Regulatory Impact Analysis for the Proposed Repeal of Amendments to National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units

Regulatory Impact Analysis for the Proposed Repeal of Amendments to National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ES   EXECUTIVE SUMMARY

ES.1   Introduction

In this action, the U.S. Environmental Protection Agency (EPA) is proposing to repeal specific amendments to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Coal- and Oil-Fired Electric Utility Steam Generating Units (EGUs), commonly referred to as the Mercury and Air Toxics Standards (MATS), that were promulgated on May 7, 2024.[1] The amendments that the EPA is proposing to repeal include the revised filterable particulate matter (fPM) emission standard, which serves as a surrogate for non-mercury hazardous air pollutant (HAP) metals for existing coal-fired EGUs, the fPM emission standard compliance demonstration requirements, and the mercury (Hg) emission standard for lignite-fired EGUs.

In accordance with Executive Orders (E.O.) 12866 and 13563, the guidelines of OMB Circular A-4 (OMB, 2003), and the EPA's *Guidelines for Preparing Economic Analyses* (U.S. EPA, 2024), this Regulatory Impact Analysis (RIA) analyzes the regulatory compliance costs and benefits associated with this proposed action. This RIA builds upon the modeling in the 2024 MATS Risk and Technology Review (RTR) RIA prepared for the 2024 MATS RTR.[2]

The "baseline" in an analysis is a business-as-usual scenario that ordinarily represents the behavior of the regulated sector under market and regulatory conditions in the absence of a regulatory action. The baseline for the 2024 MATS RTR RIA included numerous rules that had been finalized at the time of that analysis. From the perspective of this proposed repeal action, the 2024 MATS RTR RIA is now in the baseline, and this proposed action is the "policy case". Additionally, there are significant market and regulatory changes that have occurred since the 2024 MATS RTR RIA was developed, including changes that affect both the baseline and policy

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[1] This 2024 final rule titled *National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units Review of the Residual Risk and Technology Review* (89 FR 38508) is referred to as the "2024 MATS RTR" in this document and "2024 Final Action" in the preamble.
[2] The May 2024 RIA is titled *Regulatory Impact Analysis for the Final National Emission Standards for Hazardous Air Pollutants: Coal- and Oil-Fired Electric Utility Steam Generating Units Review of the Residual Risk and Technology Review* and is in the docket here: https://www.regulations.gov/document/EPA-HQ-OAR-2018-0794-6966.

case that are not reflected in this analysis.[3] Further, this RIA does not reflect the exemptions granted under Presidential Proclamation 10914 titled *Regulatory Relief for Certain Stationary Sources to Promote American Energy.*[4] A discussion of the potential impacts of the Presidential Proclamation can be found in Section 2.3.4.

In the absence of updated modeling, the compliance cost estimates presented in the 2024 MATS RTR RIA are the EPA's best available estimate of the reduction in compliance costs under this proposed action. Similarly, the projected emission changes presented in the 2024 MATS RTR RIA are the EPA's best available estimate of the emissions changes that will be reversed under this proposed action, along with associated benefits estimates.

In this RIA, present estimates of the present value (PV) of costs, benefits, and net benefits calculated for the analysis timeframe of 2028 to 2037 and discounted to 2025. We also present the equivalent annualized value (EAV), which represents a flow of constant annual values that, had they occurred in each year from 2028 to 2037, would yield a sum equivalent to the PV. All estimates provided for this proposed repeal are presented in 2024 dollars, whereas estimates presented in the 2024 MATS RTR RIA were presented in 2019 dollars. Additionally, this RIA includes information about potential impacts of the proposed repeal on electricity markets, employment, and markets outside of the electricity sector. While the results are described and presented in more detail throughout the RIA, we present summary results below.

