 2022
097190AAC	Waukegan Electric Generating Station	Waukegan	7, 8	June 1, 2022
127855AAC	Electric Energy Inc	Joppa	1,2,3,4,5,6	September 1, 2022
143805AAG	Illinois Power Resources Generating LLC	Edwards	2, 3	December 31, 2022

Table 3 Individual EGUs that Retired at Facilities Continuing to Operate

Agency ID	Facility Name	Unit	Location	Retirement Date
057801AAA	Illinois Power Generating Resources	1	Duck Creek	January 1, 2020
157851AAA	Dynegy Midwest Generation	3	Baldwin	November 5, 2020
199856AAC	Southern Illinois Power Coop	4	Marion	November 11, 2020
167120AAO	CWLP Dallman	31, 32	Springfield	March 1, 2021

Table 4 Coal-Fired Units that Switched to Natural Gas

Agency ID	Facility Name	Unit	Location	Fuel Switch Year
115015ABX	Tate and Lyle	Boilers 1 and 2	Decatur	2022
179060ACR	Pacific Ethanol Pekin Inc	Boilers E and F	Pekin	2017

Table 5 EGU Facilities that are Retiring under CEJA

Agency ID	Facility Name	Unit	Location	Scheduled Date of Permanent Shutdown
157851AAA	Dynegy Midwest Generation LLC	1, 2	Baldwin	December 31, 2025
079808AAA	Illinois Power Generating Co	1	Newton	December 31, 2027
021814AAB	Kincaid Generation LLC	1, 2	Kincaid	December 31, 2027
179801AAA	Midwest Generation LLC	51, 52, 61	Powerton	January 1, 2030

1.2 Continuing Measures Implemented from the First Planning Period

1.2.1 Source Specific Limits at CWLP and Kincaid Power Plants

As a result of Memoranda of Understanding (“MOU”) with Illinois, the operators of the City Water, Light & Power, City of Springfield (“CWLP”) and Kincaid Generation, LLC (“Kincaid”) power plants agreed to source-specific limits for those plants that have been incorporated into federally enforceable permits during the first implementation period.

The CWLP MOU required the shutdown of the Lakeside 8 unit, and source specific limits for the Dallman 31 and 32 units. The Dallman units are required to meet an annual average NO_x emission rate of 0.12 lb/mmBtu in 2015 and 2016 and an annual NO_x emission rate of 0.11 lb/mmBtu from 2017 onwards. The Dallman units are required to meet an annual SO₂ emission rate of 0.25 lb/mmBtu in 2015 and 2016 and an annual SO₂ emission rate of 0.23 lb/mmBtu from 2017 onwards. CWLP is currently meeting these requirements.

The Kincaid MOU required the Kincaid units to meet an annual average NO_x emission rate of 0.07 lb/mmBtu, effective on March 1, 2013. The Kincaid units are also required to meet an annual average SO₂ emission rate of 0.20 lb/mmBtu in 2014, 2015, and 2016, and an annual average SO₂ emission rate of 0.15 lb/mmBtu from 2017 onwards. The Kincaid units are currently meeting these requirements.

1.2.2 Consent Decrees for Petroleum Refineries

USEPA determined during the first implementation period that the federal consent decrees for the CITGO Petroleum Corporation (“CITGO”) and ExxonMobil Oil Corporation (“ExxonMobil”) refineries in Illinois mandated control that was at least as stringent as would be required under Best Available Retrofit Technology. These refineries are still operating under the terms of the consent decrees.

1.3 On-the-Books Control Strategies

The following is a list of on-the-books control measures that are expected to reduce emissions during the second implementation period and beyond 2028:

Electric Generating Units

- Illinois' Climate and Equitable Jobs Act (2021 – present; zero emissions for all EGUs incrementally, in phases in 2030, 2035, 2040, and 2045)
- Illinois Amendments to MPS for EGUs, 86 Fed. Reg. 33527 (June 25, 2021)
- Illinois Amendments to CPS for EGUs, 83 Fed. Reg. 8612 (February 28, 2018)
- Cross-State Air Pollution Rule (“CSAPR”) (2015) and CSAPR update (2021-present)
- Scheduled retirements of Illinois coal-fired EGUs listed in Table 5
- Title IV (Acid Rain – Phases I and II)
- NO_x SIP Call
- Ozone Transport Rule

On-Road Mobile Sources

- Federal Motor Vehicle Emission Control Program, low-sulfur gasoline, and ultra-low sulfur diesel fuel
- Inspection and maintenance programs, including Illinois' enhanced vehicle inspection and maintenance program, Indiana's vehicle emissions testing program, Ohio's E-check program, and Wisconsin's vehicle inspection program (note: a special emissions modeling run was done for the Cincinnati/Dayton area to reflect the removal of the state's E-check program and inclusion of low RVP gasoline)
- Reformulated gasoline, including in Chicago-Gary-Lake County, IL, IN; and Milwaukee, Racine, WI

Off-Road Mobile Sources

- Federal control programs incorporated into NONROAD model (e.g., nonroad diesel rule), plus the evaporative Large Spark Ignition and Recreational Vehicle standards
- Phase 2 Heavy-duty diesel engine standard/low sulfur fuel
- Federal railroad/locomotive standards
- Federal commercial marine vessel engine standards

Area Sources

- Consumer solvents; 35 Ill. Adm. Code Part 223 Subpart B
- Architectural and industrial maintenance coatings; 35 Ill. Adm. Code Part 223 Subpart C
- Aerosol coatings; 35 Ill. Adm. Code Part 223 Subpart B
- Portable fuel containers; 35 Ill. Adm. Code Part 223 Subpart B

Other Point Sources

- VOC 2-, 4-, 7-, and 10-year Maximum Achievable Control Technology standards
- Combustion turbine Maximum Achievable Control Technology standards
- Consent decrees (refineries, ethanol plants, and ALCOA)
- NO_x Reasonably Available Control Technology in Illinois, Wisconsin, and Ohio

These on-the-books measures are being implemented as planned or in a manner at least as stringent as anticipated at the time of Illinois' second Regional Haze submittal.

1.4 Additional Measures Not Considered in Illinois' Regional Haze SIP

Illinois anticipates that the following measures, which were not considered in the 2024 Regional Haze SIP submittal, will contribute to further reductions in emissions of NO_x and SO₂ from Illinois before 2028, the end of the second implementation period.

1.4.1 Revised 2023 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions Standards

In December of 2021, USEPA finalized the Revised 2023 and Later Model Year Light-Duty Vehicle Greenhouse Gas Emissions Standards, effective for model years 2023 to 2026. *See* 86 Fed. Reg. 74434, (December 30, 2021). The revised emission standards are expected to reduce the impact of vehicle emissions on air quality.

1.4.2 Illinois Climate Equitable Jobs Act

The Illinois Legislature passed the Climate and Equitable Jobs Act (“CEJA”) in 2021, which sets zero CO₂ equivalent (“CO₂e”) emission requirements for nearly all fossil-fueled EGUs in the state using a phased approach for 2030, 2035, 2040, and 2045. In 2021, CEJA began to immediately place emission limits on the EGU sector to operate at a reduced allowable capacity. To meet these requirements, fossil-fueled EGUs are retiring.

Per CEJA, all EGUs and large greenhouse gas (“GHG”)-emitting units that use coal or oil as a fuel shall permanently reduce all CO₂e and co-pollutant emissions to zero:

- By January 1, 2030: All units that are not publicly owned GHG-emitting units.
- By January 1, 2035: All units must reduce CO₂e emissions by 45% if they are still in operation at that time.
- By December 31, 2045: All other units.

All EGUs and large GHG-emitting units that use gas as a fuel and are not publicly owned GHG-emitting units shall permanently reduce all CO₂e and co-pollutant emissions to zero:

- By January 1, 2030: All units that have a NO_x emission rate of greater than 0.12 lb/MWh or a SO₂ emission rate greater than 0.006 lb/MWh and are located within 3 miles of an environmental justice (“EJ”) community.
- By January 1, 2035: All units that began operation prior to September 15, 2021, and have a NO_x emission rate of less than or equal to 0.12 lb/MWh and a SO₂ emission rate less than or equal to 0.006 lb/MWh, and are located in or within 3 miles of an environmental justice community.
- By January 1, 2035: All the GHG-emitting units above must reduce CO₂e emissions by 50%, if they are still in operation at that time.
- By January 1, 2040: All units that have a NO_x emission rate of greater than 0.12

lb/MWh or a SO₂ emission rate greater than 0.006 lb/MWh and are not located within 3 miles of an environmental justice community.

- By January 1, 2040: All remaining EGUs and large GHG-emitting units that have a heat input rate greater than or equal to 7000 BTU/kWh.
- By January 1, 2045: All remaining EGUs and large GHG-emitting units.

The resulting reductions in emissions from the shutdowns and reduced allowable capacity occurring through 2028 under CEJA were not accounted for in the modeling performed by LADCO, rendering LADCO's 2028 visibility projections for the second implementation period more conservative than if the EGUs were to continue operating as modeled.

2.0 Emissions Reductions from Regional Haze Strategies

This section is intended to satisfy Regional Haze Rule requirements for states to provide a summary of emission reductions resulting from the strategies discussed above.

40 CFR 51.308(g)(2): A summary of the emissions reductions achieved throughout the State through implementation of the measures described in paragraph (g)(1) of this section.

Emission reductions from strategies in Illinois' 2024 Regional Haze SIP submittal are quantified below covering the years specified in USEPA's 2024 5-Year Progress Report Resource Document ("Overview of Elements for the Regional Haze Second Planning Period State Implementation Plan Progress Reports Due in 2025," USEPA, Office of Air Quality Planning and Standards, July 2024).² ("2024 5-Year Progress Report Resource Document") The 2024 5-Year Progress Report Resource Document provides (pg. 12) "Thus, the period addressed under this [40 CFR Section 51.308(g)(2)] requirement should be 2019 to the most recent year." Illinois' reliance upon the updated MPS and CPS from 35 Ill. Adm. Code Part 225, unit retirements, and fuel switches have resulted in significant emissions reductions in NO_x and SO₂ from 2019 to 2023. Emissions data for the MPS and CPS sources were retrieved from USEPA's Clean Air Markets Program Data ("CAMPD").³

2.1 Emissions Reductions from MPS and CPS Amendment Control Strategies

2.1.1 Emissions Reductions from the MPS Amendment

The EGUs located at the Edwards, Coffeen, Joppa, Baldwin, Havana, Hennepin, Duck Creek, and Newton power plants consists of one group to demonstrate compliance pursuant to the MPS.

