

5. Environmental Compliance

Highlights

- *Since the 2023 Integrated Resource Plan (IRP) filing, the U.S. Environmental Protection Agency (EPA) has issued a number of new or updated regulations for power plant air, water, and solid waste emissions.*
- *Such environmental regulations affect the operations of Ameren Missouri's Energy Centers; in particular, its coal-fired units.*
- *Ameren Missouri has identified mitigation steps and costs for complying with current and probable future environmental regulations to be used in its evaluation of alternative resource plans.*

Ameren Missouri has made significant investments to comply with existing environmental regulations and maintain a sufficient compliance margin. Rules proposed or promulgated since the IRP filing in 2023 include the 2024 update to the Mercury and Air Toxics Standards (MATS), the 2023 Steam Electric Power Generating Effluent Limitations Guidelines (ELG) Update, regulation of greenhouse gas emissions under section 111 of the Clean Air Act (GHG Rule), the 2024 revision of the fine particulate National Ambient Air Quality Standard (NAAQS), and the Legacy CCR Rule. The EPA has proposed or is currently considering repeals or modifications to each of these rules and in February 2026, finalized the repeal of the 2024 update to MATS and in September 2026 finalized repeal of portions of the GHG Rule.

Environmental regulations are an important factor to consider in resource planning. The future regulatory horizon is uncertain with respect to certain regulatory programs such as those addressing greenhouse gas emissions from coal-fired and natural gas-fired generating units. In this IRP, we have not included new coal-fired generation as a candidate resource option, but we will continue monitoring advancements, especially in carbon capture and sequestration (CCS) technology. Ameren Missouri has incorporated assumptions regarding proposed and potential environmental regulations in its “most likely” case, and a corresponding compliance path characterized by environmental retrofits to its existing fleet. The cost and timing of those retrofits are reflected in the risk analysis in Chapter 9. Furthermore, the planning scenarios, which are described in Chapter 2, act as signposts for decision making and therefore are an important aspect of the strategy selection, which is shared in Chapter 10.

5.1 Overview

Table 5.1 Current & Pending Environmental Regulations

Regulatory Driver	Summary Requirements	Regulation Status	Compliance Timing
Current CSAPR Regulation	Created Group 3 Ozone Season Allowance Program for 12 states including IL reducing NOx ozone season banked allowances and allowance allocations for IL sources	Revised CSAPR Update was published on 4/30/2021 and went into effect on 6/29/2021. The rule reduces seasonal NOx allocations for IL EGUs for the 2021 ozone season and again in 2022 and 2023.	2021 ozone season and beyond
2023 CSAPR Update (2023 Good Neighbor FIP)	Required 23 mostly Eastern and Midwest states (including MO) to reduce emissions that contribute to pollution in other states through SIPs or newly promulgated FIPs.	The final rule was published in the FR during summer 2023 and challenged in the DC Circuit. The predicate SIP Disapproval was stayed in the 8th circuit court for Missouri. The Supreme Court stayed the 2023 Good Neighbor FIP in June 2024 for all Petitioners which required EPA to promulgate rules to implement the Supreme Court Stay. The FIP is on hold while EPA works on a replacement rule.	Dependent on the outcome of EPA reconsideration of MO SIP Disapproval as well as their reconsideration of the Good Neighbor FIP as well as the final disposition of the existing court challenges to those regulatory actions.
Revisions to National Ambient Air Quality Standards (NAAQS)	Lower PM, NOx and SO2 limits; Expansion of non-attainment areas	SO2 final rule June 2010; EPA proposed redesignation from "unclassifiable" to attainment for area around Labadie based on 2017-2019 data. On February 28, 2022, EPA Redesignated Jefferson County to attainment.	SO2: 2017 - 2020
		Fine particulate (PM2.5) lowered 1/15/2013; Attainment designations 03/2015; Missouri in attainment. EPA retained the current 12 mg/M3 standard in 2020. EPA lowered the standard to 9 micrograms per cubic meter on 3/6/24. Revised NAAQS challenged in DC Circuit by states and industry. On 11/25/25, EPA filed a motion in DC Circuit requesting the court vacate the revised NAAQS. Two-year deadline for nonattainment area designations has passed. MO has not proposed nonattainment areas in the	PM2.5: 2027- 2029

Regulatory Driver	Summary Requirements	Regulation Status	Compliance Timing
		State, and EPA has not issued 180-day letters. DC Circuit rejected EPA's motion and issued a final decision upholding the 2024 standard. EPA has appealed the decision to the US Supreme Court.	
		Ozone standard lowered, final rule 12/2015; Attainment designations complete April 2018. Missouri portion of the St. Louis/Metro East area is currently moderate non-attainment, and Illinois portion is designated serious. IL and MO submitted exceptional events demonstrations as part of an effort to get area redesignated to attainment. EPA finalized separate clean data determinations for both sides of the St. Louis, MO-IL ozone non-attainment area on 8/13/26.	NOx RACT agreed to in-consent agreements with the state. NOx RACT required for 2024 ozone season and beyond includes 0.180 lbs. NOx per MMBtu facility wide ozone season limit at Sioux reflecting SNCR operation. NOx RACT at Labadie limits NOx from each unit to 0.012 lbs. NOx per MMBtu on a month-to-month basis during the ozone season reflecting use of existing Low NOx technologies.
Mercury and Air Toxics Standards (MATS)	Reduction in emissions of Mercury, HCl (proxy for acid gases) and particulate emissions (proxy for non-mercury metals)	Reconsideration of the 2020 RTR finalized in 2024 with more stringent PM limits. Repeal of 2024 RTR finalized on 2/24/26. Repeal of 2024 RTR being challenged in DC Circuit Case currently held in abeyance pending EPA review of administrative reconsideration petition.	Currently in compliance and no changes will be required as a result of the repeal of the 2024 rule.
Clean Air Visibility Rule (CAVR)/Regional Haze Rule	Application of Best Available Retrofit Technology (BART); Targets reduction in transported SO ₂ and NO _x ; status of CSAPR may require state to change approach.	EPA issued revisions in Jan 2017 and guidance in 2018; MO working with affected sources and federal land managers to develop an approvable state plan. EPA issued new guidance in 2025 indicating plans from states that were meeting the "glide path" did not require additional reductions.	MDNR consulted with Federal Land Managers on a draft state plan. Missouri state plan submitted in 2022 requires Labadie to continue implementation of existing control strategies for NO _x and SO ₂ .
Clean Water Act Section 316(a) Thermal Standards	Implementation through NPDES permit conditions	Evaluation covered by NPDES permits	New thermal requirements implemented at Labadie; other plants contain similar requirements in existing NPDES permits.

