

REINHOLD ENVIRONMENTAL®



2026 Reinhold/PCUG Round Table Presentation

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EVOLUTION OF EPA POWER SECTOR ENVIRONMENTAL RULES

MAY 2024 TO PRESENT

GEOFFREY HENSLEY, DOMINION ENERGY
REINHOLD CONFERENCE 2026

Context and Framing of the 2024 Rule Package

2024 Environmental Rule Package

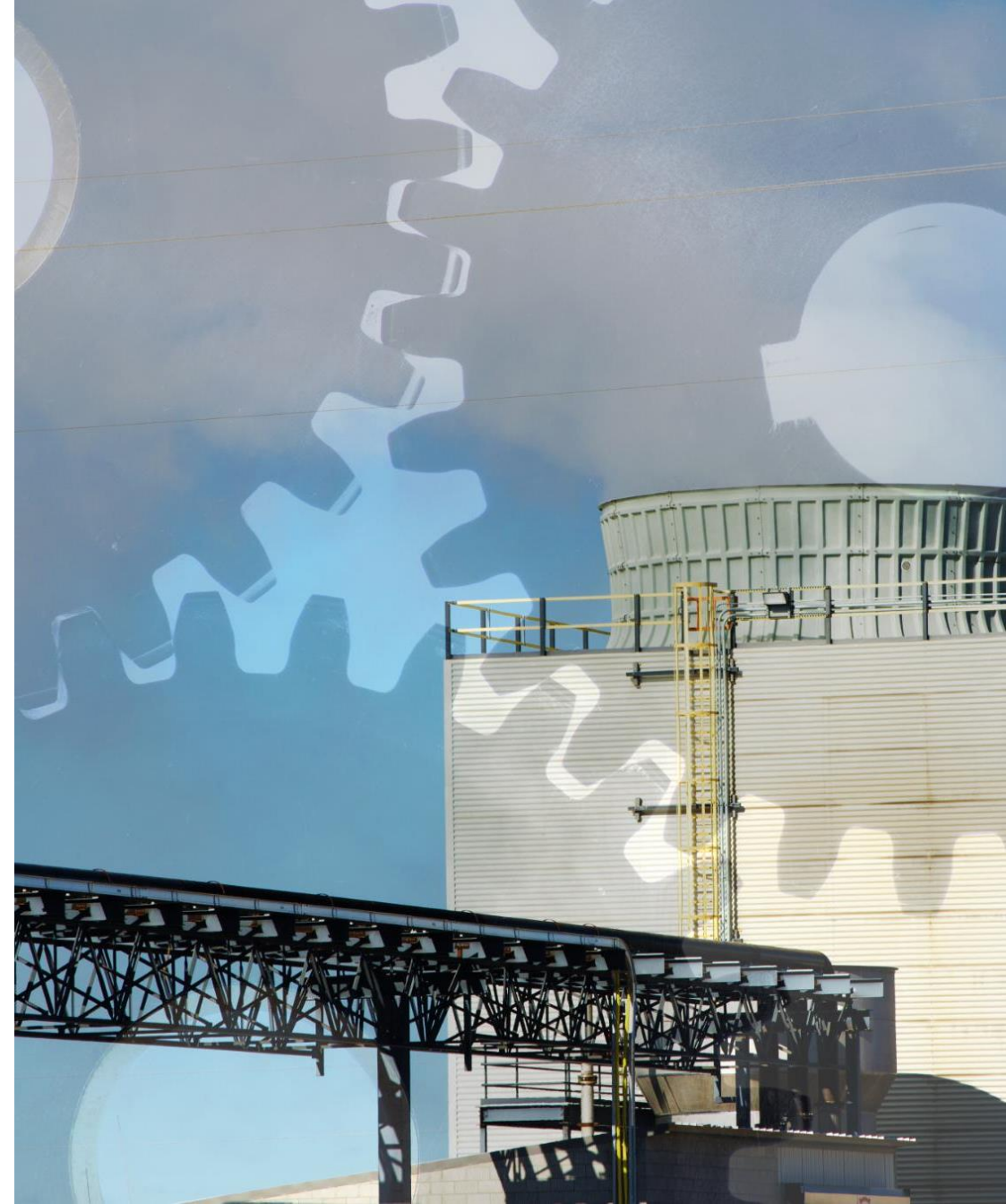
EPA finalized four major environmental rules impacting electric utilities covering air, water, and waste regulations.