ES.2   Compliance Cost Savings

The power industry's compliance costs are represented in this analysis as the change in electric power generation costs between the baseline and policy case. In other words, these costs are an estimate of the change in power industry expenditures from repealing the 2024 MATS RTR requirements. The compliance cost estimates were primarily developed using the EPA's Power Sector Modeling Platform 2023 that uses the Integrated Planning Model (IPM). The

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[3] Several power sector rules are in the process of reconsideration such as the Carbon Pollution Standards (89 FR 39798, May 9, 2024), Good Neighbor Plan (88 FR 36654, June 5, 2023), and Steam Electric Effluent Limitation Guidelines (89 FR 40198, May 9, 2024). Certain vehicle rules (89 FR 27842, April 18, 2024; 89 FR 29440, April 22, 2024) are also undergoing reconsideration. Of these rules, only the Good Neighbor Plan is included in the baseline for this action.

[4] Presidential Proclamation 10914 titled *Regulatory Relief for Certain Stationary Sources to Promote American Energy* (90 FR 16777, April 21, 2025) is available here: https://www.federalregister.gov/documents/2025/04/21/2025-06936/regulatory-relief-for-certain-stationary-sources-to-promote-american- energy.

incremental costs of the final rule's PM CEMS requirement were estimated outside of IPM and added to the IPM-based cost estimates presented here and in Section 2. Table ES-1 presents compliance cost savings of the proposed repeal, drawing from the regulatory compliance costs that the EPA projected in the 2024 MATS RTR RIA.

Table ES-1   Present Value and Equivalent Annualized Value Estimates of Compliance Cost Savings from 2028-2037 (million 2024 dollars, discounted to 2025)

3% Discount Rate		7% Discount Rate	
PV	EAV	PV	EAV
1,000	120	770	110

Note: Values have been rounded to two significant figures.

The compliance costs reported in this RIA are not social costs, although in this analysis we use compliance costs as a proxy for social costs. We do not account for changes in costs and benefits due to changes in economic welfare of suppliers to the electricity market or to non-electricity consumers from those suppliers. Furthermore, costs due to interactions with preexisting market distortions outside the electricity sector are omitted.

ES.3   Emissions Changes of the Regulated Pollutants

The proposed repeal would no longer reduce emissions of Hg and non-Hg HAP metals relative to the baseline with the 2024 MATS RTR requirements. Table ES-2 shows the Hg emissions changes under the proposed repeal. These changes are relative to a baseline with the 2024 MATS RTR requirements in each modeled year. The EPA estimated emissions changes under the proposed repeal for the run years 2028, 2030, and 2035 based upon projections from IPM. The EPA also estimates emissions increases of approximately seven tons of non-Hg HAP metals in 2028, five tons of non-Hg HAP metals in 2030, and four tons of non-Hg HAP metals in 2035 due to the proposed repeal.

Table ES-2   EGU Emissions Changes of Mercury (Hg) for 2028, 2030, and 2035[a]

	Year	Total Emissions		
		Baseline with 2024 MATS RTR	Proposed Repeal	Emissions Change
	2028	5,129	6,129	999.1
Hg (lbs.)	2030	4,850	5,863	1,013
	2035	4,055	4,962	907.0

[a] This analysis is limited to the geographically contiguous lower 48 states. Values are independently rounded and may not appear to add correctly.

ES.4   Benefits Associated with the Regulated Pollutants

The EPA is unable to monetize the benefits of Hg and non-Hg metals emissions changes due to data limitations. Non-monetized disbenefits related to the regulated pollutants are expected from estimated increases of about 900 to 1,000 pounds of Hg annually and 4 to 7 tons of non-Hg HAP metals annually.

ES.5   Economic Impacts

Table ES-3 presents a variety of estimates of energy market impacts for 2028, 2030, and 2035 for the proposed repeal based upon the results presented in the 2024 MATS RTR RIA. The overall projected impacts on the energy market were estimated to be negligible in all run years. A more detailed version of this table is found in Section 2.3.3, along with additional discussion of energy market impacts. For a discussion of the small entity analysis, as well as labor impacts, see Section 4.3.