Regulatory Driver	Summary Requirements	Regulation Status	Compliance Timing
Clean Water Act Section 316(b) Protection of Aquatic Life	Case-by-case determination of controls required to meet entrainment standards; national standard for impingement	Studies 2015 - 2017; Compliance 2022 - 2024	Labadie NPDES Permit required intake modifications are in progress. Other Plants NPDES permit requirements to be determined.
Waters of The United States (WOTUS)	Protection of additional streams and tributaries	The EPA and Corps of Engineers finalized revisions and issued the Navigable Waters Protection Rule: Definition of "Waters of the United States."	Final rule recently modified to reflect Supreme Court Sackett Decision.
Revisions to Steam Electric Effluent Limitations Guidelines (ELG)	Dry ash handling and Installation of wastewater treatment facilities. Implemented through NPDES permit conditions	EPA linked ELG rule to CCR rule; EPA has stayed certain compliance deadlines during rulemaking to revise the final rule.	All ELG required modifications now complete.
Coal Combustion Residuals (CCR)	Conversion to dry bottom ash and fly ash, closure of existing ash basins, dry disposal in landfill	Final determination that CCRs are nonhazardous by EPA in December 2014; final rule April 2015, effective October 19, 2015. Federal legislation (WINN Act) to revise rule signed December 16, 2016. Additional USEPA rulemakings in progress currently.	Basin closures and corrective measures in process. Completion in advance of regulatory deadline.
Clean Air Act Regulation of Greenhouse Gases (GHG)/Affordable Clean Energy Rule (ACE)	New Source Performance Standard (NSPS) for new, modified, reconstructed units; state emission limits (CO2) for existing sources	Clean Power Plan final rule was stayed by Supreme Court 2/9/2016; In 2019, EPA repealed CPP and replaced it with the ACE rule. In 2021, the DC Circuit Court vacated the CPP repeal and ACE promulgation. On 6/30/22, SCOTUS issued a ruling in West Virginia v. EPA that the CPP was unlawful. On May 8, 2024, EPA finalized new carbon pollution standards for both new and existing EGUs requiring carbon sequestration for existing coal units and for new combined cycle combustion turbines after 2032. In 2025, EPA proposed to repeal the 2024 carbon pollution standards. Pre-publication version of final rule released on September 14, 2026	2026 repeal of 2024 Carbon Pollution Standards eliminates requirements for early retirement, gas co-firing, or CCS for existing coal units. 2026 repeal also eliminates CCS requirements for new combined cycle units but leaves in place efficiency standards for new simple cycle and combined cycle turbines.

Regulatory Driver	Summary Requirements	Regulation Status	Compliance Timing
		repealing CCS requirements for existing coal units, as well as the alternate natural gas cofiring requirements.	
New Source Performance Standards (NSPS) for Combustion Turbines	Sets requirements for Best System of Emission Reduction	Finalized in early 2026, EPA set forth new standards for NOx requirements for new CTGs. No changes to existing CTGs.	BSER is defined by the size of the CTG (MMBtu/hr), efficiency, and capacity factor. All new CTGs will be required to comply with these standards.

Ameren Missouri is subject to various environmental laws and regulations enforced by federal, state (Missouri and Illinois) and local authorities. Table 5.1 summarizes the current environmental regulations for which Ameren Missouri may implement mitigation measures, along with expectations for compliance requirements for certain potential regulations. The following sections describe the status of the major current and future regulations that may govern the operations of Ameren Missouri facilities. Given the lack of certainty regarding future regulatory programs, Ameren Missouri has necessarily made good faith assumptions based upon available information regarding potential future compliance measures. Such assumptions are subject to revision.

5.2 Air Regulation and Compliance Assumptions

Clean Air Act Regulation of Greenhouse Gases/Affordable Clean Energy Rule

In 2015, the EPA issued the Clean Power Plan (CPP), which would have established CO₂ emissions standards applicable to existing power plants. The CPP was challenged in the DC Circuit Court of Appeals. However, the United States Supreme Court stayed the rule in February 2016, before the case was heard. As a result, the CPP was never implemented. The EPA promulgated the Affordable Clean Energy (ACE) rule as a replacement for the CPP in September 2019, repealing the CPP in the process. The ACE rule established emission guidelines for states to follow in developing plans to limit CO₂ emissions from coal-fired electric generating units. The ACE rule defined certain efficiency measures that could be applied directly to coal fired boilers as the Best System of Emission Reduction (BSER). The DC Circuit Court vacated the ACE rule on January 19, 2021. On June 30, 2022, the US Supreme Court reversed and remanded the DC Circuit Court decision deciding that EPA did not have the authority to "devise emissions caps based on the generation shifting approach the Agency took in the Clean Power Plan." The U.S. EPA then announced that it was developing a replacement to the ACE rule and further challenges to the ACE rule were held in abeyance pending issuance of

the new rule. On May 9, 2024, EPA issued final actions under Clean Air Act (CAA) section 111 applicable to GHG emissions from power plants: a section 111(b) rule governing new stationary combustion turbines; and a section 111(d) rule, governing existing steam-generating units (Final Rules). Many parties, including State Attorneys General, industry groups and rural electric cooperatives, among others, have sought judicial review of the Final Rules.

On June 17, 2025, USEPA published in the Federal Register its proposal to repeal and/or significantly revise the GHG standards for fossil fuel-fired power plants promulgated under CAA Section 111 in 2015 and 2024. Ameren Missouri filed comments in this docket. A prepublication version of the final GHG Repeal Rule was released by USEPA on September 14, 2026. The GHG Repeal Rule determined that the 90% CCS requirements for long term coal units in the 2024 111(d) rule were not BSER, because CCS is not adequately demonstrated, the costs are not reasonable, and the degree of emission limitation (90%) is not achievable. The GHG Repeal Rule also determined that 40% gas cofiring for existing coal units constitutes impermissible generation shifting, consideration of the "energy requirements" BSER factor shows cofiring is an inefficient use of natural gas, and because the infrastructure will not be completed in time for the 2030 deadline, cofiring natural gas is not achievable. The GHG Repeal Rule also eliminated the Phase II CCS requirements for new combustion turbines promulgated in 2024 under CAA 111(b). The GHG Repeal rule leaves in place the Phase 1 efficiency standards for new combustion turbines promulgated in the 2024 GHG rule.

Attainment Designations for the National Ambient Air Quality Standard for Ozone

The air quality in the St. Louis area continues to improve. The EPA re-designated the St. Louis and Metro-East Illinois area to be in attainment with the 2008 eight-hour ozone standard in September 2018. The EPA further lowered the ambient standard for ozone from 75 parts per billion (ppb) to 70 ppb in December 2015 (2015 ozone standard). EPA made final designations for about 85 percent of the country in November 2017; however, those designations did not include the St. Louis/Metro-East Illinois area. The EPA released final designations for the St. Louis/Metro-East Illinois area as well as the other remaining areas of the country on April 30, 2018. The final designation for the St. Louis area reduced the size of the non-attainment area by removing Jefferson County in Missouri and Monroe County in Illinois, as well as all but a small portion (Boles Township) of Franklin County in Missouri. However, on July 10, 2020, the DC Circuit Court of Appeals remanded to EPA the final designations for Jefferson County, Missouri and Monroe County, Illinois in *Clean Wisconsin vs. EPA*. On May 24, 2021, EPA promulgated a final rule in response to the remand designating Jefferson County and Monroe County as non-attainment for the 2015 ozone standard.

The St. Louis area was initially designated as marginal with a marginal area attainment date of August 2021 for the 2015 ozone standard. Based on the 2018-2020 design value, the St. Louis area failed to attain the 2015 standard and a bump up to moderate non-attainment was expected. However, because the St. Louis area 2019-2021 design value met the 2015 standard, Missouri DNR submitted a redesignation request in January 2022. Illinois EPA was working on a similar request for the Illinois portion of the St. Louis non-attainment area. Prior to Illinois EPA's submission, 2022 ozone data indicated that the St. Louis Area ozone design value for 2020-2022 would show non-attainment. As a result, EPA bumped up the St. Louis Ozone non-attainment area to moderate non-attainment in 2022.

In 2023, unprecedented Canadian wildfires impacted air quality throughout central and eastern portions of the US including Missouri and Illinois. As a result of the wildfire impacts, 2023 ozone data throughout the states of MO and IL were significantly higher than had been observed in more than 10 years. Consequently, the 2021-2023 design value (and the 2022-2024 design value) indicated non-attainment, and thus the St. Louis Area failed to attain the 2015 Ozone standard by the August 2024 moderate area attainment date. As a result, EPA bumped up the St. Louis Area to Serious Non-Attainment in 2024 without taking public comment. On January 24, 2025, the State of Missouri filed a Petition for Reconsideration with the EPA for the direct final rule "Finding of Failure to Attain and Reclassification of the Missouri Portion of the St. Louis Non-attainment Area as Serious for the 2015 Ozone National Ambient Air Quality Standards" promulgated on November 25, 2024. In conjunction with the petition for reconsideration, the State of Missouri also challenged the final rule in the Eighth Circuit Court of Appeals. The State of Missouri also requested a stay of the "bump up" of the St. Louis Ozone Non-Attainment Area to Serious Non-Attainment in the Petition for Reconsideration, which was eventually granted. As a result, the Missouri portion of the St. Louis, MO-IL ozone non-attainment area currently has a moderate non-attainment designation. However, the Illinois portion of the St. Louis, MO-IL ozone non-attainment area remains designated as a serious non-attainment area.

