



# Federal Environmental Regulations Impacting the Electric Power Sector

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# Overview – Key Takeaways

- **Many federal environmental rules impacting electric power sector—**
  - Have been recently issued or are under development, and
  - Will likely have major impacts on the electric power sector and the electric grid
- **Many of these final rules are being legally challenged in court, creating considerable regulatory uncertainty for the electric power sector**
- **This regulatory trend will most likely continue if Harris wins the presidential election**
- **Major reversal in this regulatory trend will likely occur if Trump wins the presidential election**
- **Under either election outcome, electric grid reliability and regulatory uncertainty will continue to be major issues for the electric power sector**

# Major EPA Rules Subject to Court Challenges

- **Five Major Rules Directly Applying to Power Plants**

- CO<sub>2</sub> Performance Standards for New and Reconstructed Combustion Turbines and Existing Coal-Fired Electric Generating Units (CO<sub>2</sub> Power Plant Rule)
- Rule for Remedying Interstate Ozone Transport (Transport Rule)
- Revisions to Mercury and Air Toxics Standards Rule (MATS Revision Rule)
- Revisions to Effluent Limitation Guidelines (ELG Rule)
- Coal Combustion Residuals Legacy Rule (CCR Legacy Rule)

- **Key Observations**

- The Transport Rule was adopted in February 2023, with the other four EPA power sector rules adopted in May 2024
- Stay motions were filed to halt all five rules, but only one was granted so far by the Supreme Court
- Litigation is pending on all five rules, creating regulatory uncertainty for the power sector
- Many of the rules pose electric grid reliability risks by forcing premature retirement of dispatchable electric generation (specifically existing coal-fired power plants)
- FERC, grid operators, and industry have expressed strong concerns about reliability risks from premature shutdown of dispatchable generation resulting from EPA rules, particularly when combined with sharp increases in power demands projected in the future

# Overview of Five Major EPA Rules

- **CO<sub>2</sub> Power Plant Rule**

- Sets emission guidelines requiring states to set “presumptive” CO<sub>2</sub> performance standards for two subcategories of existing coal-fired power plants
  - *Long-term plants* operating after 2039: 90% capture based on full capture CCS
  - *Medium-term plants* retiring between 2039 and 2032: 40% natural gas co-firing with 16% CO<sub>2</sub> reduction
  - Unaffected plants exempted from regulation if they shutdown prior to 2032
- Sets performance standards for three subcategories of new and reconstructed combustion turbines
  - *Low-load units* (below 20% annual capacity factor): CO<sub>2</sub> control requirements based on low-emitting fuels
  - *Intermediate units* (between 20% and 40% annual capacity factor): CO<sub>2</sub> rate limits based on high-efficiency combustion turbine technologies
  - *Baseload units* (above 40% annual capacity factor): Phase in of CO<sub>2</sub> control levels requiring 100 lb CO<sub>2</sub>/MWh-gross based on full-capture CCS with 90% capture rate by 2032.
- Compliance flexibilities provided to extend deadlines for delays and address short-term and long-term reliability impacts as well as the establishment of a variance mechanism based “remaining useful life and other factors” that gives states the ability to—
  - Lower the stringency of applicable CO<sub>2</sub> performance standards
  - Extend the compliance deadlines for meeting those applicable performance standards

# Overview of Five Major EPA Rules (continued)

- **Transport Rule**

- Applies to affected power plants in 22 states that are contributing to ozone nonattainment in downwind states
- Phase I NOx controls starting in the 2023 ozone season were based on upgrading existing boiler controls and optimizing performance of existing NOx SCR control systems
- Phase II NOx controls starting in the 2026 ozone season were based on installation of new NOx SCR control systems for those power plants without such add-on NOx controls

- **MATS Revision Rule**

- Tightens the filterable particulate matter standard for all coal-fired power plants from 0.03 to 0.01 lb/MMBtu for controlling non-mercury HAP metals
- Tightens the mercury standard for lignite-fired power plants from 4.0lb/TBtu to 1.2lb/Tbtu (equal to a 70% reduction)
- Mandates the use of continuous emission monitors for particulate matter