Table ES-3   Summary of Certain Energy Market Impacts

	2028	2030	2035
Retail electricity prices	0.0%	0.0%	0.0%
Average price of coal delivered to the power sector	0.0%	0.0%	0.0%
Coal production for power sector use	0.0%	0.0%	0.0%
Price of natural gas delivered to power sector	0.0%	0.0%	0.0%
Price of average Henry Hub (spot)	0.0%	0.0%	0.0%
Natural gas use for electricity generation	0.0%	0.0%	0.0%

ES.6   Net Benefits Associated with the Regulated Pollutants from the Proposed Action

The net benefits associated with the regulated pollutants are the cost savings of this proposed action presented above in Table ES-1. As noted above, there may be unquantified cost savings associated with this proposed rule. Non-monetized disbenefits associated with the regulated pollutants are expected from estimated increases of about 900 to 1,000 pounds of Hg annually and increases of about 4 to 7 tons of non-Hg HAP metals annually. The remainder of the RIA presents a full discussion of the projected costs, benefits, and net benefits of this proposed action.

ES.7   References

OMB. (2003). Circular A-4: Regulatory Analysis. Washington DC. https://www.whitehouse.gov/wp-content/uploads/legacy_drupal_files/omb/circulars/A4/a-4.pdf

U.S. EPA. (2024). *Guidelines for Preparing Economic Analyses (3ʳᵈ edition)*. EPA-240-R-24-001. Washington, DC.

1 INTRODUCTION AND BACKGROUND

1.1 Introduction

The U.S. Environmental Protection Agency (EPA) is proposing to repeal amendments to the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Coal- and Oil-Fired Electric Utility Steam Generating Units (EGUs), commonly referred to as the Mercury and Air Toxics Standards (MATS), that were promulgated on May 7, 2024. The amendments included revising the filterable particulate matter (fPM) emission standard, which serves as a surrogate for non-mercury hazardous air pollutant (HAP) metals for existing coal-fired EGUs, the fPM emission standard compliance demonstration requirements, and the Hg emission standard for lignite-fired EGUs.

1.2 Purpose of RIA

In accordance with Executive Orders (E.O.) 12866 and 13563, the guidelines of OMB Circular A-4 (2003), and EPA's *Guidelines for Preparing Economic Analyses* (2024a), the EPA prepared this RIA for this "significant regulatory action." This action is a significant regulatory action under E.O. 12866 Section 3(f)(1) because it is estimated to have an annual effect on the economy of $100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or state, local, or tribal governments or communities. This RIA analyzes the regulatory compliance costs, emissions, and benefits changes projected under the proposed repeal of the 2024 MATS RTR requirements.[5]

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[5] Values in the 2024 MATS RTR RIA were converted from 2019 dollars to 2024 dollars by multiplying by 1.204, which was derived from the annual GDP Implicit Price Deflator values in the U.S. Bureau of Economic Analysis' NIPA Table 1.1.9 found at: *https://apps.bea.gov/iTable/?reqid=19&step=3&isuri=1&1921=survey&1903=13*. The remainder of the difference in values presented in this RIA is related to discounting over two fewer years (to 2025 instead of 2023). Adjusting to 2024 dollars accounts for the majority of the change in values.

1.3 Overview of Regulatory Impact Analysis

1.3.1 *Proposed Repeal Requirements Analyzed*

This proposed repeal focuses on three of the four requirements of the 2024 MATS RTR, which are described below and presented in Table 1-1. Separate from the technology review, the 2024 MATS RTR also added a requirement related to startup definitions that is not being repealed as a part of this action. The proposed repeal will return the MATS requirements to those that were in place prior to the 2024 MATS RTR. This RIA focuses on evaluating the benefits, costs, and other impacts of repealing the following:

- **The Revised Standard for Non-Hg HAP Metals Emissions for Existing Coal-fired EGUs:** Existing coal-fired EGUs are subject to numeric emission limits for fPM, a surrogate for the total non-Hg HAP metals. Before the 2024 MATS RTR, MATS required existing coal-fired EGUs to meet a fPM emission standard of 0.030 pounds per million British thermal units (lb/MMBtu) of heat input. The 2024 MATS RTR set a fPM limit of 0.010 lb/MMBtu for existing coal-fired EGUs, and the EPA is proposing to repeal the fPM emission standard. Additionally, the EPA is proposing to repeal updated limits for non-Hg HAP metals and total non-Hg HAP metals that have been reduced proportional to the reduction of the fPM emission limit.