On June 20, 2025, EPA published in the Federal Register a proposed rule to reconsider and take comment on EPA's bump up of the Missouri portion of the St. Louis Ozone Non-Attainment Area. Ameren Missouri provided comments in this docket. On November 3, 2025, the State of Missouri submitted a request to EPA to have the impacts from the 2023 Canadian wildfires determined to be "exceptional events" and excluded from determination of attainment status. On January 27, 2026, EPA concurred with Missouri's exceptional events submission for enough days to return all Missouri monitors to attainment. Illinois submitted a similar exceptional events demonstration for the Illinois portion of the St. Louis, MO-IL ozone non-attainment area and EPA concurred with that Illinois submission as well. On August 13, 2026, EPA finalized a determination that the

St. Louis, MO-IL area had "clean data". This is the first step in determining the area has returned to attainment and redesignating the area to "attainment/maintenance".

Ameren Missouri's coal units are already subject to, and meeting, Reasonably Achievable Control Technology (RACT) for the 2015 Ozone Standard as required by Consent Agreements in the Missouri State Implementation Plan. No additional NO_x control requirements are expected for the coal units if the area is eventually designated back to serious non-attainment. If the region is eventually bumped up to serious non-attainment, the major source level for NO_x emissions will be 50 tons per year (down from 100 tons per year for moderate non-attainment) for new resources.

National Ambient Air Quality Standard for SO₂

The EPA lowered the primary SO₂ ambient standard to 75 ppb on June 2, 2010. Initial attainment designations were finalized on August 5, 2013, and included the designation of two areas in Missouri as non-attainment. The two non-attainment areas included an area in the vicinity of Kansas City (portions of Jackson County) and an area around Herculaneum (portions of Jefferson County). In December 2017, the Missouri Department of Natural Resources (MDNR) submitted a formal request to the EPA to re-designate the Jefferson County SO₂ non-attainment area to attainment. On January 28, 2022, EPA published in the Federal Register a formal redesignation of the Jefferson County, MO SO₂ non-attainment area to attainment. As a part of MDNR's state implementation plan for the Herculaneum area, Ameren Missouri agreed to lower SO₂ emissions limits for the Rush Island, Labadie and Meramec Energy Centers that took effect on January 1, 2017.

On June 30, 2016, the EPA issued a final determination of "unclassifiable" for the area around the Labadie Energy Center. Data collected from the ambient SO₂ monitors indicates that air quality in the vicinity of the Labadie Energy Center complies with the EPA standards. In September 2020, the EPA proposed to redesignate the area around Labadie from unclassifiable to attainment. Ameren Missouri continues to operate an ambient air quality monitoring system around Labadie Energy Center for monitoring ambient levels of SO₂ in the surrounding community and submit the data to both the MDNR and the EPA. Based on monitoring data gathered to date and the EPA proposal to designate the area as attainment, we have assumed the area around Labadie will ultimately be designated as "attainment." Ameren Missouri's assumptions for compliance regarding SO₂ emissions reflect this expectation as well as expected steps necessary to comply with the Cross State Air Pollution Rule (CSAPR).

NAAQS for Fine Particulate Matter

Based on current data, St. Louis and Metro East in Illinois are both in attainment with the 2012 PM_{2.5} standard. The Clean Air Act requires the EPA to review all of the ambient standards on a periodic basis. In December 2020, the EPA finalized a rule to retain the

current standard for fine particulate matter. On February 7, 2024, the EPA promulgated a final rule reducing the primary annual PM_{2.5} NAAQS from 12 µg/m³ to 9 µg/m³. The revised standard is being challenged in court.

The Challenge to the Revised Fine PM National Ambient Air Quality Standard was fully briefed and oral argument held on December 16th, 2024. On November 11, 2025, EPA filed a motion in the case requesting the DC Circuit to vacate the rule. Petitioners in the challenge to the rule joined the motion, however, state and environmental group intervenors opposed the motion. On June 26, 2026, the DC Circuit rejected EPA's motion and decided the case leaving the 2024 fine PM standard in place. On August 28, 2026, states and EPA filed a certiorari

petition to the Supreme Court requesting the Supreme Court hear the appeal.

CSAPR and the CSAPR Update Rule

CSAPR was finalized on July 6, 2011 replacing the Clean Air Interstate Rule (CAIR). CSAPR established new allowances for the annual nitrogen oxides (NO_x) and sulfur dioxide (SO₂) trading programs and the seasonal NO_x trading program. CSAPR uses newly created allowances and thus there is no initial bank to rely on from the Acid Rain or CAIR programs to use for any potential shortfall. CSAPR was slated to become effective January 1, 2012, but the rule was stayed by a federal court decision on December 30, 2011, in response to several legal challenges. On June 26, 2014, the EPA filed a motion with the United States Court of Appeals for the DC Circuit to: (1) remove the stay of CSAPR and, (2) delay for three years all of the compliance deadlines that had not already passed when the stay was enacted. On October 23, 2014, the DC Circuit court lifted the stay. On December 3, 2014, the EPA implemented a three-year toll that moved the starting date for Phase 1 of CSAPR to January 1, 2015, and January 1, 2017 for Phase 2. Ameren Missouri units are currently in compliance with the CSAPR limits for both SO₂ and NO_x.

In January 2023, EPA disapproved Missouri's State Implementation Plan (SIP). The disapproval of the state plan was a pre-requisite for EPA to promulgate a federal implementation plan (FIP) implementing the "Good Neighbor" requirements of the CAA for the 2015 Ozone Standard. However, the State of Missouri, Ameren Missouri, and others challenged the EPA's final rule disapproving the MO Good Neighbor SIP in the 8th Circuit Court of Appeals. The 8th Circuit stayed the EPA's disapproval of the MO Good Neighbor SIP pending the outcome of the ongoing litigation. Recently, the Court of Appeals granted the U.S. Department of Justice request to hold the case in abeyance indefinitely with status reports due every 90 days to allow EPA leadership to review the underlying SIP disapproval. In all, twelve states, including Missouri, have challenged, and obtained stays of, EPA's disapproval of their Good Neighbor SIPs for the 2015 Ozone Standard. Ameren Missouri will continue to follow the judicial process in this case.

On June 5, 2023, EPA promulgated the "Good Neighbor Plan" (FIP) to require upwind states to reduce emissions of the ozone precursor nitrogen oxide (NO_x) from electric generating units (EGUs) and certain stationary industrial sources, in accordance with EPA's 2015 ozone National Ambient Air Quality Standards (NAAQS). Disapproval of a state SIP is a necessary predicate to the issuance of a FIP. The FIP applied to 23 states including Ameren Missouri EGUs in both Illinois and Missouri and impacted Ameren Missouri's CSAPR allowances and compliance strategy going forward. The FIP was immediately challenged in the DC Circuit Court of Appeals. On June 27, 2024, the Supreme Court granted a stay of the FIP as to all states and industry petitioners (including all Ameren Missouri EGUs in IL and MO). On March 10, 2025, EPA filed a Motion to Remand the FIP, stating that EPA has decided to reconsider the FIP including the scope of states and sources included in the FIP and what constitutes "significant contribution." Any proposed action modifying or revising the FIP will be subject to notice and comment and EPA expects to complete the rulemaking by Fall 2026. On June 14, 2025, the court consolidated the remand action with the aforementioned FIP challenge and remanded the FIP back to EPA for reconsideration. On January 30, 2026, EPA proposed the first phase of its reconsideration of state good neighbor SIPs. In the proposed rule, EPA is proposing to approve 10 state good neighbor SIPs potentially reducing the size and scope of any future FIP. The states proposed for approval include AL, AZ, IA, KS, KY, MN, MS, NV, NM and TN. Ameren Missouri continues to follow good neighbor SIP approvals and disapprovals and FIP rule changes closely.