Amendments to NO_x Emission Limits

The MPS amendments to the Illinois' Regional Haze SIP placed new, more stringent emission limits on the MPS group. *See* 86 Fed. Reg. 33527, (June 25, 2021). Beginning in 2019, the EGUs in the MPS Group are limited to a combined annual NO_x emission of 19,000 tons from all

² "Overview of Elements for the Regional Haze Second Planning Period State Implementation Plan Progress Reports Due in 2025", USEPA, July 2024, available at: https://www.epa.gov/system/files/documents/2024-07/final_rh_2025_progress_report_requirements_document_7-30-2024.pdf

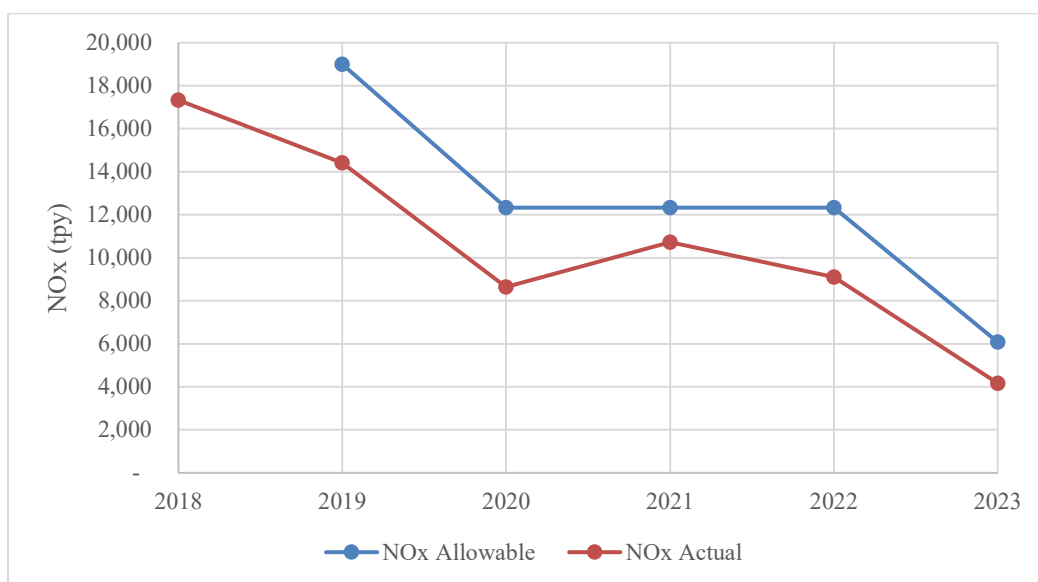
³ USEPA's Clean Air Markets Program Data is available at: <https://campd.epa.gov/>.

EGUs, and from May 1 to September 30 a limit of 11,500 tons from all EGUs. To illustrate the reduction in emissions over the 2018-2023 timeframe, Table 6 displays the MPS group NOx allowable limits and their actual NOx emissions.

Table 6. MPS Group Actual and Allowable NOx Emissions

Year	NOx Actual (tpy)	NOx Allowable (tpy)
2018	17,330	-
2019	14,414	19,000
2020	8,645	12,330
2021	10,726	12,330
2022	9,102	12,330
2023	4,170	6,080

Figure 1. MPS Group Actual and Allowable NOx Emissions



NOx emissions from the sources in the MPS group have trended downwards from 2019 to 2023 due to the MPS amendments. The reduction in actual emissions for sources in the MPS group from 2019 to 2023 is 10,244 tons of NOx.

Amendments to SO₂ Emissions Limits

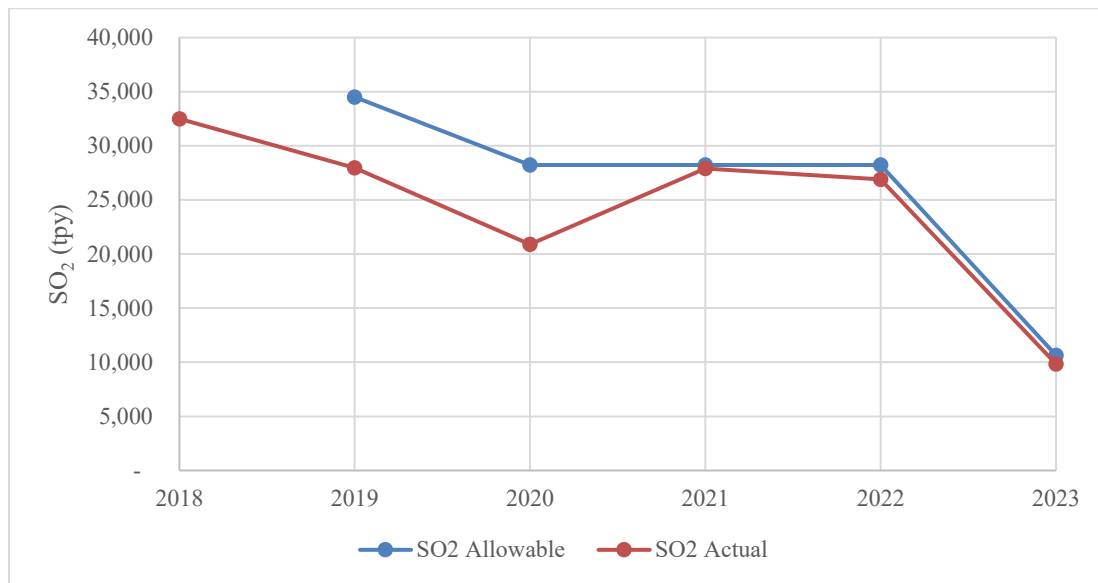
The original MPS placed an overall SO₂ annual emission rate of 0.33 lb/mmBtu or a rate equivalent to 44 percent of the Base Rate of SO₂ emissions, whichever was more stringent, on the EGUs in each MPS group from 2013 to 2014. Beginning in 2015 and continuing through 2018, the EGUs in each MPS Group complied with an overall annual emission rate for SO₂ of 0.25 lb/mmBtu or a rate equivalent to 35 percent of the Base Rate of SO₂ emissions, whichever was more stringent.

The MPS amendments placed new, more stringent SO₂ emission limits on the MPS group. Beginning in 2019, the EGUs in the MPS Group are limited to combined annual SO₂ emissions of 34,500 tons from all EGUs. Additionally beginning in 2019, Joppa units 1 through 6 must not discharge combined annual SO₂ emission in excess of 19,860 tons.

Table 7. MPS Group Actual and Allowable SO₂ Emissions

Year	SO ₂ Actual (tpy)	SO ₂ Allowable (tpy)
2018	32,492	-
2019	27,964	34,500
2020	20,882	28,220
2021	27,893	28,220
2022	26,882	28,220
2023	9,835	10,640

Figure 2. MPS Group Actual and Allowable SO₂ Emissions



SO₂ emissions from the sources in the MPS group have trended downwards from 2019 to 2023 due to the MPS amendments. The reduction in actual emissions for sources in the MPS group from 2019 to 2023 is 18,129 tons of SO₂.

2.1.2 Emissions Reductions from the CPS Amendment

The EGUs located at the Fisk, Crawford, Joliet, Powerton, Waukegan, and Will County power plants consists of a group to demonstrate compliance pursuant to the CPS.

The CPS amendments allow an alternate means of compliance with the emissions standards for mercury within the CPS. *See* 83 Fed. Reg. 8612, (February 28, 2018). These compliance means can be through permanent shutdown, the installation of activated carbon injection, the application of pollution control technology for NO_x, PM, and SO₂ emissions, or the conversion of an EGU to a fuel other than coal.

Amendments to SO₂ Emissions Requirements

The amendments require that on and after April 16, 2015, Will County 3 must not combust coal and on and after December 31, 2016, Joliet 6, 7, and 8 must not combust coal. The other CPS

EGUs must permanently shut down, permanently cease combusting coal, or install FGD equipment on each specified EGU (except Will County 4), on or before December 31, 2018, unless an earlier date is specified in the CPS.

The total emissions reductions due to the 2018 CPS amendments are based on source emissions between 2019 and 2023 for EGUs that permanently ceased operating and retired between 2019 to 2023, the most recent complete data year in CAMPD.

Table 8. Emissions Reductions for CPS Emission Units

Source	Agency ID	Unit	Retired	NOx (tpy)			SO2 (tpy)		
				2019	2023	Reduced	2019	2023	Reduced
Crawford	031600AIN	7	2013	0	0	0	0	0	0
		8	2013	0	0	0	0	0	0
Fisk	031600AMI	19	2013	0	0	0	0	0	0
Joliet	197809AAO	7	2017	0	0	0	0	0	0
		8	2017	0	0	0	0	0	0
		6	2004	0	0	0	0	0	0
Powerton	179801AAA	5	-	964	358	606	931	463	469
		6	-	617	356	261	619	440	179
Waukegan	097190AAC	6	2008	0	0	0	0	0	0
		7	2023	391	0	391	343	0	343
		8	2023	427	0	427	411	0	411
Will County	197810AKK	1	2011	0	0	0	0	0	0
		2	2011	0	0	0	0	0	0
		3	2015	0	0	0	0	0	0
		4	2023	411	0	411	522	0	522
TOTAL REDUCED				2096			1923		

2.2 Emissions Reductions from Source and Unit Shutdowns in the Second Implementation Period

2.2.1 Emissions Reductions from Unit Fuel Switches, Source Shutdowns, and Unit Shutdowns

During the time frame covered in this 5-Year Progress Report, Illinois attributes large reductions of visibility-impairing emissions in the second implementation period to three main changes: fuel switches, facility-wide EGU retirements, and individual unit EGU retirements. Based on the difference between 2019 and 2023 emissions, these three main changes have resulted in reductions of 216 tons per year (“tpy”) NOx and 992 tpy SO₂ from fuel switches, 9,809 tpy NOx and 21,909 tpy SO₂ from facility-wide EGU retirements, and 2,020 tpy NOx and 3,848 tpy SO₂ from individual unit EGU retirements. Altogether, these reductions total 12,045 tpy NOx and 26,749 tpy SO₂, representing a reduction of 15% NOx and 33% SO₂ in Illinois’ state-wide point source emissions inventory during the 5-year period.