- **The Revised Hg Emission Standard for Lignite-fired EGUs:** Before the 2024 MATS RTR, lignite-fired EGUs were to meet a Hg emission standard of 4.0 pounds per trillion British thermal units (lb/TBtu) or 4.0E-2 pounds per gigawatt hour (lb/GWh). The EPA is proposing to repeal the requirement that lignite-fired EGUs meet the same standard as existing EGUs firing other types of coal, which is 1.2 lb/TBtu or 1.3E-2 lb/GWh.

- **The Continuous Emissions Monitoring Systems Requirement:** The EPA is proposing to repeal the requirement that coal- and oil-fired units demonstrate compliance with the fPM emission standard by using PM CEMS. Before the 2024 MATS RTR, EGUs had a choice of demonstrating compliance with the non-Hg HAP metals by monitoring fPM with quarterly sampling, using continuous parametric monitoring systems (CPMS), or using continuous emissions monitoring systems (PM CEMS).

Table 1-1   Summary of Regulatory Requirements Examined in this RIA

Provision	Regulatory Requirements Examined in this RIA	
	2024 MATS RTR Requirements	Requirements after Proposed Repeal
fPM Standard (Surrogate Standard for Non-Hg HAP Metals)	fPM standard of 0.010 lb/MMBtu	fPM standard of 0.030 lb/MMBtu
Hg Standard	Hg standard for lignite-fired EGUs of 1.2 lb/TBtu	Hg standard for lignite-fired EGUs of 4.0 lb/TBtu
Continuous Emissions Monitoring Systems (PM CEMS)	Require installation of PM CEMS to demonstrate compliance	Do not require installation of PM CEMS to demonstrate compliance

1.3.2 Baseline and Analysis Years

The "baseline" is a business-as-usual scenario that, in the context of this analysis, represents expected behavior in the power industry sector under market and regulatory conditions in the absence of a regulatory action. The baseline for the 2024 MATS RTR RIA included numerous rules that had been finalized at the time of that analysis. The version of IPM used for the 2024 MATS RTR RIA also included state and federal legislation affecting the power sector, including the Inflation Reduction Act of 2022 (IRA). The modeling documentation (U.S. EPA, 2024b), available in the docket, includes a summary of all legislation reflected in that version of IPM as well as a description of how that legislation is implemented in IPM.

Please see Section 3 of the 2024 MATS RTR RIA for details of the baseline modeling. However, from the perspective of this proposed repeal action, the 2024 MATS RTR RIA is now in the baseline, and there are additional significant market and regulatory changes that have occurred since the 2024 MATS RTR RIA was developed. We have not updated the baseline for this proposed action to reflect these regulatory and other subsequent changes since the RTR was promulgated in 2024. Rather, we rely on the 2024 MATS RTR RIA policy case analysis as the baseline for this action. Similarly, there may be other regulatory changes before the promulgation of this proposed repeal that are not accounted for in the baseline for this action. These factors introduce important uncertainties in the analysis within this RIA.

The year 2028 is the first year of detailed power sector modeling for this RIA and approximates when the requirements of the 2024 MATS RTR on the power sector would have begun. In addition, the impacts were evaluated for the specific analysis years of 2030 and 2035.

We draw upon results for these analysis years to evaluate potential impacts of this action using PV estimates of costs, benefits, and net benefits, calculated for the analysis timeframe of 2028 to 2037, discounted to 2025. We also present the EAV, which represents a flow of constant annual values that, had they occurred in each year from 2028 to 2037, would yield a sum equivalent to the PV. Additionally, this RIA includes information about potential impacts of the proposed repeal on electricity markets, employment, and markets outside the electricity sector.

1.4   References

OMB. (2003). *Circular A-4: Regulatory Analysis*. Washington DC. https://www.whitehouse.gov/wp-content/uploads/legacy_drupal_files/omb/circulars/A4/a-4.pdf

U.S. EPA. (2024a). *Guidelines for Preparing Economic Analyses (3rd edition)*. EPA-240-R-24-001. Washington, DC.