In September 2021, the Illinois General Assembly passed the Climate and Equitable Jobs Act (CEJA), which affects gas-fired peaking generation units owned by Ameren Missouri and located within Illinois. The law includes requirements for emissions reductions from fossil-fueled generators, among other provisions. CEJA includes emission limits on fossil-fueled units based on actual emissions for the period 2018-2020 and enforced on a rolling 12-month basis, with exceptions for emergency operation to support grid reliability. It also includes requirements for eliminating CO₂ emissions from fossil-fueled units. Based on the Company's review of the statutory requirements, this effectively requires the retirement of simple cycle gas-fired combustion turbine generators (CTGs) by January 1, 2040. Accelerated emission reduction requirements are imposed on units near statutorily defined Environmental Justice Communities. This provision affects Ameren Missouri's Venice Energy Center, which effectively requires retirement of its units by January 1, 2030. The Company's preferred resource plans since the 2022 Notice of Change in Preferred Resource Plan reflect retirement of Venice by the end of 2029 and all other Ameren Missouri CTGs in Illinois by the end of 2039.

New Source Performance Standards (NSPS) for Combustion Turbines

In early 2026, EPA finalized amendments to the New Source Performance Standards (NSPS) rules for Combustion Turbines (40 CFR Subpart KKKKa). The new rules make several changes to performance standards for natural gas fired combustion turbines related to NO_x emissions for newly constructed facilities. The changes are delineated based on CTG size (MMBtu/hr), efficiency, and capacity factor. The rules will not affect Ameren's existing CTG fleet but will affect any newly constructed CTGs. Ameren's currently planned CTGs are already designed to comply with these requirements.

Figure 5.1 Ameren Missouri Coal Fleet SO₂ Emissions vs. EPA Regulations

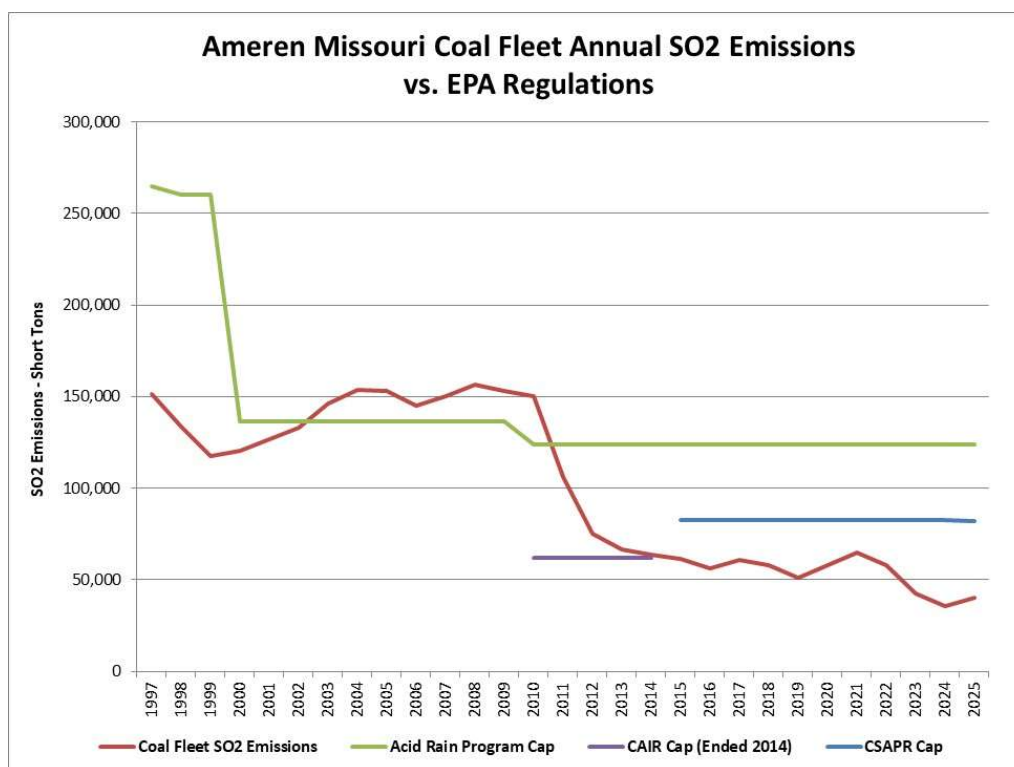


Figure 5.2 Ameren Missouri Coal Fleet Annual NO_x Emissions vs. EPA Regulations

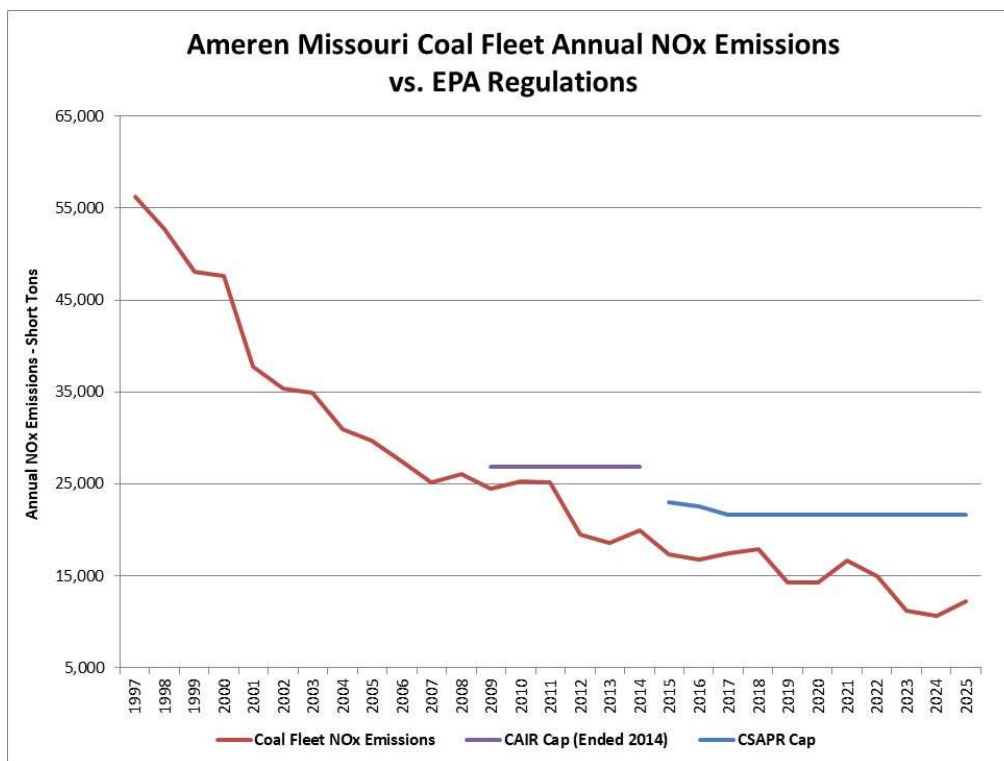
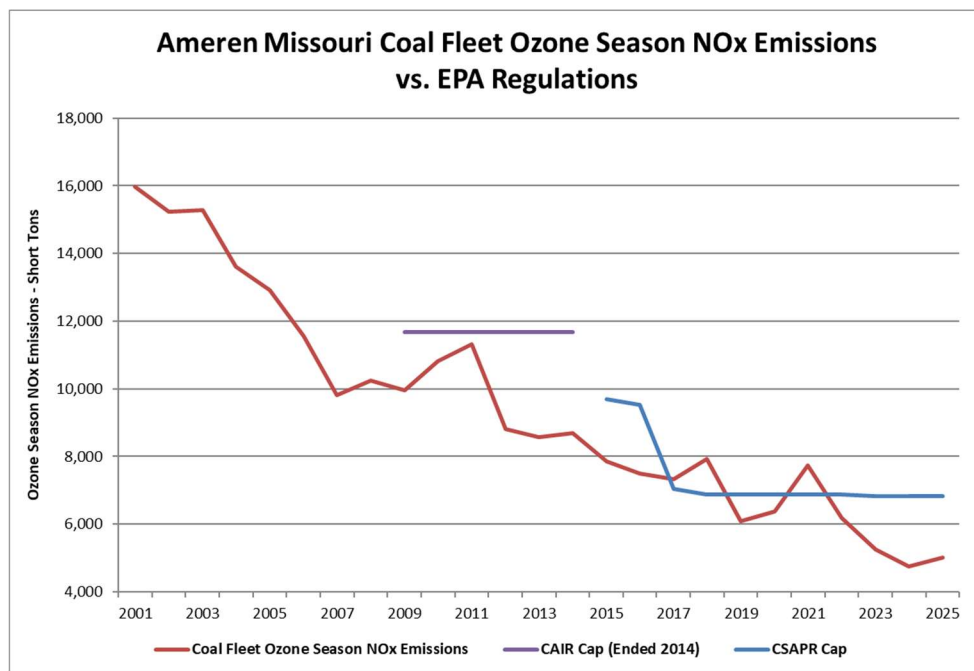