Table 9 contains data for emission reductions in 2019-2023 due to fuel switches in emission units. Tables 10 and 11 contain data from 2019 for sources and units in Illinois that shutdown between 2019-2023. Emissions reductions of NOx and SO₂ due to unit fuel switches, source

retirements, and unit retirements continue to be true and contribute to the reduction of haze in the second implementation period.

Table 9. Emissions Reductions from Unit Fuel Switches (2019-2023)

Source	Agency ID	Unit	Retired	NOx (tpy)			SO ₂ (tpy)		
				2019	2023	Reduced	2019	2023	Reduced
Tate and Lyle*	115015ABX	Boilers 1 and 2	2022	216	0	216	992	0	992

*Now Primary Products Ingredients Americas LLC

Table 10. Emissions Reductions from Facility-wide EGUs Retired between 2019-2023

Facility Name	Agency ID	Location	Retired	Unit	NOx (tpy) 2019	SO ₂ (tpy) 2019
Dynergy Midwest Generation LLC	155010AAA	Hennepin	January 1, 2020	1	151	400
				2	1012	2194
Dynergy Midwest Generation LLC	125804AAB	Havana	January 1, 2020	9	732	633
Illinois Power Generation Co	135803AAA	Coffeen	January 1, 2020	1	156	1
				2	1492	41
Will County Generating Station	197810AAK	Will County	June 01, 2022	3		
				4	411	522
Waukegan Electric Generating Station	097190AAC	Waukegan	June 01, 2022	311	0.64	0.27
				312	0.60	0.25
				321	0.56	0.24
				322	0.54	0.22
				7	391	343
				8	427	410
Electric Energy Inc	127855AAC	Joppa Steam	September 01, 2022	1	506	1891
				2	470	1742
				3	431	1727
				4	560	2238
				5	288	1135
				6	443	1703
Illinois Power Resources Generating LLC	143805AAG	E D Edwards	December 31, 2022	2	1549	3172
				3	787	3765
TOTAL REDUCTIONS					9,809	21,919

Table 11. Emissions Reductions from EGU Unit Shutdowns between 2019-2023

Facility Name	Agency ID	Location	Retired	Unit	NOx (tpy) 2019	SO2 (tpy) 2019
Illinois Power Generating Resources	057801AAA	Duck Creek	January 1, 2020	1	1214	44
Southern Illinois Power Coop	199856AAC	Marion	November 11, 2020	4	806	3804
Dynegy Midwest Generation	157851AAA	Baldwin	November 5, 2020	3	1397 (2016)	1168 (2016)
CWLP Dallman	167120AAO	Springfield	March 1, 2021	31	106	92
				32	84	66
TOTAL REDUCTIONS					3607	5174

3.0 Visibility Progress

This section is intended to satisfy Regional Haze Rule requirements for states with Class I Federal areas to assess visibility conditions and changes in their state.

40 CFR 51.308(g)(3): For each mandatory Class I Federal area within the State, the State must assess the following visibility conditions and changes, with values for most impaired, least impaired and/or clearest days as applicable expressed in terms of 5-year averages of these annual values. The period for calculating current visibility conditions is the most recent 5-year period preceding the required date of the progress report for which data are available as of a date 6 months preceding the required date of the progress report.

There are no Class I areas located in Illinois, and so the requirements for the progress report in 40 CFR 51.308(g)(3) are not applicable to Illinois.

4.0 Emissions Progress

This section is intended to satisfy Regional Haze Rule requirements for states to provide an analysis tracking the change in emissions of visibility impairing pollutants over the previous five years.

40 CFR 51.308(g)(4): An analysis tracking the change over the period since the period addressed in the most recent plan required under paragraph (f) of this section in emissions of pollutants contributing to visibility impairment from all sources and activities within the State. Emissions changes should be identified by type of source or activity. With respect to all sources and activities, the analysis must extend at least through the most recent year for which the state has submitted emission inventory information to the Administrator in compliance with the triennial reporting requirements of subpart A of this part as of a date 6 months preceding the required date of the progress report. With respect to sources that report directly to a centralized emissions data system operated by the Administrator, the analysis must extend through the most recent year for which the Administrator has provided a State-level summary of such reported data or an internet-based tool by which the State may obtain such a summary as of a date 6 months preceding the required date of the progress report.

This section describes and illustrates the changes in anthropogenic emissions of pollutants that contribute to visibility impairment. The analysis includes emissions of SO₂, NO_x, ammonia (“NH₃”), volatile organic material (“VOM”), and direct emissions of fine particulate matter (“PM_{2.5} and PM₁₀”) for the years 2016 to 2022 (the base year from Illinois’ 2024 Regional Haze SIP submittal to the most recent year for which Illinois has a full quality assured inventory). The emissions inventory is based on the 2022v1 emissions modeling platform produced by the National Emissions Inventory Collaborative released in August 2024⁴. The National Emissions Inventory (“NEI”) calculates the total PM emission generated into the air, while the emissions inventory models most PM emissions to be deposited locally, resulting in modeling PM emissions to be overall lower than in the NEI. In Illinois’ 2024 Regional Haze SIP submittal,

⁴ <https://www.epa.gov/air-emissions-modeling/2022v1-emissions-modeling-platform>

Illinois primarily focuses on the analyses of NO_x and SO₂ since VOC and NH₃ were expected to have small contributions to haze.

Below, Illinois EPA has presented data from the 2016 base year, emissions for the 2022 year, and projections of emissions through the end of the second implementation period for 2028 that were included in Illinois' 2024 Regional Haze SIP submittal. Illinois EPA has also included 2017-2021 emissions data to help inform trends in visibility over the progress report period.

4.1 Illinois Inventory Overview

Table 12 contains the Illinois projected 2028 statewide emissions inventory from LADCO's 2016 base-year modeling. Table 13 contains Illinois statewide emissions inventory data from 2016 to 2022 for each visibility impairing pollutant. Tables 14 and 15 contain Illinois NO_x and SO₂ statewide inventory data aggregated by Emissions Inventory System ("EIS") sector group for 2016 as the base year and 2022 as the latest year. Biogenic emissions are not included. Between 2016 and 2022, the Illinois statewide emissions inventory data shows significant reductions in emissions of SO₂ (36% reduction), NO_x (24% reduction), PM_{2.5} (22% reduction), PM₁₀ (24% reduction), and VOM (14% reduction), as well as an increase in NH₃ (21% increase).

Table 12. 2028 Projected LADCO Statewide Emissions Totals (tpy)

Statewide	Point	Area	On-Road	Off-Road	Total
NH ₃	2,147	105,792	2,845	87	110,871
NO _x	73,061	90,052	41,417	25,289	229,819
PM ₁₀	246	412,779	7,224	2,421	422,671
PM _{2.5}	12,575	86,465	1,987	2,281	103,309
SO ₂	45,600	6,718	402	68	52,787
VOC	43,695	232,708	29,271	28,404	334,078

Table 13. Illinois Emission Trends 2016 - 2022 (tpy)

Statewide	2016	2017	2018	2019	2020	2021	2022
NH ₃	102,581	101,909	116,709	110,127	121,434	127,289	123,959
NO _x	342,717	307,159	305,678	289,089	244,042	245,836	259,164
PM ₁₀	435,909	496,161	427,448	377,563	242,911	321,158	332,869
PM _{2.5}	103,760	113,866	108,512	96,751	68,038	80,898	80,447
SO ₂	107,063	94,843	95,197	85,620	64,118	71,105	68,509
VOC	347,403	324,758	336,906	315,926	307,856	316,147	300,048
Total	1,467,144	1,466,825	1,418,756	1,302,409	1,072,049	1,188,825	1,189,712