# Overview of Five Major EPA Rules (continued)

- **ELG Rule**

- Established zero liquid discharge (ZLD) effluent limitations for scrubber wastewater, combustion residual leachate, and bottom ash transport water generated by coal-fired power plants
- Must comply with the ZLD limitations by December 31, 2029, unless the coal-fired power plant retires or otherwise ceases combusting coal by December 31, 2034

- **CCR Legacy Rule**

- Establishes new requirements for two categories of CCR disposal sites previously excluded from regulation under the federal CCR program
  - Inactive surface impoundments at inactive power plants
  - CCR management units that were closed prior to 2015 or where noncontainerized accumulations of CCR were received and stored (*i.e.*, CCR piles)
- Imposes the federal CCR requirements for groundwater monitoring, corrective action, closure, and post-closure for all newly affected CCR disposal units
- This rulemaking is part of a larger EPA effort to implement and enforce new, more stringent interpretations of the CCR regulations (as discussed below)

# Score Card on Stay Petitions of Major EPA Rules

Rule	Status of Stay Request
<b>Ozone Transport Rule</b>	Denied by the D.C. Circuit Partial Stay by Supreme Court Administrative Stay by EPA Across Entire Transport Region
<b>CO<sub>2</sub> Power Plant Rule</b>	Denied by the D.C. Circuit Denied by the Supreme Court
<b>MATS Revision Rule</b>	Denied by the D.C. Circuit Denied by the Supreme Court
<b>ELG Rule</b>	Denied by Eighth Circuit Likely No Appeal to the Supreme Court
<b>CCR Legacy Rule</b>	Stay Petition Pending Before the D.C. Circuit

# Schedules for Court Challenges

Rule	Final Briefs Due	Oral Arguments	Expected D.C. Circuit Court Decision
<b>Ozone Transport Rule</b>	August 22, 2024*	Not yet scheduled	June 2025
<b>CO<sub>2</sub> Power Plant Rule</b>	November 1, 2024	December 6, 2024	March-April 2025
<b>MATS Revision Rule</b>	December 10, 2024	Not yet scheduled	April-May 2025
<b>ELG Rule</b>	March 7, 2024	Not yet scheduled	June-July 2025
<b>CCR Legacy Rule</b>	Not yet scheduled	Not yet scheduled	Fall 2025

\* On September 12, 2024, the D.C. Circuit issued an order directing the parties to file motions to govern future proceedings in the cases within 30 days of EPA taking final action regarding the remand on the partial implementation of transport rule during the pending litigation.



# Regulation of Stationary Combustion Turbines

- **EPA has begun working on 3 rulemakings to regulate air emissions from stationary combustion turbines**
  - One rulemaking would set presumptive CO<sub>2</sub> performance standards that states would implement and enforce on existing stationary combustion turbines under section 111(d) of the Clean Air Act (CAA)
  - The other two rulemakings would set performance standards for—
    - NO<sub>x</sub> emissions from new and modified combustion turbines under CAA section 111 (d)
    - Formaldehyde and other hazardous air pollutants from new and existing combustion turbines under CAA 112
- **Although entirely separate regulatory initiatives, the 3 rulemakings would be developed and implemented in a coordinated manner by EPA**
  - This comprehensive regulatory approach stems from EPA's decision to regulate CO<sub>2</sub> emissions from existing combustion turbines through a separate rulemaking, instead of as part of the CO<sub>2</sub> Power Plant Rule issued last May
  - Proposed rule on NO<sub>x</sub> standards for new and modified combustion turbines was sent to OMB for interagency review on September 26
  - The other two proposed rules are still under development but expected to be sent to OMB soon
  - Proposed rules on all 3 rules are expected to be issued by end of this year or early next year

# EPA Implementation of Regulatory Programs

- **Regional Haze Program**

- Establishing emissions controls necessary for meeting “reasonable progress” visibility goals for the second planning period (2018-2028)
  - EPA has taken final action on only 6 state plans with another 35 state plans under EPA review
  - 11 states have failed to submit plans and could be subject to FIPs by EPA
  - No safe harbor is provided to those states meeting their uniform rate of progress (URP) trajectories for improving visibility in Class I Areas (protected national parks and wilderness areas)
  - EPA regulatory focus has been to require installation of SO<sub>2</sub> scrubbers and NO<sub>x</sub> SCR systems based on four-factor analysis that focus on \$/ton removal instead of perceptible visibility improvements
- Reforming the federal-state regulatory process for the regional haze program during the third planning period (2028-2038) through upcoming notice-and-comment rulemaking