Figure 5.3 Ameren Missouri Coal Fleet Ozone Season NO_x Emissions vs. EPA Regulations



Maximum Achievable Control Technology (MACT) Standards to Control Mercury and Other Hazardous Air Pollutants for Electric Generating Units (EGU)

The MACT rule for EGUs was effective on April 16, 2012. This final rule is known as the Mercury and Air Toxics Standards (MATS). The MATS includes standards for mercury; particulate matter as a surrogate for non-mercury metals; hydrogen chloride (HCl) as a surrogate for acid gases; work practices for organic emissions; and monitoring requirements. The MATS standard also includes more stringent emission limits for new sources.

Ameren Missouri's Sioux Energy Center was compliant with the MATS on April 16, 2015. Labadie Energy Center received a one-year extension and achieved compliance with the MATS on April 16, 2016. Ameren Missouri installed Activated Carbon Injection technologies at its coal-fueled energy centers and made modifications to the existing PM controls at its Labadie Energy Center. In addition, Ameren Missouri will utilize work practices and fuel choices to meet the other MATS regulated hazardous air pollutants. The figures below show Ameren Missouri's coal fleet compliance with the MATS requirements. Ameren Missouri is currently achieving compliance with some margin. On May 24, 2024, EPA finalized its reconsideration of the 2020 EPA decision to leave MATS in place and decided to tighten certain aspects of the MATS 2024 Rule. Specifically, EPA lowered the emission limit for filterable particulate matter (fPM) from 0.030 lbs/MMBtu to 0.010 lbs/MMBtu, required the use of continuous emissions monitoring systems (CEMS) to demonstrate compliance with the PM standard, lowered the Hg emission limit for lignite coal fired EGUs, and eliminated one of the two definitions of "startup" in MATS. The 2024 Rule was challenged in the DC Circuit, and the case was held in abeyance while the EPA reconsidered the 2024 Rule. On February 24, 2026, EPA repealed several aspects of the 2024 Rule including the revised filterable PM standard and CEMS requirement. States and Environmental NGOs filed suit challenging the 2026 repeal of the 2024 Rule and filed a petition for reconsideration with EPA. The DC Circuit challenge of the 2026 Repeal of the 2024 Rule is currently being held in abeyance while the EPA considers an administrative petition for reconsideration. Ameren Missouri will continue to closely monitor this litigation and is not currently considering changes to its generation fleet for future compliance needs.

The following data is based on a 30-day rolling average comprised of hourly data when the emission unit is operating. If the unit is not operating, there will be gaps in the 30-day rolling average.