Figure 3. Illinois Statewide NO_x Emissions Inventory Trends

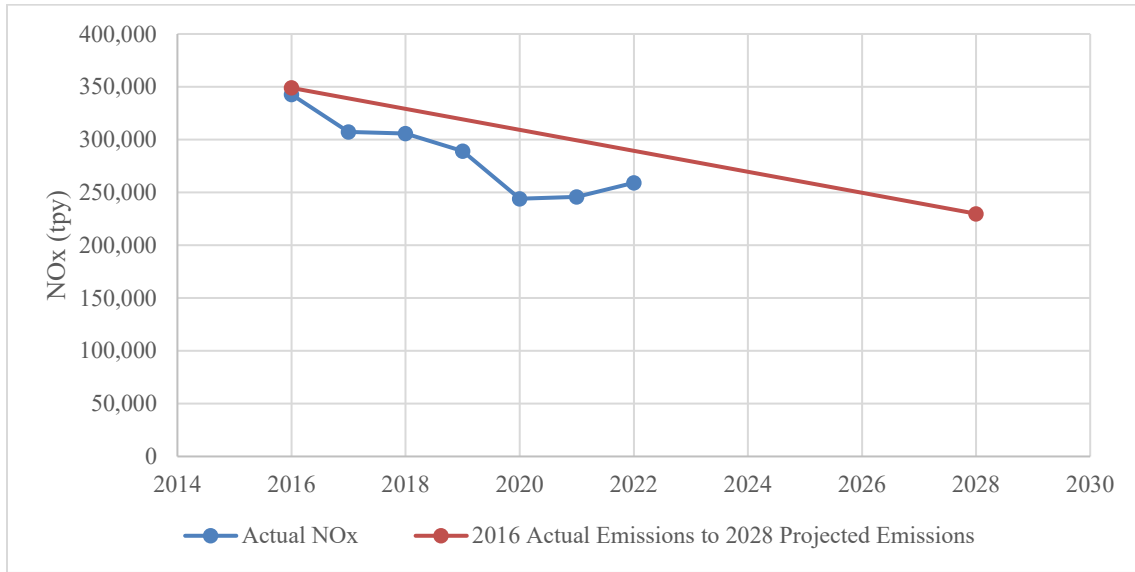


Figure 4. Illinois Statewide SO₂ Emissions Inventory Trends

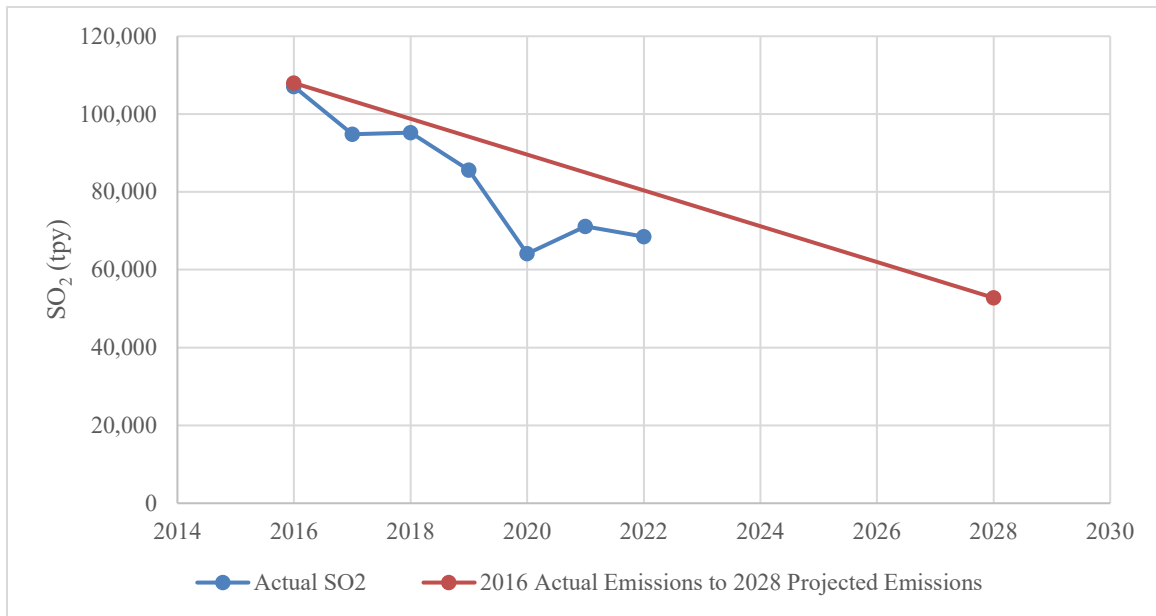


Table 14. Illinois NO_x Emissions by EIS Sector Group (tpy)

EIS Sector Group	2016	2022
Bulk Gasoline Terminals	3	1
Fires - Agricultural Field Burning	8	31
Fires - Prescribed Fires	1,313	1,024
Fires - Wildfires	76	60
Fuel Comb - Comm/Institutional - Biomass	0	88
Fuel Comb - Comm/Institutional - Coal	170	151
Fuel Comb - Comm/Institutional - Natural Gas	10,995	11,761
Fuel Comb - Comm/Institutional - Oil	876	255

Fuel Comb - Comm/Institutional - Other	32	490
Fuel Comb - Electric Generation - Coal	27,632	18,503
Fuel Comb - Electric Generation - Natural Gas	2,976	2,003
Fuel Comb - Electric Generation - Oil	199	207
Fuel Comb - Electric Generation - Other	625	255
Fuel Comb - Industrial Boilers, ICEs - Biomass	51	7
Fuel Comb - Industrial Boilers, ICEs - Coal	2,920	1,795
Fuel Comb - Industrial Boilers, ICEs - Natural Gas	20,052	11,097
Fuel Comb - Industrial Boilers, ICEs - Oil	3,419	1,128
Fuel Comb - Industrial Boilers, ICEs - Other	806	1,442
Fuel Comb - Residential - Natural Gas	17,766	19,942
Fuel Comb - Residential - Oil	34	31
Fuel Comb - Residential - Other	1,311	2,100
Fuel Comb - Residential - Wood	640	846
Gas Stations	2	0
Industrial Processes - Cement Manuf	3,066	1,777
Industrial Processes - Chemical Manuf	1,419	1,275
Industrial Processes - Ferrous Metals	536	449
Industrial Processes - Mining	0	0
Industrial Processes - NEC	6,174	6,020
Industrial Processes - Non-ferrous Metals	619	735
Industrial Processes - Oil & Gas Production	14,422	14,241
Industrial Processes - Petroleum Refineries	3,755	3,582
Industrial Processes - Pulp & Paper	1	1
Industrial Processes - Storage and Transfer	49	15
Miscellaneous Non-Industrial NEC	146	81
Mobile - Aircraft	4,658	4,393
Mobile - Commercial Marine Vessels	5,065	4,376
Mobile - Locomotives	37,402	34,473
Mobile - Non-Road Equipment - Diesel	41,890	26,169
Mobile - Non-Road Equipment - Gasoline	6,092	5,831
Mobile - Non-Road Equipment - Other	2,265	1,861
Mobile - On-Road Diesel Heavy Duty Vehicles	71,649	58,295
Mobile - On-Road Diesel Light Duty Vehicles	4,245	2,298
Mobile - On-Road non-Diesel Heavy Duty Vehicles	1,571	915
Mobile - On-Road non-Diesel Light Duty Vehicles	42,081	17,369
Solvent - Degreasing	0	0
Solvent - Graphic Arts	0	5
Solvent - Industrial Surface Coating & Solvent Use	392	375
Waste Disposal	3,311	1,410
TOTAL	342,717	259,164

Table 15. Illinois SO₂ Emissions by EIS Sector Group (tpy)

EIS Sector Group	2016	2022
Bulk Gasoline Terminals	0	0
Fires - Agricultural Field Burning	2	9
Fires - Prescribed Fires	679	502
Fires - Wildfires	37	23
Fuel Comb - Comm/Institutional - Biomass	0	10
Fuel Comb - Comm/Institutional - Coal	2,376	2,155
Fuel Comb - Comm/Institutional - Natural Gas	67	88
Fuel Comb - Comm/Institutional - Oil	1,087	24
Fuel Comb - Comm/Institutional - Other	22	28
Fuel Comb - Electric Generation - Coal	66,169	45,147
Fuel Comb - Electric Generation - Natural Gas	1,156	150
Fuel Comb - Electric Generation - Oil	16	30
Fuel Comb - Electric Generation - Other	115	158
Fuel Comb - Industrial Boilers, ICEs - Biomass	3	0
Fuel Comb - Industrial Boilers, ICEs - Coal	15,488	8,674
Fuel Comb - Industrial Boilers, ICEs - Natural Gas	117	83
Fuel Comb - Industrial Boilers, ICEs - Oil	1,910	58
Fuel Comb - Industrial Boilers, ICEs - Other	305	286
Fuel Comb - Residential - Natural Gas	113	127
Fuel Comb - Residential - Oil	81	0
Fuel Comb - Residential - Other	6	9
Fuel Comb - Residential - Wood	236	148
Gas Stations	0	0
Industrial Processes - Cement Manuf	1,059	553
Industrial Processes - Chemical Manuf	1,011	646
Industrial Processes - Ferrous Metals	313	285
Industrial Processes - NEC	8,085	4,998
Industrial Processes - Non-ferrous Metals	15	53
Industrial Processes - Oil & Gas Production	222	804
Industrial Processes - Petroleum Refineries	1,930	1,353
Industrial Processes - Pulp & Paper	0	0
Industrial Processes - Storage and Transfer	14	16
Miscellaneous Non-Industrial NEC	0	7
Mobile - Aircraft	705	462
Mobile - Commercial Marine Vessels	25	26
Mobile - Locomotives	24	24
Mobile - Non-Road Equipment - Diesel	22	21
Mobile - Non-Road Equipment - Gasoline	29	11
Mobile - Non-Road Equipment - Other	30	27
Mobile - On-Road Diesel Heavy Duty Vehicles	59	67
Mobile - On-Road Diesel Light Duty Vehicles	4	3
Mobile - On-Road non-Diesel Heavy Duty Vehicles	10	9
Mobile - On-Road non-Diesel Light Duty Vehicles	555	204

Solvent - Degreasing	0	0
Solvent - Graphic Arts	0	0
Solvent - Industrial Surface Coating & Solvent Use	29	3
Waste Disposal	2,934	1,230
TOTAL	107,063	68,509

The control strategies in Illinois' 2024 Regional Haze SIP submittal focused primarily on reductions of SO₂ and NO_x in point sources, as the point source sectors were projected to be the largest contributors to visibility impairment at Class I areas affected by Illinois sources during the second implementation period. Point source categories in Tables 14 and 15 include Fuel Combustion (Comm/Institutional, Electric Generation, and Industrial Boilers) and Industrial Processes. Figures 3 and 4 show trends of actual SO₂ and NO_x emissions from 2016 to 2023 compared to the projected 2028 emissions for the second Regional Haze SIP submittal.⁵ From Tables 14 and 15, the most significant reductions in SO₂ and NO_x emissions were driven primarily by reductions from the EGU sector and from the mobile onroad and nonroad sectors. Emissions reductions are due largely to Illinois regulations and retirements of coal-fired EGUs as discussed in Section 2.0 of this document and from increasing stringency of federal mobile emission controls in the second implementation period. Illinois EPA anticipates that this trend will continue in 2025 and beyond, due to additional coal-fired EGUs in Illinois being retired or converted to natural gas combustion and further increases in the stringency of mobile emission regulations as discussed in Section 1.4.

Table 14 also shows that emissions of NH₃ have increased over the 2016-2022 period; however, this increase is mainly due to changes in inventory methodologies. In 2020, USEPA updated methods to the emissions model used to estimate NH₃ including using new emission factor measurements, changing how landcover was modeled, changes to meteorology in 2020, and an error correction. This updated methodology and general increases in agricultural fertilizer application resulted in a nationwide 30% increase in NH₃ from the 2017 to 2020 NEI and an Illinois 21% increase in NH₃ from the 2016 to the 2022 inventory.

The 2024 5-Year Progress Report Resource Document provides that (pg. 18) “At a minimum, the progress reports must include EGU emissions data through 2023, which is the latest EGU data from CAPD available 6 months preceding the required due date of the progress report in January of 2025.” The emissions for EGU sources which report to the Clean Air and Power Division (“CAPD”) through CAMPD in Illinois were retrieved from the CAMPD website. The sum of the annual emissions reported by Illinois CAPD sources for 2016 – 2023 are included under Tables 16 and 17. Blank entries in Table 17 are due to the source not being required to report that specific pollutant emission to CAMPD, or the source has shut down or ceased operations. As seen in Figures 5 and 6, NO_x emissions have been reduced by 18,557 tons per year and SO₂ emissions have been reduced by 43,180 tons per year from 2016 to 2023 for Illinois CAPD sources.