- **CCR Program**

- EPA has adopted new, more stringent interpretations of existing federal CCR regulations regarding key requirements, such as those for groundwater monitoring, corrective action, closure, and post-closure requirements for surface impoundments and landfills
- EPA has sought to impose those new requirements in a variety regulatory contexts—
  - Denying requests for extending the deadlines for the closure of unlined surface impoundments
  - Disapproving state CCR permit programs (most recently the Alabama program)
  - Launching national enforcement to require compliance with those new, more stringent requirements

# Impacts of Election on Regulatory Agenda

- **The current Biden regulatory agenda is expected to continue under a Harris administration**
- **Major changes in the Biden regulatory agenda are expected under a Trump administration—**
  - Stay pending lawsuits and initiate a regulatory process to reconsider major EPA rules impacting power plants
  - Rescind and/or revise existing EPA rules, such as the CO<sub>2</sub> Power Plant Rule, Ozone Transport Rule, and ELG Rule
  - Reconsider and revise proposed rules under pending rulemakings
  - Reverse current policies, regulatory interpretations, and implementation strategies that do not require revisions to existing regulations (e.g., regional haze, CCR, and air permitting)
  - There would be claw back of any “midnight rules” and repeals of newly adopted rules under the Congressional Review Act (to the extent possible)
  - New rules and requirements would reflect policies for promoting electric grid reliability and minimizing adverse reliability impacts

# Other Important Environmental Rules

## Pending Rulemakings

- Air Emissions Report Program (final rule at OMB)
- Ozone Ambient Standards (pre-rulemaking phase)
- Title V Operating Permit “Applicable Requirements” Rule (proposed rule)
- Secondary Ambient Standards for PM, SO<sub>2</sub>, and NO<sub>x</sub> (public notice of review)
- Part 75 Emissions Monitoring and Reporting Requirements (pre-rulemaking phase)
- Beneficial Use of CCR (proposed rule)
- Federal CCR Permit Program (proposed rule)
- Social Cost of Carbon (interim standards and EPA’s estimates issued, awaiting final standards)
- Universal Waste Regulations for Solar Panels and Lithium Batteries (pre-rulemaking phase)
- Assortment of PFAS Rules

## Final Rules

- Final PM<sub>2.5</sub> Ambient Standard (pending court challenge)
- Defining Waters of the U.S. (pending court challenge)
- Water Quality Certifications (pending court challenge)
- SSM exemptions under State Plans (final court action vacating rule in March 2024)
- Removal of Emergency Affirmative Defenses under State Plans (pending court challenge)
- Removal of Emergency Affirmative Defenses under CAA Section 111 and 112 (final rule and likely litigation)
- Phase 2 NEPA Rules (pending court challenge)
- Climate Disclosure Rule (pending court challenge)
- RICE Reporting Rule
- Assortment of PFAS Rules

# Recent Warnings on Looming Reliability Risks

- **Amicus Brief filed by MISO, PJM, SPP, and ERCOT on September 13, 2024, in pending litigation on the CO<sub>2</sub> Power Plant Rule. Key message points included—**
  - Compliance timelines and related regulatory provisions “are not workable and are destined to trigger an acceleration in the pace of premature retirements of EGUs that possess critical reliability attributes at the very time when such generation is needed to support ever-increasing electricity demand . . . .”
  - The “impact of the Final [CO<sub>2</sub>] Power Plant Rule must be considered in conjunction with the numerous other proposed, pending, or existing regulations that impact grid reliability and resource adequacy—all of which are resulting in a decline in reserve margin and premature retirement of dispatchable baseload resources . . . .”
  - Based on these concerns the grid operators urged the D.C. Circuit to “remand” the final CO<sub>2</sub> Power Plant Rule to EPA “with instructions for it to adequately consider the grid adequacy and reliability issues . . . .”
- **Similar grid reliability warnings due to possible shortfalls in dispatchable generation were expressed by several FERC Commissioners as well as representatives from NERC and the grid operators at the FERC Reliability Technical Conference held on October 16, 2024**

# Discussion

## For More Information:

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