Regulatory Evolution and Challenges

Since publication, rules have faced litigation, reconsiderations, deadline changes, and potential revisions under new policies.

Operational Impact on Utilities

Rules influence plant-level decisions, fleet strategies, compliance investments, and long-term planning under regulatory uncertainty.



Overview of the Four Rules and Their Interconnected Impacts

Section 111 (Greenhouse Gas) Rules

Sets carbon dioxide standards relying on carbon capture and fuel conversion or cofiring for coal plants.

Mercury and Air Toxics Standards (MATS) Revisions

Tightens limits on fPM as a surrogate for non-mercury hazardous air pollutants, requiring implementation of advanced air pollution control systems and methods of demonstrating compliance for coal units.

Effluent Limit Guidelines (ELG) Rule Updates

Revises wastewater discharge limits and imposes zero discharge, necessitating significant upgrades to water treatment processes.

Coal Combustion Residuals (CCR) Legacy Rule

Extends 2015 coal ash regulations to include inactive sites and increases groundwater monitoring and closure requirements.





Regulatory Framework

The 2024 GHG rule set new emission standards under Clean Air Act sections 111(b) and 111(d) for power sector units.

Emission Reduction Requirements

Standards require carbon capture and storage or natural gas co-firing for coal units, and CCS/hydrogen cofiring for new natural gas units.

2024 GHG Rule (111)

Scope, Structure, and Intent

Operational and Compliance Risks

Compliance depends on commercial viability of CCS, raising concerns over infrastructure, permitting, and deployment timelines.



Litigation, Reconsideration, and Policy Reversal

Litigation

The 2024 GHG rule faced immediate legal challenges by states, industry groups, and utilities citing statutory and technological concerns.

Administrative Reconsideration

Multiple petitions for administrative reconsideration were filed, with the EPA denying or partially denying these requests by early 2025.

Policy Reversal Proposal

In June 2025, EPA proposed repealing GHG emission standards, signaling a major policy shift in regulating carbon and other greenhouse gases.

Impact on Utilities and Planning

Uncertainty from litigation and policy shifts stalled CCS projects and state implementation plans, complicating utilities' long-term strategies.

GHG Rule Framework

111(b) New/Modified Units

Applicability

- New/reconstructed natural gas combustion turbines
- Modified coal units (large modifications)

Requirements

- CO₂ emissions requirements based on capacity factor, fuel, and unit operations.
- 90% CCS required for baseload (<40% CF) units



111(d) – Existing Sources

EPA sets emission guidelines, states implement
Compliance pathways:

- Long-term units (operating beyond 2038)
 - Install CCS and achieve 90% CO₂ reduction by 2032
- Medium-term units (retire by 2039)
 - Co-firing minimum of 40% with natural gas by 2030 and 16% annual reduction of CO₂
- Near-term retiring units
 - Exempt if retire before 2032

Current Status of the Rule

Reconsiderations / Changes

- Petitions for reconsideration filed → denied or partially denied Jan 2025
- Major policy shift
 - June 2025 proposal to repeal the rule entirely
- Broader reconsideration of
 - CCS as BSER
 - Underlying endangerment finding (parallel policy track)

Litigation & Current Status

- Litigation: Active in the DC Circuit Court
 - Multiple industry/state petitions challenging BSER determination
- Regulatory Status (2026):
 - Final rule (May 2024) still technically in place
 - Under litigation + proposed repeal



2024 MATS Revisions and Compliance Expectations

Focus on Emission Limits

The 2024 MATS revisions tightened existing mercury and air toxics emission limits.