⁵ “Modeling and Analysis for Demonstrating Reasonable Progress for the Regional Haze Rule 2018 - 2028 Planning Period”, LADCO, June 2021, available at: https://www.ladco.org/wp-content/uploads/Projects/Regional-Haze/Round2/LADCO_RegionalHaze_Round2_TSD_17June2021_Final.pdf

Table 16. Illinois Reported CAMPD Emission Trends 2016 - 2023

	2016	2017	2018	2019	2020	2021	2022	2023
NO_x (tpy)	33,295	33,066	35,326	30,731	22,461	26,078	22,882	14,738
SO₂ (tpy)	66,993	54,511	57,357	50,164	36,079	46,333	45,296	23,813

Figure 5. Illinois Reported CAMPD NO_x Emissions 2016-2023

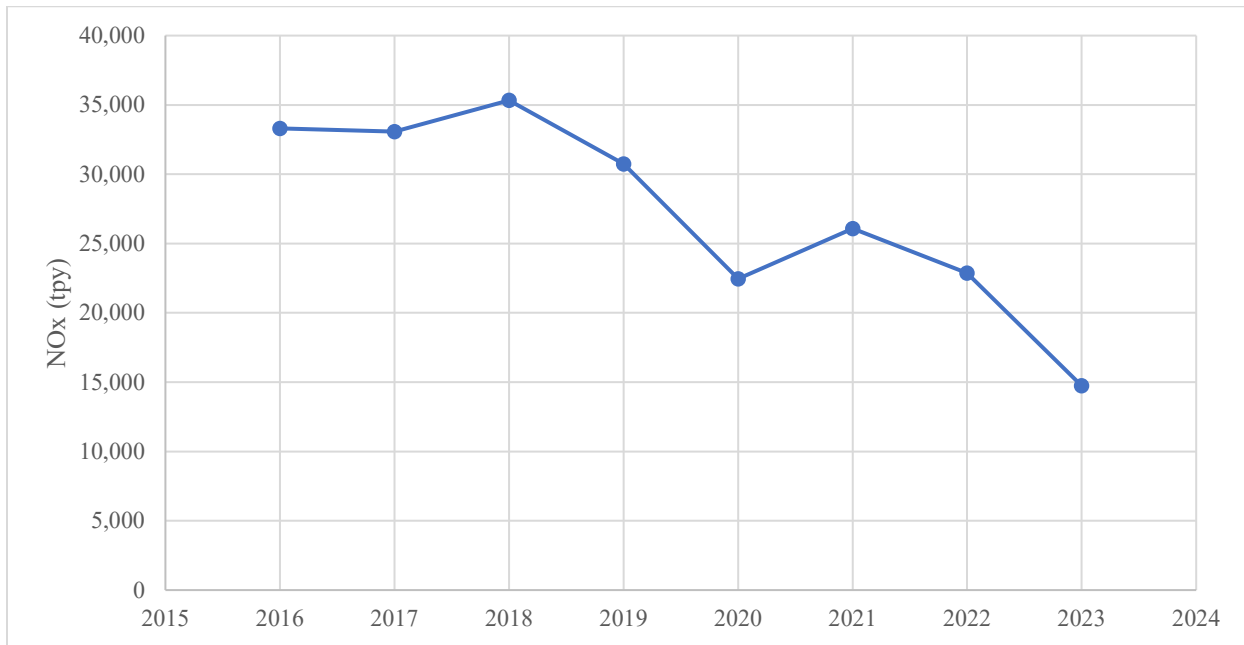


Figure 6. Illinois Reported CAMPD SO₂ Emissions 2016-2023

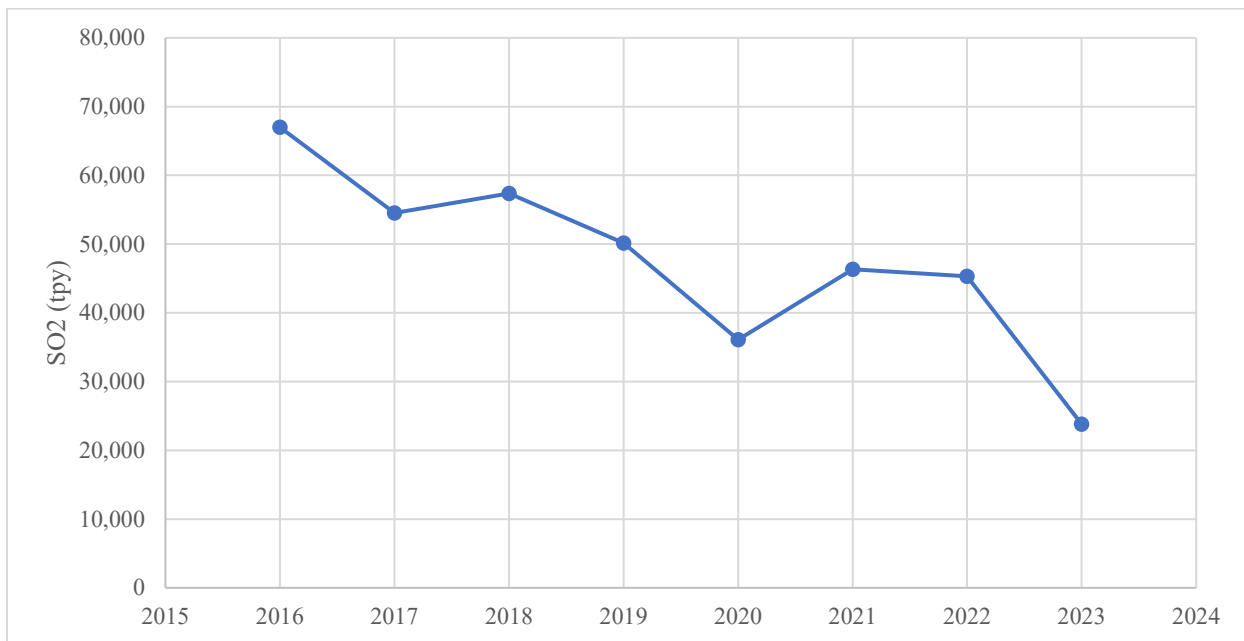


Table 17. Emission Reductions for Illinois CAMPD EGUs from 2016 and 2019 to 2023

Facility Name	SO2 Mass (Short Tons)			SO2 % Change		NOx Mass (Short Tons)			NOx % Change	
	2016	2019	2023	2016- 2023	2019- 2023	2016	2019	2023	2016- 2023	2019- 2023
Joliet 29	2734	8	2	-100	-71	783	631	381	-51	-40
E D Edwards	5890	6937		-100	-100	1762	2335		-100	-100
Coffeen	33	42		-100	-100	1697	1649		-100	-100
Grand Tower Energy Center	1	2		-100	-100	130	297		-100	-100
Joliet 9	468	0	0	-100	-100	178	6	0	-100	-99
Kincaid Generating Station	2133	1519	1114	-48	-27	1478	1048	394	-73	-62
Powerton	8209	1551	903	-89	-42	2956	1580	714	-76	-55
Waukegan	2734	754	2	-100	-100	1031	821	13	-99	-98
Will County	4506	522		-100	-100	1052	411		-100	-100
Fisk	12	14	4	-70	-73	29	33	20	-32	-39
Joppa Steam	7634	10436		-100	-100	1895	2698		-100	-100
Baldwin Energy Complex	4020	2277	2414	-40	6	4039	2810	2079	-49	-26
Havana	1141	633		-100	-100	1188	732		-100	-100
Hennepin Power Station	4065	2595		-100	-100	1203	1162		-100	-100
Wood River Power Station	2172			-100		603			-100	
Venice	0	0	0	-81	-44	18	8	4	-80	-51
Dallman	1119	1199	265	-76	-78	773	835	287	-63	-66
Marion	3699	5843	2346	-37	-6	916	1198	426	-53	-64
Duck Creek	10	44		-100	-100	1071	1213		-100	-100
Newton	7743	5000	7422	-4	48	1618	1813	2091	29	15
Interstate	0	0	0	-11	305	24	8	38	60	401
Tilton Power Station	0	0	0	-33	6	59	45	45	-24	0
Alsey Station	0	0	0	148	4	9	10	11	18	11
Freedom Power Project	0	0	0	-70		2	0	1	-67	577
MEPI GT Facility	0	0		-100	-100	1	7		-100	-100
Factory Gas Turbine	1	3	0	-72	-90	2	7	1	-72	-90
Archer Daniels Midland Co.						1798	1879	1597	-11	-15
BioUrja Renewables - Peoria, IL						15	17	21	37	22
Tate & Lyle						258	215		-100	-100
Exxonmobil Oil Corporation						48	47	39	-19	-16
Ingredion Incorporated Argo Plant						424	389	293	-31	-25
Rocky Road Power	0	0	0	-76	-62	44	27	9	-78	-65
Kendall Energy Facility	16	15	13	-18	-14	275	329	288	5	-12
Nelson Energy Center	2	8	6	166	-26	78	235	166	112	-30

Cordova Energy Company	0	3	2	1388	-52	2	55	37	1724	-32
Elwood Energy Facility	2	1	3	53	258	226	60	173	-24	187
Gibson City Energy Center	0	0	0	-29	-13	54	39	31	-42	-21
Pinckneyville Power Plant	0	0	0	-57	-42	48	35	21	-57	-41
Kinmundy Power Plant	0	0	0	-34	138	3	1	2	-33	134
Morris Cogeneration	2	2	2	-7	-17	216	203	119	-45	-41
Lincoln Generating Facility	0	0	0	-80	-4	14	2	2	-85	3
Lee County Generating Station	0	1	0	31	-49	11	28	16	41	-43
Shelby County	0	1	1	2	-25	59	132	105	78	-21
Rockford Energy Center	0	0	0	-37	-21	44	36	22	-51	-40
Tuscola Plant						137			-100	
University Park Energy	1	1	0	-58	-58	102	215	77	-24	-64
Crete Energy Park	0	0	0	-40	-15	16	12	10	-41	-19
Aurora	1	2	1	-2	-39	111	197	104	-6	-47
Southeast Chicago Energy Project	0	0		-100	-100	54	44		-100	-100
Calumet Energy Team	0	0	0	-79	-71	8	7	2	-76	-70
Holland Energy Facility	3	3	6	76	77	80	77	119	49	53
Zion Energy Center	1	2	1	-29	-53	77	123	59	-23	-52
Raccoon Creek Power Plant	0	0	0	-85	-50	1	0	0	-89	-58
Elgin Energy Center	1	1	1	-7	-14	80	84	71	-11	-15
Goose Creek Power Plant	0	0	0	-78	29	4	1	1	-79	36
LSP University Park	2	2	1	-77	-63	83	46	18	-79	-62
Prairie State Generating Station	8631	10741	9280	8	-14	3547	4126	3924	11	-5
Rockford II Energy Center	0	0	0	-62	-47	31	24	12	-61	-51
Wood River Refinery						335	414	366	9	-12
Lemont Refinery						24	30	21	-14	-29
Alto Central						415	145	145	-65	0
Marathon Petroleum Company LP						39	85	101	155	18
INEOS Joliet						14	13	12	-14	-9
Invenergy Nelson Expansion			1	100	100			41	100	100
Jackson Generation			14	100	100			142	100	100
CPV Three Rivers Energy Center			7	100	100			69	100	100
TOTAL OVERALL	66993	50164	23813	-64	-53	33295	30731	14738	-56	-52

Overall emissions of visibility-impairing pollutants in Illinois show a declining trend over the period from 2016 to 2022 and 2023 for almost every criteria air pollutant. Illinois EPA anticipates that this trend will continue through the end of the second implementation period of the Regional Haze Rule in 2028 due to the control strategies detailed in Section 2.0 of this document.