U.S. EPA. (2024b). *Documentation for EPA's Power Sector Modeling Platform 2023 Using the Integrated Planning Model 2023 Reference Case*. Washington, DC. https://www.epa.gov/system/files/documents/2025-02/epa-2023-reference-case.pdf

2   COMPLIANCE COSTS, EMISSIONS, AND ENERGY IMPACTS

2.1   Introduction

This section presents the compliance costs, emissions changes, and energy impacts projected under the proposed repeal. This section relies on the regulatory cost analysis produced for the 2024 MATS RTR RIA. Given that the rule is not yet in its compliance period, and in the absence of updated analysis of the rule's potential impacts if left in place, this analysis assumes that all the costs incurred due to the 2024 MATS RTR requirements as previously estimated upon original promulgation will be reversed for this proposed repeal. The cost estimates provided for this proposed repeal are presented in 2024 dollars, whereas cost estimates presented in the 2024 MATS RTR RIA were presented in 2019 dollars.[6]

2.2   Baseline

The "baseline" for a regulatory impact analysis is a business-as-usual scenario that represents expected behavior in the power industry sector under market and regulatory conditions in the absence of a regulatory action. The baseline for the 2024 MATS RTR RIA included numerous rules that had been finalized at the time of that analysis.[7] The baseline of this proposed action is the policy case presented in the 2024 MATS RTR RIA because this is the EPA's best available representation of a world with the 2024 MATS RTR requirements. Additionally, the EPA acknowledges that significant market and regulatory changes that have occurred since the promulgation of the 2024 MATS RTR, including changes that affect both the baseline and policy case and are not reflected in this analysis. We have not modeled an updated baseline for this proposed repeal and rely on the 2024 MATS RTR RIA policy case analysis as the baseline for this action. Further, this RIA does not reflect the exemptions granted under Presidential Proclamation 10914 titled *Regulatory Relief for Certain Stationary Sources to*

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[6] Values are adjusted for inflation to 2024 dollars using the annual GDP Implicit Price Deflator values in the U.S. Bureau of Economic Analysis' (BEA) NIPA Table 1.1.9, last revised March 27, 2025, with 2017 values indexed at zero, which is available at https://apps.bea.gov/iTable/?reqid=19&step=3&isuri=1&1921=survey&1903=13.
[7] For more details on the baseline used for this analysis, see section 3.3 of the 2024 MATS RTR RIA, which is available in the docket here: https://www.regulations.gov/document/EPA-HQ-OAR-2018-0794-6966.

Promote American Energy.[8] A discussion of the impacts of the Presidential Proclamation can be found in Section 2.3.4 of this document.

2.3 Power Sector Impacts

2.3.1 Emissions Changes Assessment

This RIA presents emissions changes estimates in years 2028, 2030, and 2035. Table 2-1 presents the estimated power sector emissions changes under the proposed repeal. The quantified emissions estimates include changes in pollutants directly covered by the 2024 MATS RTR, such as Hg and non-Hg HAP metals, and other changes in pollutants emitted from the power sector as a result of projected compliance actions. The table includes estimates of changes in direct $PM_{2.5}$, NO_X, SO_2, CO_2, Hg and hydrogen chloride (HCl) for each of the years analyzed.

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[8] Presidential Proclamation 10914, titled *Regulatory Relief for Certain Stationary Sources to Promote American Energy*, is available here: https://www.federalregister.gov/documents/2025/04/21/2025-06936/regulatory-relief-for-certain-stationary-sources-to-promote-american-energy.

Table 2-1   EGU Emissions Changes for 2028, 2030, and 2035[a]

| | Year | Total Emissions | | |
		Baseline with 2024 MATS RTR	Proposed Repeal	Emissions Change
Hg (lbs.)	2028	5,129	6,129	999.1
	2030	4,850	5,863	1,013
	2035	4,055	4,962	907.0
PM$_{2.5}$ (thousand tons)	2028	69.7	70.5	0.77
	2030	65.8	66.3	0.53
	2035	50.2	50.7	0.47
PM$_{10}$ (thousand tons)	2028	77.4	79.5	2.07
	2030	73.1	74.5	1.33
	2035	54.8	56.0	1.18
SO$_2$ (thousand tons)	2028	454.0	454.3	0.290
	2030	333.5	333.5	-0.025
	2035	239.9	239.9	0.040
Ozone-season NO$_X$ (thousand tons)	2028	188.8	189.0	0.165
	2030	175.4	174.99	-0.488
	2035	119.1	116.99	-2.282
Annual NO$_X$ (thousand tons)	2028	460.3	460.55	0.283
	2030	392.7	392.88	0.022
	2035	253.5	253.44	-0.066
HCl (thousand tons)	2028	2.474	2.474	0.000
	2030	2.184	2.184	0.000
	2035	1.485	1.484	-0.001
CO$_2$ (million metric tons)	2028	1,158.7	1,158.8	0.0655
	2030	1,098.3	1,098.3	-0.0361
	2035	724.1	724.2	0.099