Optimization of Existing Controls

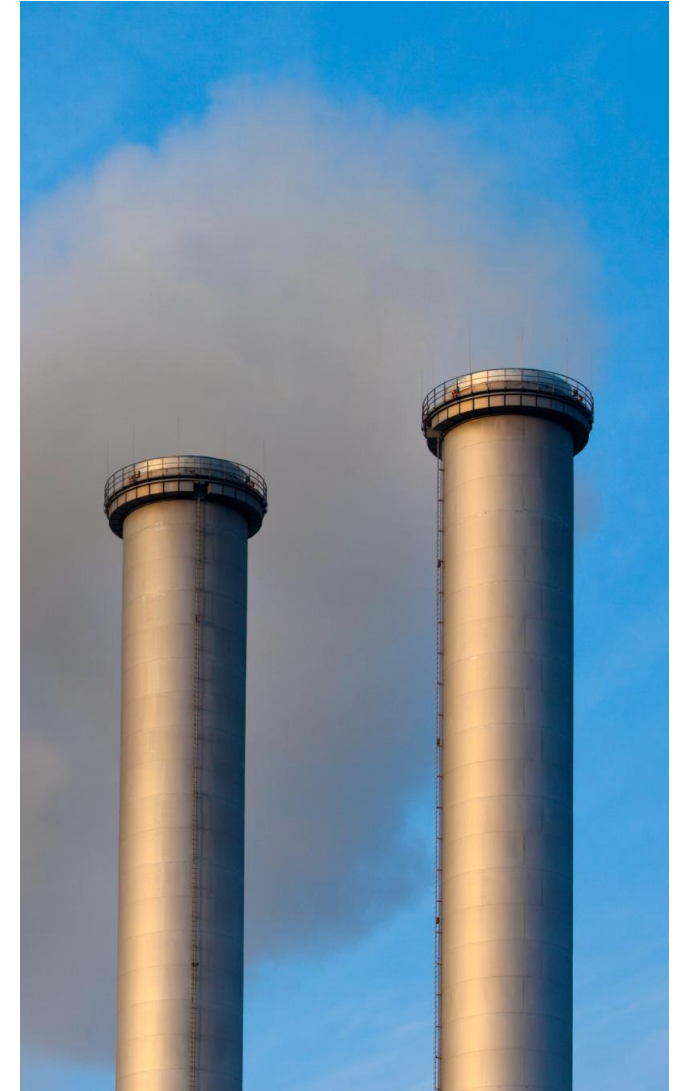
EPA emphasized reducing pollutants through optimizing fabric filters, scrubbers, and sorbent injection systems.

Compliance and Monitoring Challenges

Utilities face challenges with stricter limits, monitoring requirements, and cumulative rule impacts in 2024.

Operational Improvements Required

Incremental operational improvements and maintenance focus are key for compliance with revised MATS.



Core Compliance Requirements

Applies to coal- and oil-fired EGUs >25 MW

Requirements:

- Meet tightened emission limits for
 - Mercury (Hg)
 - Non-Hg metals (fPM as a surrogate)
 - Acid gases (e.g., HCl surrogate)

Likely control strategies

- Enhanced activated carbon injection (ACI)
- SCR/FGD optimization
- Fabric filter upgrades

Operational requirements:

- Continuous emissions monitoring (CEMS or sorbent trap monitoring)
- Work practice standards (startup/shutdown)
- Performance testing and periodic demonstration



Current Status and Litigation of the MATS Rule



Current Status

EPA finalized a repeal in February 2026, and the program has effectively reverted to the original 2012 MATS standards.

Legal Challenges to MATS

Post-publication, MATS revisions faced legal scrutiny focusing on EPA's cost-benefit analysis and regulatory necessity under the Clean Air Act. The repeal is now being challenged in court, so there continues to be long-term regulatory uncertainty.

2024 ELG Rule: Expanded Wastewater Controls and Costs



Revised Discharge Limits

The rule updates technology-based limits on FGD, bottom ash transport, and landfill leachate wastewaters from steam electric power plants to reduce toxic discharges.