5.0 Assessment of Changes Impeding Visibility Progress

This section is intended to satisfy the Regional Haze Rule requirements for states to provide an assessment of any changes in emissions that have impeded progress toward improving visibility.

40 CFR 51.308(g)(5): An assessment of any significant changes in anthropogenic emissions within or outside the State that have occurred since the period addressed in the most recent plan required under paragraph (f) of this section including whether or not these changes in anthropogenic emissions were anticipated in that most recent plan and whether they have limited or impeded progress in reducing pollutant emissions and improving visibility.

Illinois EPA has not identified any significant changes in anthropogenic emissions within Illinois that have occurred over the last five years that would limit or impede progress in improving visibility. There have been no significant unexpected increases in emissions in the past five years or since Illinois' 2024 Regional Haze SIP submittal. Likewise, there have been no projected decreases in pollutant emissions from Illinois' 2024 Regional Haze SIP submittal that have not been realized. As detailed in Sections 2.0 and 4.0 of this document, Illinois is on schedule for emissions reductions projected in Illinois' 2024 Regional Haze SIP submittal.

As a state that does not contain any Federal Class I areas, Illinois is not required to assess whether emissions increase outside the state are causing a Class I area within the state to be adversely affected.

6.0 Assessment of Current Strategy

This section is intended to satisfy Regional Haze Rule requirements to provide an assessment of whether a state's current SIP elements are sufficient to meet all its reasonable progress goals.

40 CFR 51.308(g)(6): An assessment of whether the current implementation plan elements and strategies are sufficient to enable the State, or other States with mandatory Class I Federal areas affected by emissions from the State, to meet all established reasonable progress goals for the period covered by the most recent plan required under paragraph (f) of this section.

Illinois has so far implemented all elements of its Regional Haze SIP long-term strategy and is on track to meet its 2028 goals for emission reductions set forth in Illinois' 2024 Regional Haze SIP submittal before the end of 2028. As detailed in Section 4.0 of this document, reductions in visibility impairing pollutants are on track or better than expected for 2022. Illinois also anticipates further emissions reductions as the control strategies detailed in Section 1.0 of this document continue to be implemented.

Illinois EPA in its Regional Haze SIP identified the following Class I areas as the most likely to be impacted by Illinois emissions:

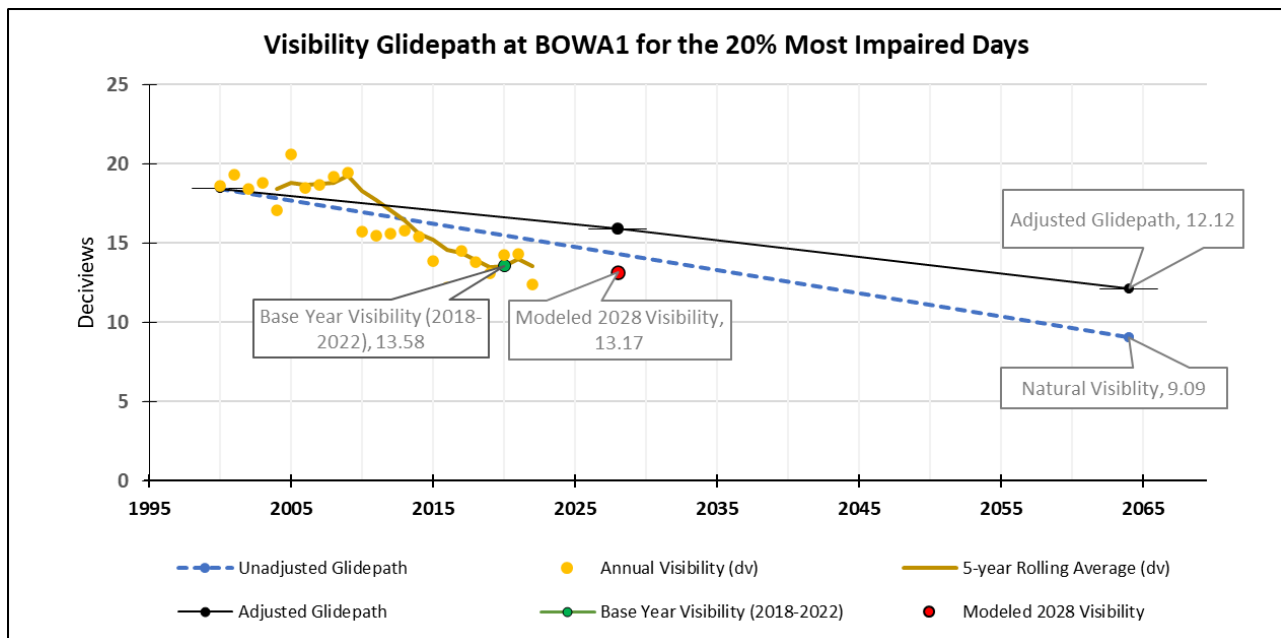
- Voyageurs National Park and Boundary Waters Canoe Area Wilderness in Minnesota
- Hercules-Glades and Mingo Wilderness Areas in Missouri
- Caney Creek and Upper Buffalo Wilderness Areas in Arkansas
- Isle Royale National Park and Seney Wilderness Area in Michigan
- Mammoth Cave National Park in Kentucky

- Sipsey Wilderness Area in Alabama
- Great Smoky Mountains National Park in Tennessee and North Carolina
- Great Gulf Wilderness Area in New Hampshire
- Brigantine Wilderness Area in New Jersey
- Acadia National Park and Moosehorn Wilderness Area in Maine
- Lye Brook Wilderness, in Vermont

Visibility at all Class I areas identified above are trending towards the modeled 2028 visibility projections presented in Illinois' 2024 Regional Haze SIP submittal and continue to be below the uniform rate of progress glidepath. In some cases, current visibility values are already at or below the projected 2028 visibility values. Below are figures depicting updated glidepath analyses for Class I areas in USEPA Region 5, including Boundary Waters Canoe Area Wilderness, Isle Royale National Park, Seney Wilderness Area, and Voyageurs National Park and for the Class I areas closest to Illinois including Mingo and Hercules-Glades Wilderness Areas and Mammoth Cave National Park. The updated glidepath analyses in Figures 7 through 13 below are based on figures excerpted from LADCO's "Modeling and Analysis for Demonstrating Reasonable Progress for the Regional Haze Rule 2018 – 2028 Planning Period: Technical Support Document," June 17, 2021, which was provided as Appendix B in Illinois' 2024 Regional Haze SIP submittal.

The glidepath analyses were updated to show the more recent base year visibility, which is the average of five years of visibility data from 2018-2022 for the 20% most impaired days in deciviews based on Interagency Monitoring of Protected Visual Environments ("IMPROVE") data.⁶

Figure 7. Visibility Projections for Boundary Waters Canoe Area Wilderness, MN



⁶IMPROVE RHR Summary Data is available through the Colorado State website at: <https://vista.cira.colostate.edu/Improve/rhr-summary-data/>