[a] This analysis is limited to the geographically contiguous lower 48 states. The small projected changes in non-HAP emissions are consistent with small projected changes in electricity dispatch. Values are independently rounded and may not appear to add correctly.

The EPA also estimates an increase of approximately seven tons of non-Hg HAP metals in 2028, five tons of non-Hg HAP metals in 2030, and four tons of non-Hg HAP metals in 2035 due to the proposed repeal. Table 2-2 summarizes the total emissions changes projected over the 2028 to 2037 analysis period. As indicated previously, this RIA presents emissions reductions estimates in years 2028, 2030, and 2035 based on IPM projections. Cost estimates and emissions changes for subsequent years are available in the docket.[9] Note, the EPA is unable to quantify any

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[9] Documentation and data on additional run years for EPA's Power Sector Modeling Platform 2023 using IPM can be found at https://www.epa.gov/power-sector-modeling/analysis-final-mats-risk-and-technology-review-rtr and is available in the docket for this action.

additional emissions changes resulting from the repeal of the continuous monitoring of fPM requirement of the 2024 MATS RTR.

Table 2-2   Cumulative Projected Emissions Changes for the Proposed Repeal, 2028 to 2037[a,b]

Pollutant	Emissions Changes
Hg (pounds)	9,500
$PM_{2.5}$ (tons)	5,400
CO_2 (thousand tons)	650
SO_2 (tons)	770
NO_x (tons)	220
Non-Hg HAP metals (tons)	49

[a] Values rounded to two significant figures.
[b] Estimated changes from model year 2028 are applied to 2028 and 2029, those from model year 2030 are applied to 2031 and 2032, and those from model year 2035 are applied to 2032 through 2037. These values are summed to generate total emissions changes.

2.3.2   *Compliance Costs Assessment*

In this RIA, the power industry's compliance costs are estimated as the change in power sector production expenditures due to the proposed repeal. The total compliance costs are estimated for this RIA as the sum of two components: the IPM-projected cost estimates and the PM CEMS requirement cost estimates. This IPM-projected component constitutes the majority of the incremental costs for the 2024 MATS RTR.

The IPM-projected cost estimates are presented below in Table 2-3 for the analysis years 2028, 2030, and 2035.[10] These costs are represented as the change in electric power generation costs for these specific years of analysis between the baseline in this RIA, which includes the

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[10] The objective function of IPM minimizes the present value of system costs, and a discount rate is used in IPM to convert all future costs to a present value. The private discount rate adopted for modeling investment behavior should reflect the rate at which investors are willing to invest in the sector. For a general discussion of the risk and temporal preferences, tax treatments, and costs of borrowing that inform discount rates, Section 6.4 of the EPA's *Guidelines for Preparing Economic Analyses* (U.S. EPA, 2024a). The real discount rate used in EPA's Power Sector Modeling Platform 2023 Using the Integrated Planning Model, 3.76 percent, equals the real weighted average after tax cost of capital for various ownership types and technologies. The discount rate used in EPA's modeling is invariant over time. For more information, see Chapter 10 of the *Documentation for EPA's Power Sector Modeling Platform 2023 Using the Integrated Planning Model 2023 Reference Case*, available in the docket (U.S. EPA, 2024b). The private discounting used in IPM to simulate industry behavior differs from the social discounting used to estimate the social net benefits of the regulatory action. The social discount rates used in the net benefits analysis in this RIA reflect the intertemporal preferences of society as a whole, with 3 percent representing the consumption rate of interest and 7 percent representing the social opportunity cost of capital (OMB Circular A-4 (2003), and Section 6.2 of the EPA *Guidelines* (2024a)).