Advanced Treatment Technologies

Membrane filtration, chemical precipitation, and crystallization/evaporation are achievable technologies driving compliance and environmental improvements.

Operational and Compliance Challenges

Facilities face challenges including space limits, integration with current systems, and aggressive compliance timelines.

Cost and Industry Impact

Annual compliance costs may reach hundreds of millions, prompting concerns and litigation from the industry.

Core Compliance Requirements

Applies to steam electric power plants (primarily coal) discharging wastewater from

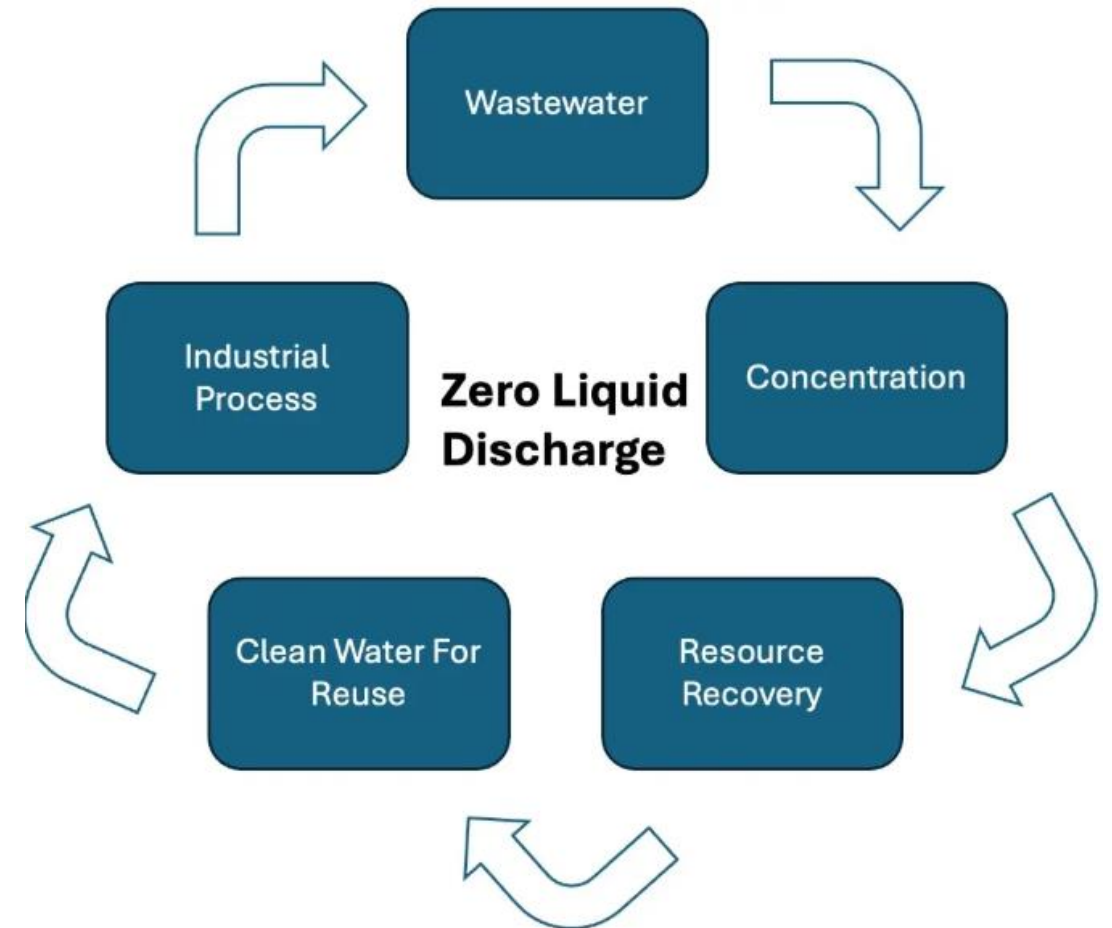
- Flue Gas Desulfurization (FGD)
- Bottom ash transport (BATW)
- Combustion residual leachate (CRL)