Figure 5.4 Labadie MATS Compliance – Mercury

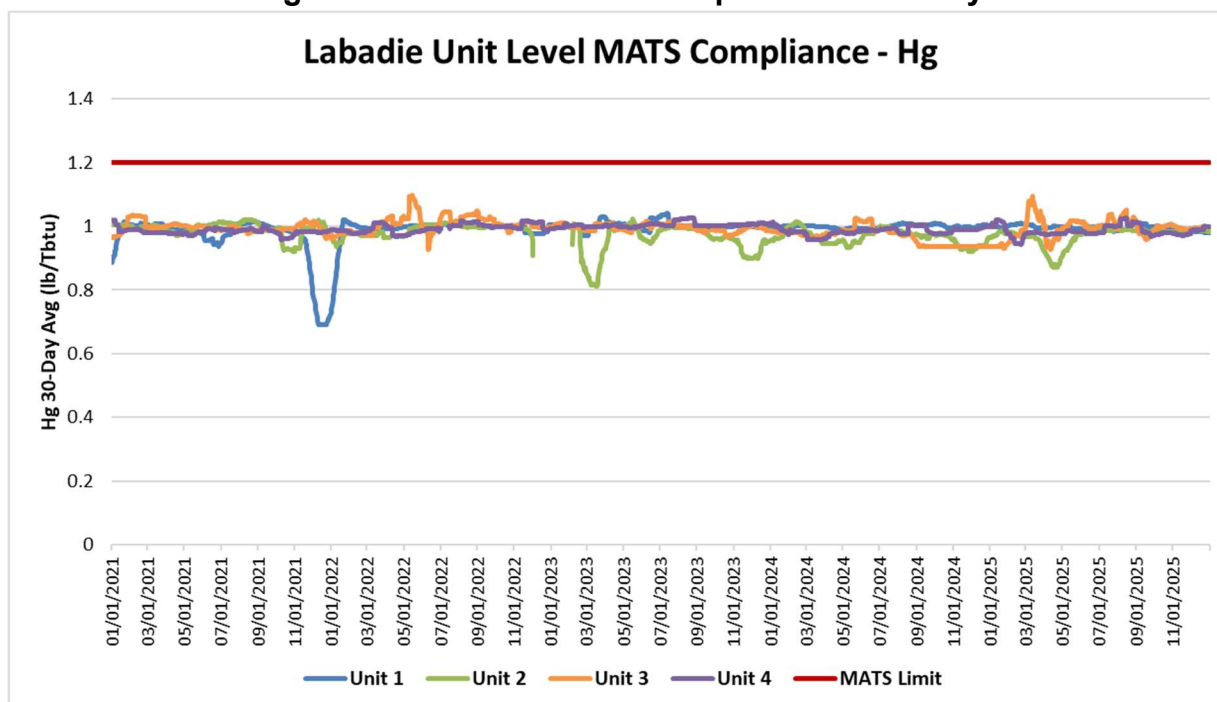


Figure 5.6 Sioux MATS Compliance – Mercury

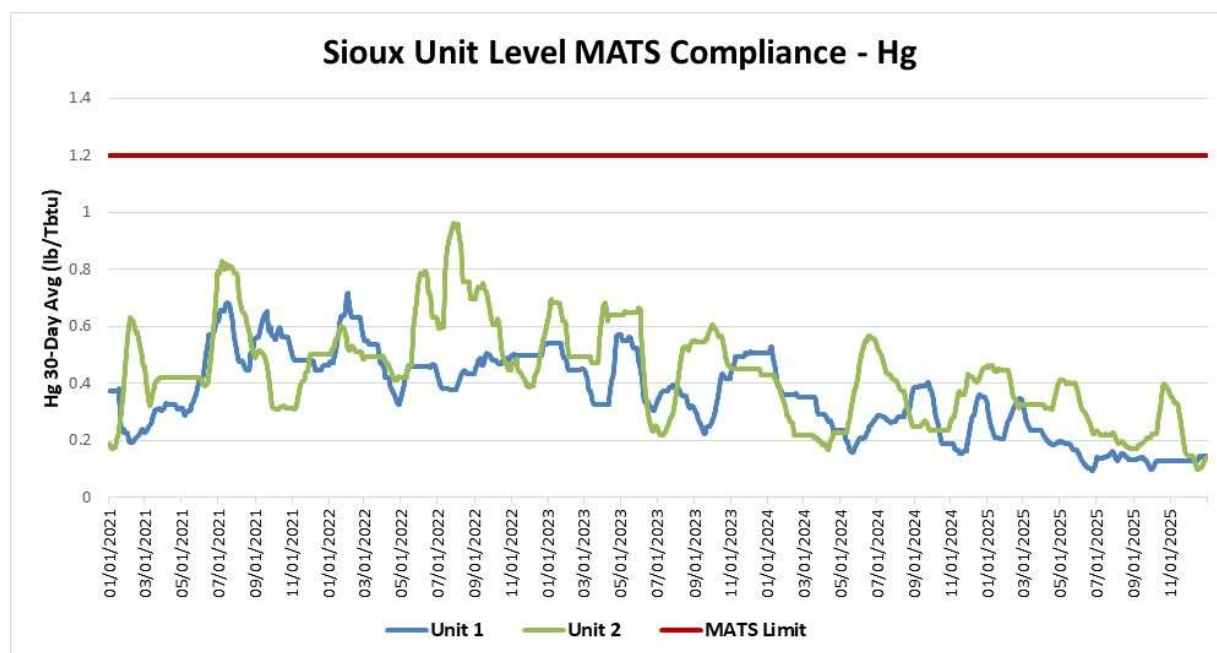


Figure 5.7 Labadie MATS Compliance – PM

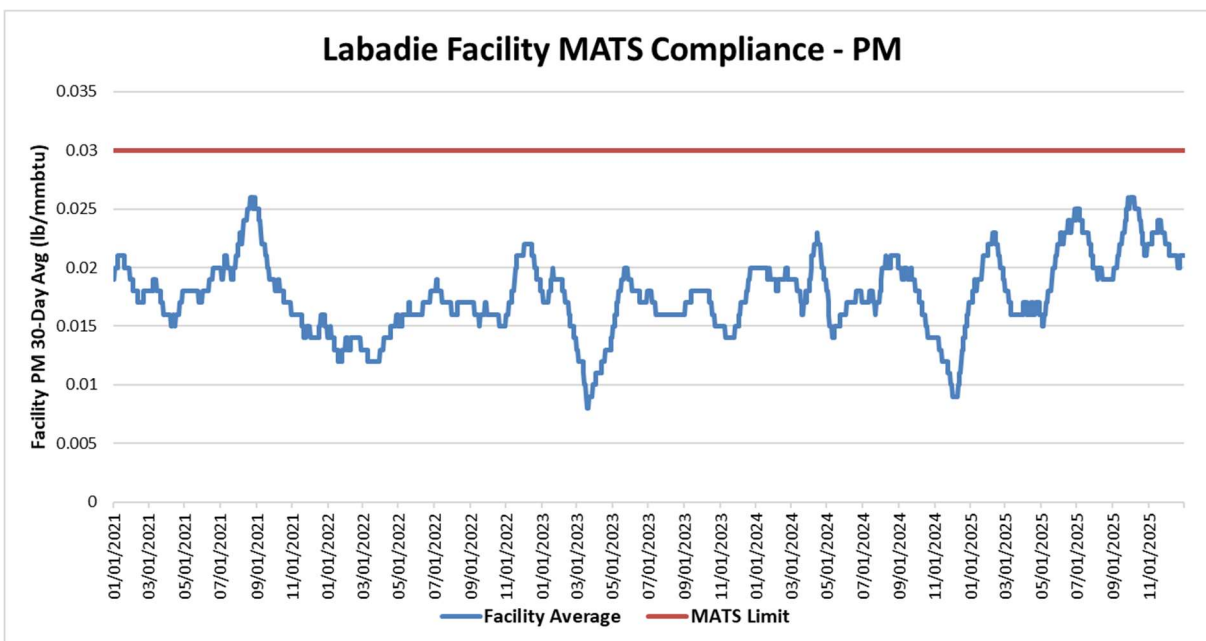


Figure 5.9 Sioux MATS Compliance – PM

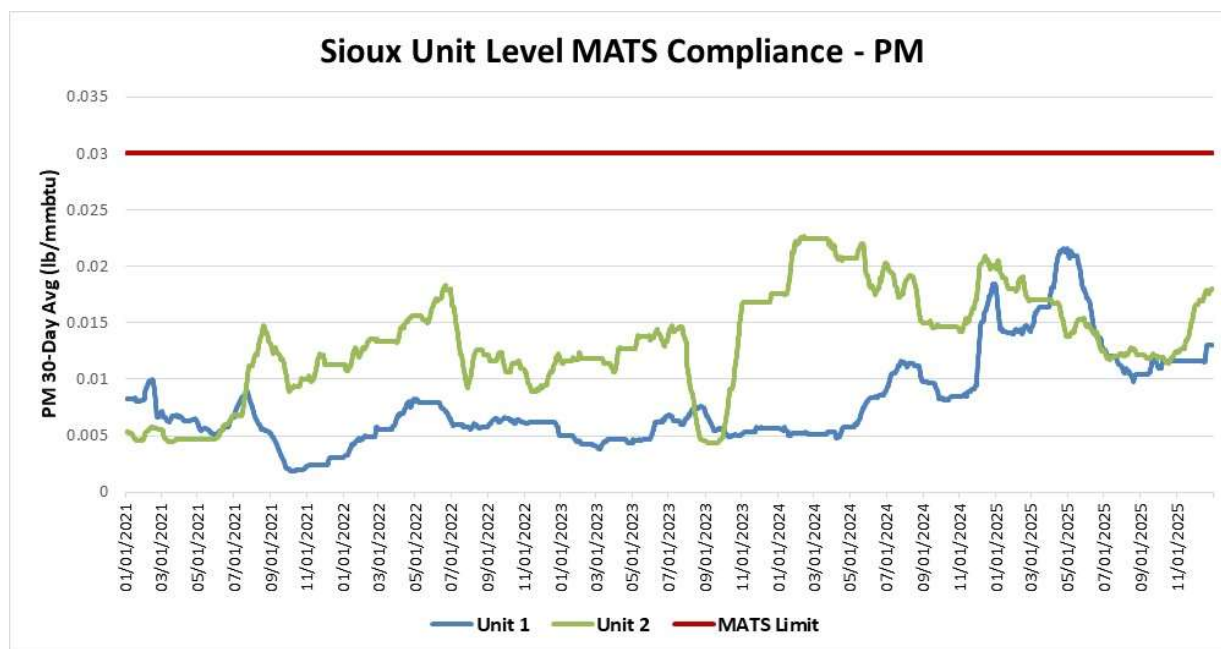
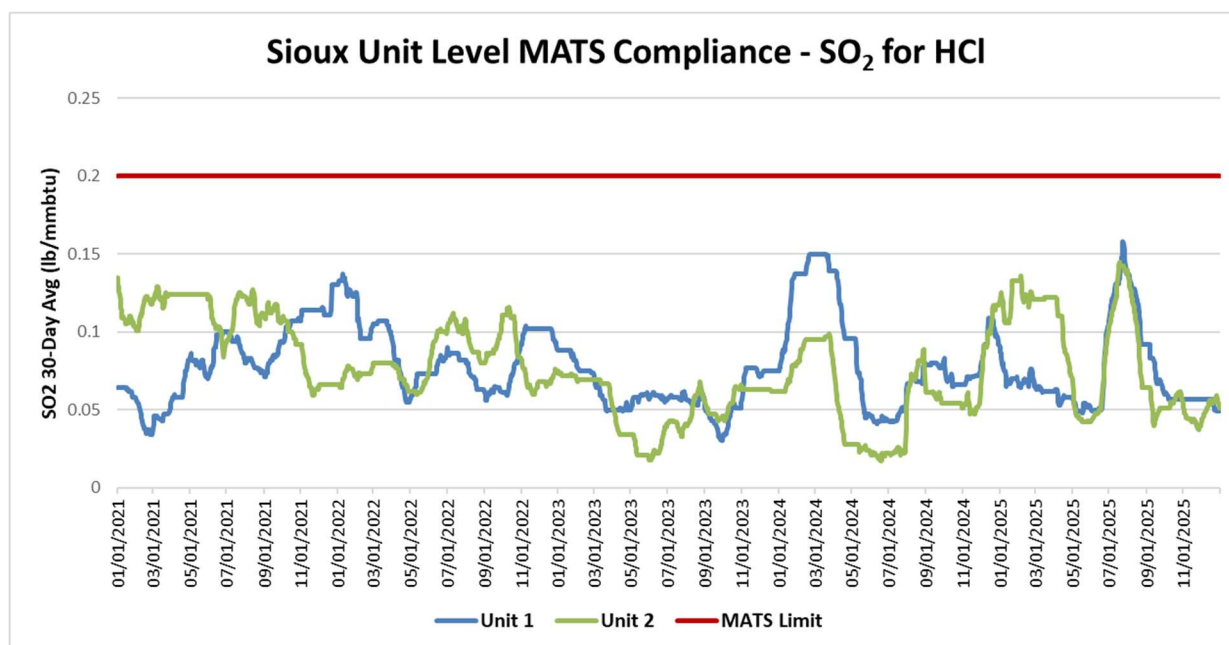