Figure 8. Visibility Projections for Isle Royale National Park, MI

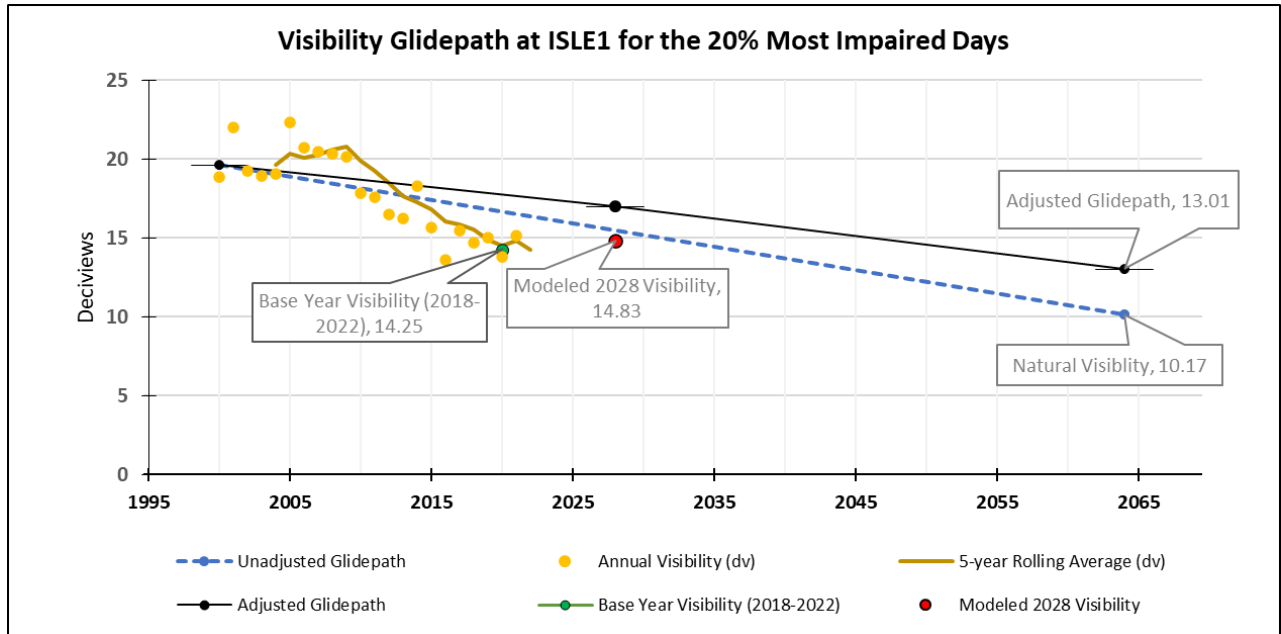


Figure 9. Visibility Projections for Seney National Wildlife Refuge, MI

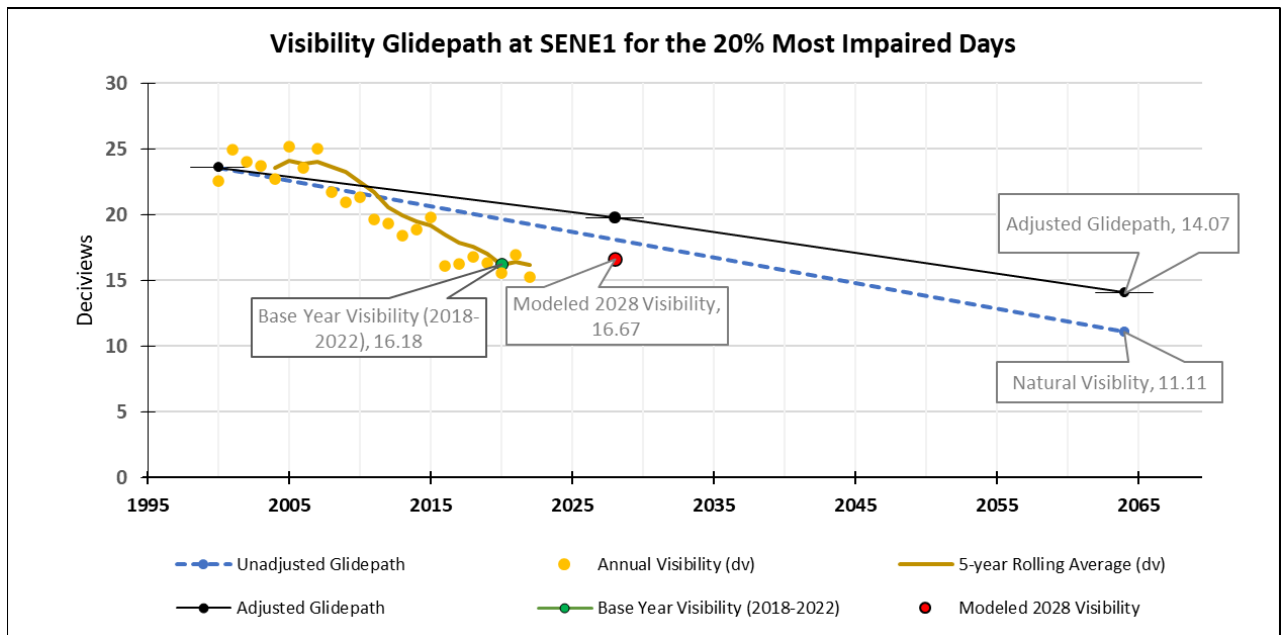


Figure 10. Visibility Projections for Voyageurs National Park, MN

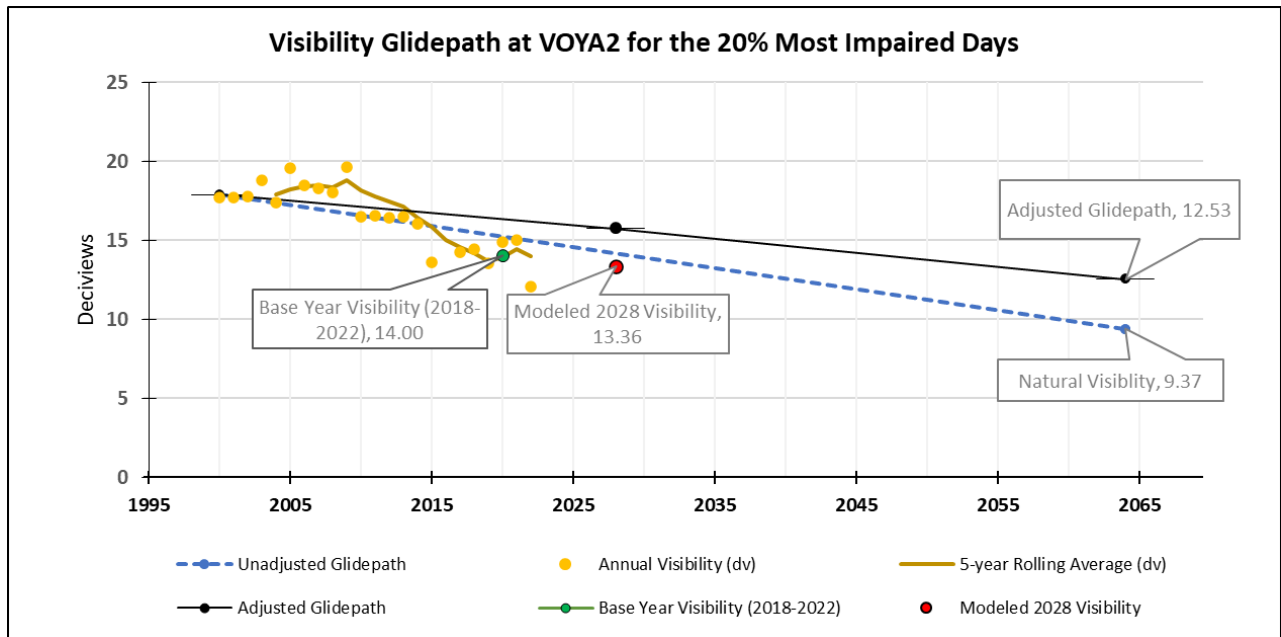
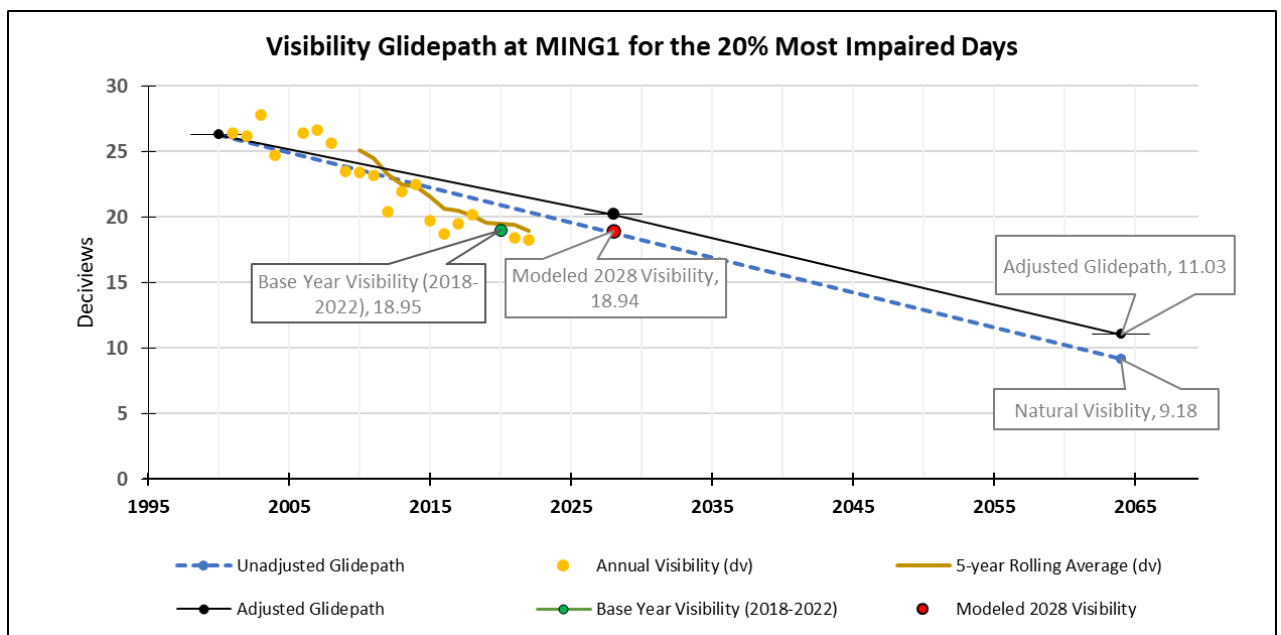