Typical Technology-Based Approaches

- Chemical precipitation + biological treatment
- Membrane filtration (RO)
- Crystallizer/Evaporator - Zero liquid discharge (ZLD)

Compliance & Monitoring

- NPDES permit modifications required
 - Sampling
 - Reporting (DMRs)
- Engineering certification of treatment systems
- Recordkeeping and inspection requirements



Reconsideration, Deadline Extensions, and Litigation

Reconsiderations/Changes since 2024

- EPA announced intent to revise 2024 standards
- Compliance deadline extensions issued (2025)
- New rulemaking expected (2026)

Litigation: ACTIVE (multi-circuit)

- Industry + NGOs challenged rule
- Cases consolidated and held in abeyance pending reconsideration

Additional lawsuits filed over

- Deadline extensions
- Alleged weakening of standards

Regulatory Status of 2024 Rule

- Final rule exists but
 - Under reconsideration
 - Under litigation
 - Compliance timelines subject to change



Current Status and Practical Implications of the ELG Rule



Regulatory Status Updates

The ELG rule is still in effect but subject to extensions, litigation stays, and EPA reconsideration as of 2026.

Compliance Strategy Adaptations

Utilities adopt phased and modular compliance approaches to maintain flexibility amid changing requirements.

Integration with Fleet Strategy

Water compliance planning is increasingly integrated with fleet decisions like coal unit retirements and conversions.

Operational and Legal Vigilance

Operations professionals must actively monitor legal developments to manage compliance costs and environmental risks.

CCR Legacy Rule Scope and Requirements



Expanded Regulatory Coverage

The CCR Legacy Rule now covers inactive surface impoundments and historical coal ash disposal sites formerly exempt.

Monitoring and Corrective Actions

Requirements include groundwater monitoring, corrective action, and post-closure care similar to active facility standards.

Compliance and Long-term Liabilities

Utilities face new obligations for site characterization, contamination evaluation, and closure planning, increasing resource demands.

Core Compliance Requirements

Applicability expansion extended CCR requirements to:

- Inactive surface impoundments at inactive plants ("legacy units")
- CCR Management Units (historic fill areas)

Facility Evaluation Reports (FER) identifying historical ash placement at active facilities

Groundwater Monitoring

- Install monitoring wells
- Conduct detection monitoring and assessment monitoring if exceedances occur
- Compare to groundwater protection standards

Corrective Actions

- Required if contamination detected
- Develop and implement remediation plan:
 - Pump-and-treat
 - Source removal
 - Hydraulic control



Core Compliance Requirements (continued)