Figure 5.10 Sioux MATS Compliance – HCl (Sioux uses SO₂ as a surrogate)

Clean Air Act Regional Haze Requirements

The goal of the Regional Haze Rule is to set visibility equivalent to natural background levels by 2064 in Class I areas. Class I areas are defined as national parks exceeding 6,000 acres, wilderness and national memorial parks exceeding 5,000 acres and all international parks in existence on August 7, 1977. There are currently 156 Class I areas, two of which are in the State of Missouri (Hercules Glade and Mingo). As part of the first planning period (2008-2018), states have developed implementation plans necessary to meet the glide path for the first 10-year planning period. In addition, the Regional Haze Rule requires compliance with Best Available Retrofit Technology (BART) for SO₂ & NO_x for the first planning period. The EPA has determined that compliance with CSAPR meets the BART requirements. Ameren Missouri is fully compliant with CSAPR, and thus, is compliant with the BART requirements. On August 26, 2022, the MDNR submitted its State Implementation Plan (SIP) to EPA for approval. As part of this SIP, Ameren Missouri entered into agreements with MDNR to ensure continued use of existing control technology. On July 3, 2024, EPA published in the Federal Register, at 89 Fed. Reg. 55,140, a proposal to partially disapprove Missouri's SIP for the regional haze second implementation period. However, more recently, EPA changed its policy for reviewing SIPs. This new policy creates a presumption that a state is making reasonable progress if it fulfills the four statutory factors and its visibility conditions are below the Uniform Rate of Progress (URP) as are all Class 1 areas in Missouri. In other recent Regional Haze SIPs, EPA has now proposed approvals. Ameren Missouri will continue to monitor for any new proposals by EPA for the Missouri SIP.

Clean Air Act – New Source Review (NSR)

Ameren Missouri is required to review projects that it intends to perform under 40 CFR 52.21(r)(6) to determine if NSR permitting is applicable for existing major sources. For new facilities not located at Ameren Missouri's existing facilities, either federal or state air quality construction permits are required based on the maximum potential (allowable) emissions. Determinations of other applicable federal and state control requirements such as New Source Performance Standards (NSPS) (Clean Air Act Section 111), National Emission Standards for Hazardous Air Pollutants (NESHAP) (Clean Air Act Section 112) or other state regulatory requirements are based on the type and size of the proposed facility at the time of construction.

- Ameren Missouri continues to review major projects at its existing facilities related to maintenance activities and compliance initiatives (e.g., electrostatic precipitator (ESP) upgrades, activated carbon injection (ACI) systems for MATS compliance) for the EPA's and the state's regulations.

5.3 Water Regulation and Compliance Assumptions

Clean Water Act (Amended 1972)

The Clean Water Act (CWA), in conjunction with state regulations, establishes pollutant-specific water quality standards for discharges to surface waterbodies. The National Pollutant Discharge Elimination System (NPDES) permit process provides for protection of water resources for industrial facilities. Technology and water quality based effluent limitations are in place to ensure water quality meets the applicable standards. In order to comply with effluent standards, it may be necessary to modify operations and/or install additional water pollution control equipment to meet a water quality standard.

CWA, Section 316(a) Thermal Discharges

Section 316(a) of the CWA requires limitations on thermal discharges from industrial sources, including power plants.

The EPA and MDNR regulate cooling water systems at the Ameren Missouri energy centers through the NPDES permit program. The Missouri Department of Natural Resources administers the NPDES permit program for sources in Missouri including the Ameren Missouri energy centers.

The Labadie Energy Center cooling water discharge and the associated thermal plume have been studied extensively since the facility's initial NPDES permit application. Energy center operations have not changed significantly since the original studies were performed. Further biological studies were voluntarily and periodically performed over the years. In 2017, the MDNR approved a biological study plan in accordance with the current NPDES permit for the Labadie Energy Center. In 2016, Ameren Missouri requested a

modification to the Labadie Energy Center NPDES permit to allow use of a site-specific model to determine compliance with Missouri Water Quality Standards (MWQS). The model established that an effluent limitation expressed as a Thermal Discharge Parameter (TDP) would ensure compliance with the water quality standard. In May 2017, the MDNR issued a revised NPDES permit establishing a thermal effluent limitation of 0.95 TDP for both the interim and final thermal effluent limitations.

The TDP limit incorporates a 5-percent margin of safety to ensure compliance with the MWQS. Nevertheless, there is the potential for occasional, infrequent exceedances (less than one percent of the time on average based on existing data) of the MWQS. This could occur during conditions of extraordinarily high ambient river temperature and/or extraordinarily low river flow leading Ameren Missouri to seek alternative thermal effluent limitations. In April 2020, Ameren Missouri submitted CWA 316(a) Final Demonstration proposing an alternative temperature effluent limit to ensure continued operation of the Labadie Energy Center, at the same time, assuring the protection and propagation of a balanced indigenous aquatic community in the lower Missouri River. In December 2021, MDNR issued a final NPDES permit for the Labadie Energy Center.

Ameren Missouri has identified operating procedures it would implement to address thermal issues. This will allow it to avoid requirements to install cooling towers at the Labadie Energy Center. In addition, Ameren Missouri does not believe there are any thermal issues at its other existing fossil energy centers that would require cooling towers.

CWA, Section 316(b) Entrainment and Impingement of Aquatic Organisms

Section 316(b) of the CWA was established to protect fish and aquatic habitat from detrimental impacts associated with water intake structures. At energy centers, aquatic organisms can be impinged (e.g., trapped or pinned against the intake screens) and entrained (e.g., pass through the screens, enter the heat exchanger and then be discharged) within cooling water intake structures/piping and condenser systems. The EPA and MDNR establish regulations to limit adverse impacts associated with cooling water intake structure operation through the NPDES permit process. Compliance with CWA §316(b) standards may incorporate performance and/or design criteria, or the utilization of specific control technologies. The presence of threatened or endangered species at a cooling water intake structure could potentially result in the need for additional operational and physical changes.