Figure 11. Visibility Projections for Mingo National Wildlife Refuge, MO



*No valid data available for 2019 and 2020

Figure 12. Visibility Projections for Hercules-Glades Wilderness, MO

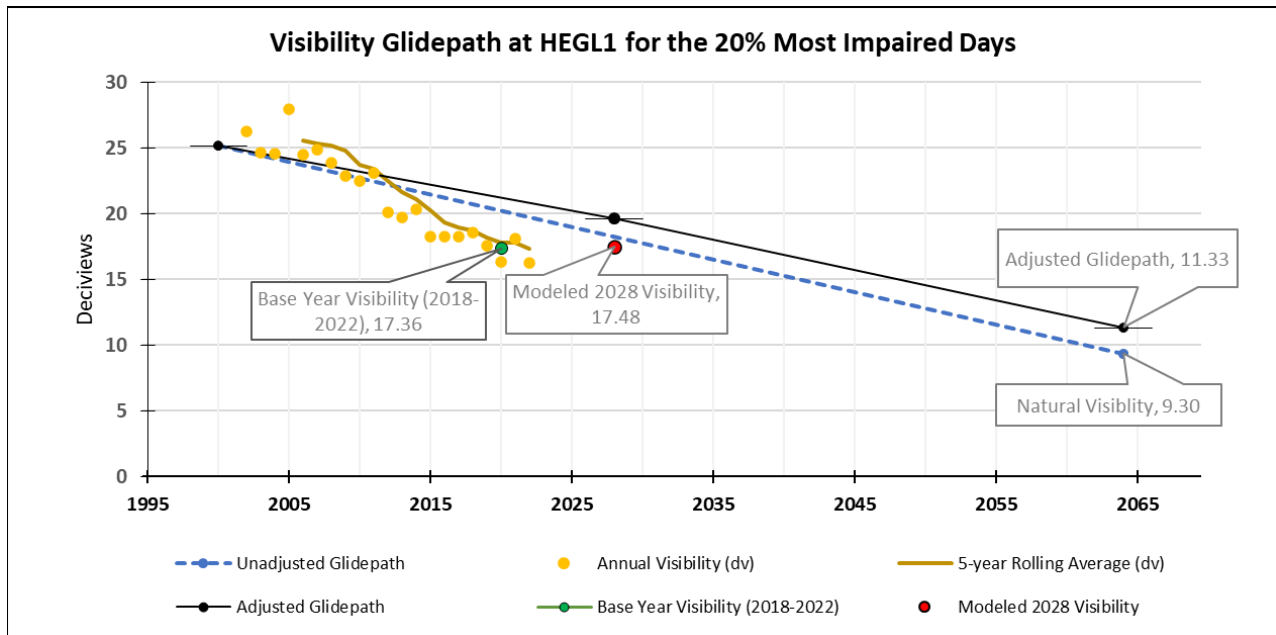
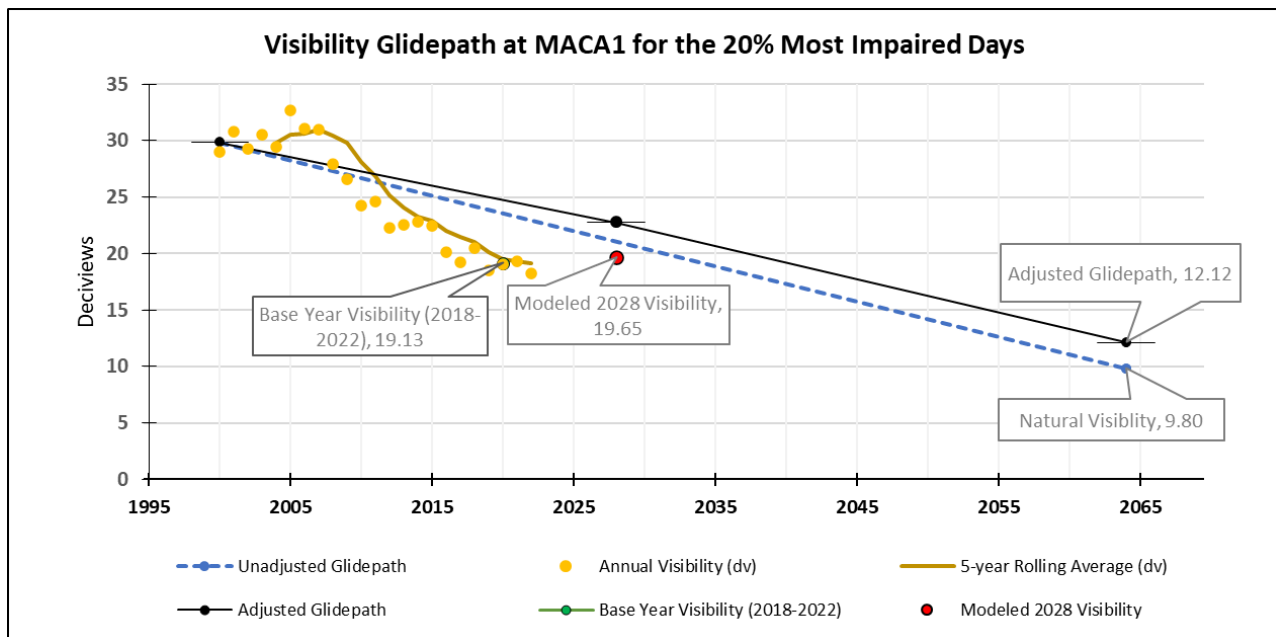


Figure 13. Visibility Projections for Mammoth Cave National Park, KY



7.0 Review of Smoke Management Program

This section is intended to satisfy Regional Haze Rule requirements for states with a long-term strategy that include a smoke management program for prescribed fires on wildland and conducts periodic assessments to determine if that program is meeting its goals.

40 CFR 51.308(g)(8): For a state with a long-term strategy that includes a smoke management program for prescribed fires on wildland that conducts a periodic program assessment, a summary of the most recent periodic assessment of the smoke management program including conclusions if any that were reached in the assessment as to whether the program is meeting its goals regarding improving ecosystem health and reducing the damaging effects of catastrophic wildfires.

Illinois submitted a smoke management plan as part of its 2012 Regional Haze SIP. The 2024 5-Year Progress Report Resource Document provides that (pg. 23) “A state with a smoke management program that is *not* federally enforceable in the SIP, but includes a periodic assessment, is not required to include a summary of the program assessment.”

The Illinois smoke management program is not federally enforceable in the Regional Haze SIP, and so the requirements for a summary of the program assessment in 40 CFR 51.308(g)(8) are not required for Illinois.

8.0 Determination of Adequacy

This section is intended to satisfy Regional Haze Rule requirements that a state provide a determination of adequacy for its existing SIP.

40 CFR 51.308(h):

(h) Determination of the adequacy of existing implementation plan. At the same time the State is required to submit any 5-year progress report to the EPA in accordance with paragraph (g) of this section, the State must also take one of the following actions based upon the information presented in the progress report:

(1) If the State determines that the existing implementation plan requires no further substantive revision at this time in order to achieve established goals for visibility improvement and emissions reductions, the State must provide to the Administrator a negative declaration that further revision of the existing implementation plan is not needed at this time.

(2) If the State determines that the implementation plan is or may be inadequate to ensure reasonable progress due to emissions from sources in another State(s) which participated in a regional planning process, the State must provide notification to the Administrator and to the other State(s) which participated in the regional planning process with the States. The State must also collaborate with the other State(s) through the regional planning process for the purpose of developing additional strategies to address the plan's deficiencies.

(3) Where the State determines that the implementation plan is or may be inadequate to ensure reasonable progress due to emissions from sources in another country, the State shall provide notification, along with available information, to the Administrator.

(4) Where the State determines that the implementation plan is or may be inadequate to ensure reasonable progress due to emissions from sources within the State, the State shall revise its implementation plan to address the plan's deficiencies within one year.

Illinois has determined that its 2024 Regional Haze SIP submittal is adequate to achieve the established goals for visibility and emissions reductions as a revision to its current Regional Haze SIP, which was approved by USEPA on July 6, 2012. *See* 77 Fed. Reg. 39943, (July 6, 2012). Accordingly, this report satisfies the requirements of 40 CFR 51.308(h) and provides a negative declaration to the Administrator that further revision of the existing implementation plan, beyond the 2024 Regional Haze SIP submittal, is not needed at this time.

9.0 Consultation with Federal Land Managers

This section is intended to satisfy Regional Haze Rule requirements for Federal Land Manager (“FLM”) consultation.

40 CFR 51.308(i):

(i) What are the requirements for State and Federal Land Manager coordination? (1) By November 29, 1999, the State must identify in writing to the Federal Land Managers the title of the official to which the Federal Land Manager of any mandatory Class I Federal area can submit any recommendations on the implementation of this subpart including, but not limited to:

(i) Identification of impairment of visibility in any mandatory Class I Federal area(s); and

(ii) Identification of elements for inclusion in the visibility monitoring strategy required by § 51.305 and this section.

(2) The State must provide the Federal Land Manager with an opportunity for consultation, in person at a point early enough in the State's policy analyses of its long-term strategy emission reduction obligation so that information and recommendations provided by the Federal Land Manager can meaningfully inform the State's decisions on the long-term strategy. The opportunity for consultation will be deemed to have been early enough if the consultation has taken place at least 120 days prior to holding any public hearing or other public comment opportunity on an implementation plan (or plan revision) for regional haze required by this subpart. The opportunity for consultation on an implementation plan (or plan revision) or on a progress report must be provided no less than 60 days prior to said public hearing or public comment opportunity. This consultation must include the opportunity for the affected Federal Land Managers to discuss their:

(i) Assessment of impairment of visibility in any mandatory Class I Federal area; and

(ii) Recommendations on the development and implementation of strategies to address visibility impairment.

(3) In developing any implementation plan (or plan revision) or progress report, the State must include a description of how it addressed any comments provided by the Federal Land Managers.

(4) The plan (or plan revision) must provide procedures for continuing consultation between the State and Federal Land Manager on the implementation of the visibility protection program required by this subpart, including development and review of implementation plan revisions and progress reports, and on the implementation of other programs having the potential to contribute to impairment of visibility in mandatory Class I Federal areas.

On October 28, 2024, Illinois EPA shared with FLMs a draft of the Five-Year Progress Report for the Regional Haze Second Implementation Period, providing at least 60 days before announcing a public comment opportunity as required under 40 CFR 51.308(i)(2). On November 19, 2024, Illinois EPA received comments from the FLMs on the draft five-year

Regional Haze progress report. The following summarizes the requests from the FLM comments:

Summary of Recommendations from the US Forest Service:

- Explain what the blanks in Table 17 mean. Clarify if these blanks indicate facilities that have shut down or ceased operation, if it is missing data, or something else.

Illinois EPA has clarified both here and under Section 4.1 Illinois Inventory Overview that the blanks in Table 17 are due to the source not being required to report that specific pollutant emission to CAPD, or that the source has shut down or ceased operations.

10.0 Public Participation

This section is intended to satisfy Regional Haze Rule requirements for public participation.

40 CFR § 51.308(g):

Subsequent progress reports must be made available for public inspection and comment for at least 30 days prior to submission to EPA and all comments received from the public must be submitted to EPA along with the subsequent progress report, along with an explanation of any changes to the progress report made in response to these comments.

Illinois is required to provide a public comment period on the proposed Five-Year Progress Report for the Regional Haze Second Implementation Period prior to submitting the final report to USEPA. Public participation in the SIP process was provided for as follows:

- Notice of availability of Illinois' proposed Five-Year Progress Report for the Regional Haze Second Implementation Period was published on the Illinois EPA website (<https://epa.illinois.gov/public-notice.html>) on January 16, 2025, providing a 30-day public comment period by February 17, 2025.

[Copies of the written public comments will be included in an Appendix.]

[An explanation of any changes to the proposed 5-Year Progress Report made in response to the public comments will be included below and incorporated throughout the final version of the Five-Year Progress Report in relevant areas.]