Closure Requirements

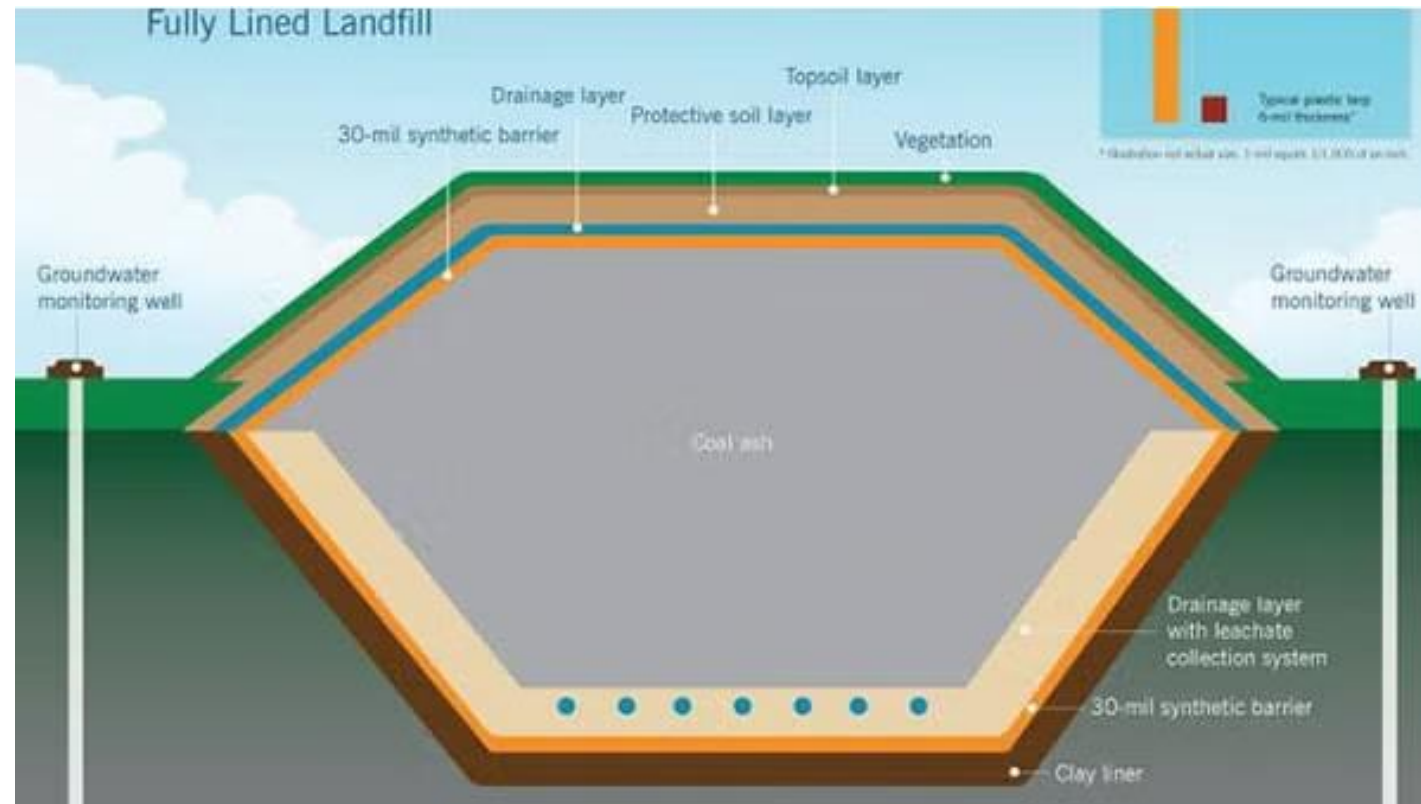
- Close legacy impoundments by removal (preferred) or closure in place with engineering controls
- Must meet structural stability requirements

Post-Closure Care

- Long-term monitoring (30+ years typical)
- Cap integrity inspection
- Groundwater remediation continuation

Reporting / Transparency

- Public CCR website postings
- Annual reports
- Engineering certifications



Amendments, Litigation, and the Current State of the Rule

Current Regulatory Status

- 2024 final rule still in effect
- Active amendment/reconsideration underway (2026 proposal)
- Compliance progressing but may change materially

Extended Compliance Deadlines

12-month extensions for FER Part 1 and Part 2. 33-month extensions for groundwater monitoring/closure related requirements.

EPA Amendments for Flexibility

EPA proposed amendments provide site-specific permitting and revised closure pathways to address utility concerns about uniform rules.

Ongoing Litigation and Enforcement

Environmental groups push for strict enforcement while litigation continues over the original rule and amendments.



Strategic Takeaways for Utility Operations Professionals



Regulatory Uncertainty

All four rules remain legally unstable. Durability of regulations cannot be assumed due to ongoing litigation and administrative reconsiderations. CCR is the most “real” compliance obligation of the four with GHG being the highest strategic risk due to ongoing policy considerations.

Integrated Compliance Planning: The Balancing Act

Air, water, and waste rules require coordinated planning to prevent cost inefficiencies and stranded assets.

Operational Flexibility

Flexible strategies like optional retirements and phased compliance help manage operational risks effectively.

Active Regulatory Engagement

Engagement in rulemaking and litigation influences agency decisions and supports operational feasibility.



THANK YOU