The EPA issued revised CWA §316(b) regulations on August 15, 2014. While the rules do not expressly require the installation of cooling towers at all facilities, they are expected to result in capital expenditures for modifications to existing cooling water intake structures to achieve compliance. All facilities with a cooling water intake structure are required to perform studies for review by the MDNR and other agencies. Facilities withdrawing in excess of 125 million gallons of water per day are required to perform

additional studies to determine what control technologies are required. Intake structure owners are provided the option of selecting one of seven different impingement compliance options. These options include: (1) closed cycle cooling; (2) 0.5 foot per second (ft./sec) through-screen velocity (by design); (3) 0.5 ft./sec through-screen velocity (as measured); (4) existing off-shore velocity cap; (5) modified traveling water screens; (6) a “suite of technologies” determined by the permit writer to represent the best available technology; or (7) any technology that results in an annual impingement mortality rate of less than 24%. For those facilities that withdraw over 125 million gallons of water per day, or at the discretion of the permitting authority, the regulation also requires the reduction of entrainment similar to closed cycle cooling or a site-specific standard. New generating units are required to install closed cycle cooling.

The compliance options that have been considered to meet the CWA §316(b) include the following.

To meet the impingement and entrainment standards:

- Modified traveling water screens
- Installation of Fine Mesh Screens
- Installation of closed cycle cooling using Cooling Towers

In 2015, Ameren Missouri began two-year entrainment characterization studies as the next step in complying with Section 316(b). Fish studies performed at the Callaway Energy Center have resulted in the determination that no additional modifications of its intake structure are required to achieve compliance with CWA §316(b) requirements.

In January 2020, Ameren Missouri submitted the NPDES permit renewal application for the Labadie Energy Center. The application included the Section 316(b) report. This report details the results of the biomonitoring studies and the selected path forward for implementing impingement and entrainment modifications at the intake structure.

Coarse-mesh modified traveling water screens have been found to be the more appropriate impingement mortality reduction technology at the Labadie Energy Center. In the 2021 final NPDES permit for Labadie Energy Center, the MDNR agreed with the studies and required new traveling water screens to be installed; that work is now substantially complete and verification studies required by the permit are on-going.

The Sioux Energy Center permit renewal application is currently being reviewed by MDNR. Section 316(b) study reports were submitted with the permit application and recommended modifications to the existing traveling water screens and fish pump system.

CWA, Steam Electric Effluent Limitation Guidelines Revisions

Sector specific effluent limitation guidelines are periodically updated by the EPA to ensure best available technology is utilized in the treatment of wastewater discharges, including those from steam electric power plants. On November 3, 2015, the EPA issued a revised rulemaking for steam electric power plant discharges. Although most of the impact of this rule is associated with discharges from flue gas desulfurization (FGD) wastewater, the rule prohibits discharges of ash transport water. As a consequence, Ameren Missouri completed projects at the Labadie, Rush Island and Sioux Energy Centers to construct new or augmented fly ash handling systems and new bottom ash handling systems. Ameren Missouri has also completed projects to construct and operate new wastewater treatment systems to manage discharges from various power plant systems such as demineralizer regenerations, storm water, and other process wastewater.

In May 2024, the EPA finalized regulations generally known as the Steam Electric Effluent Limitations Guidelines (ELG) Rule that govern certain discharge limitations in the Steam Electric Power Generating category. The ELG Rule establishes technical requirements and discharge standards for wastewater generated at coal-fired power plants such as flue gas desulfurization wastewater, bottom ash transport water, and combustion residual leachate. The ELG Rule also establishes a new set of definitions and new effluent limitations for various legacy wastewaters, which may be present in surface impoundments. Changes to this ELG Rule are currently being contemplated by the EPA. This current rule and any upcoming changes are not expected to materially affect Ameren Missouri's generating fleet.

5.4 Solid Waste Regulation and Compliance Assumptions

Coal Combustion Residuals

The federal Coal Combustion Residuals (CCR) rule was published April 17, 2015 and became effective October 19, 2015. It establishes national standards for the management of CCRs. The CCR rule is self-implementing, and the Company continues to fully comply with the Rule requirements.

Ameren Missouri is executing its compliance strategy in advance of the regulatory deadlines. On May 8, 2024, EPA finalized changes to the CCR regulations for inactive surface impoundments at inactive electric utilities, referred to as "legacy CCR surface impoundments". Within tailored compliance deadlines, owners and operators of legacy CCR surface impoundments must comply with all existing requirements applicable to inactive CCR surface impoundments at active facilities, except for the location restrictions and liner design criteria. In addition, through implementation of the 2015 CCR rule, EPA found areas at regulated CCR facilities where CCR was disposed of or managed on land outside of regulated units at CCR facilities, referred

to as “CCR Management Units” or CCRMUs. Ameren Missouri performed the facility reviews required by the Rule. The Rule is currently being challenged judicially, and on February 13, 2025, EPA filed an unopposed motion to hold the case in abeyance for 120 days in *City Utilities of Springfield v. USEPA* (D.C. Cir.) to allow new EPA leadership to review the rule. The motion was granted on February 13, 2025. In a statement dated March 12, 2025, EPA announced that it is reviewing the 2024 Legacy Rule and intends to complete rule changes by the end of 2026.

Ameren Missouri plans to closely watch the current judicial processes and adjust its planning accordingly.

Groundwater Remediation

In late 2020, Ameren Missouri paired with an outside consulting firm on a groundwater remediation project at the Rush Island Energy Center. This pilot project was set up to ultimately improve groundwater quality around the site by using a pump and treat method. Groundwater removed through extraction wells is treated in an above ground structure, then discharged through injection wells back into the ground. Removing groundwater impurities mechanically in conjunction with natural attenuation will speed up reductions of groundwater constituents. Building upon the success of that pilot project, Ameren Missouri completed the full-scale implementation at Rush Island. A similar full-scale project was substantially complete at Sioux in 2022 as well. Design of a similar system at the Labadie Energy Center is on-going and will take into account any new CCR rule changes.

Ash Basin Closure Initiatives

Ash basin impoundment closures at the Rush Island, Labadie, and Sioux Energy Centers are now complete. Remaining Meramec Energy Center ash basins are expected to be closed within the next two years, in connection with the new Castle Bluff Energy Center, which will be co-located on the previous Meramec site. Closure of the original gypsum pond at Sioux Energy Center is now complete. The closure of these ash basins will reduce Ameren's usage of approximately 11 billion gallons of water per year.

5.5 Mitigation Costs

While mitigation has been included in our analysis for current and certain potential future regulations, further changes in regulations are possible; the need and timing of these mitigation technologies due to EPA regulations remains uncertain. The Company continues to monitor the potential for further changes in regulation that may impact

resource planning decisions. Table 5.2 below shows the capex assumptions for environmental mitigation technologies.¹

Table 5.2 Environmental Mitigation Costs

Facility	Environmental Mitigation	Regulation	In-Service Year	Capex \$ Million
Labadie	Traveling Screens [*]	CWA 316	2027	2
	Groundwater Improvements [*]	CWA	2028	28
	ESP	MATS	2035	273
	Landfill Cell	CCR	2035	10
	SCR	CSAPR/NAAQS Ozone	2035	629
	FGD	NAAQS-PM2.5	2035	935
	Wastewater Treatment for FGD	CWA	2035	67
	Cofiring Boiler Modifications	GHG/CSAPR/NAAQS	2035	156
Sioux	Groundwater Improvements [*]	CWA	2028	11
	NOx Control [*]	CSAPR	2027	1.9

* Nominal including AFUDC

¹ 20 CSR 4240-22.040(1)

5.6 Compliance References

20 CSR 4240-22.040(1) 22