2024 MATS RTR, and the policy case in this RIA. For a detailed description of these cost trends, please see section 3 of the 2024 MATS RTR RIA.

Table 2-3   National Power Sector Compliance Costs for 2028, 2030, and 2035 (million 2024 dollars)

Analysis Year	2024 MATS RTR
2028	-140
2030	-140
2035	-110

Note: Values have been rounded to two significant figures. Costs associated with the PM CEMS requirement (Table 2-4) are not included in this table. Costs are combined in the stream of undiscounted costs (Table 2-5).

Table 2-4 presents the incremental cost estimates of repealing the PM CEMS requirement. The annualized costs for quarterly testing are estimated at about $73,000. For the portion of EGUs that would also employ PM CEMS, we estimated the annualized costs to be about $87,000.

Table 2-4   Incremental Cost of Monitoring under the Proposed Repeal (2024 dollars)

Monitoring System	Units (no.)	Baseline Cost (per year per unit)	Total Baseline Costs (per year)	Proposed Repeal Cost (per year per unit)	Proposed Repeal Costs (per year)	Incremental Costs (per year)
Quarterly Testing	190	$87,000	$17,000,000	$73,000	$14,000,000	-$2,800,000
PM CEMS	120	$87,000	$10,000,000	$87,000	$10,000,000	$0
Total	**310**	**---**	**$27,000,000**	**---**	**$25,000,000**	**-$2,800,000**

Note: Values rounded to two significant figures. Values may not appear to add correctly due to rounding. The baseline includes the 2024 MATS RTR requirements.

As detailed in Table 2-4, relative to the baseline including the 2024 MATS RTR, the proposed repeal would no longer result in additional PM CEMS costs. The estimated incremental cost of about $14,000 per year per unit for EGUs employing quarterly testing (the difference in the baseline and proposed repeal per year per unit cost, $87,000 and $73,000, respectively) is avoided. As a result, total incremental costs of about $2.8 million per year are avoided for this component.

Table 2-5 presents the undiscounted stream of compliance costs from 2028 through 2037. Table 2-6 presents the PV and EAV of total compliance costs over the 2028 through 2037 timeframe for the proposed repeal. The total compliance costs are composed of the change in

electric power generation costs between the baseline and the 2024 MATS RTR as presented in Table 2-3 and the incremental cost of the final PM CEMS requirement as detailed in Table 2-4. There are no anticipated costs associated with the proposed repeal prior to 2028. The EPA projects that the total compliance cost of the proposed repeal will be -$140 million, -$140 million, and -$110 million (2024 dollars) in 2028, 2030, and 2035, respectively.

Table 2-5   Costs of the Proposed Repeal from 2028 through 2037 (million 2024 dollars, undiscounted)[a]

Year	Power Sector Generating Costs[b]	PM CEMS Costs	Total Costs
2028	-140	-2.8	-140
2029	-140	-2.8	-140
2030	-140	-2.8	-140
2031	-140	-2.8	-140
2032	-110	-2.8	-110
2033	-110	-2.8	-110
2034	-110	-2.8	-110
2035	-110	-2.8	-110
2036	-110	-2.8	-110
2037	-110	-2.8	-110

[a] Values rounded to two significant figures. Values may not appear to add correctly due to rounding.
[b] IPM run years apply to particular calendar years as follows: IPM run year 2028 is applied to 2028 and 2029, 2030 is applied to 2030 and 2031, and 2035 is applied to 2032 to 2037.

Table 2-6   Present Value and Equivalent Annualized Values of Total Costs from 2028 to 2037 (million 2024 dollars, discounted to 2025)

Power Sector Generating Costs[b]		PM CEMS Costs		Total Costs	
PV	EAV	PV	EAV	PV	EAV
3% Discount Rate					
-980	-120	-23	-2.7	-1,000	-120
7% Discount Rate					
-760	-110	-17	-2.5	-770	-110

[a] Values rounded to two significant figures.

The compliance costs associated with a regulatory action can impact households by changing the prices of goods and services; the extent of the price changes depends on if and how producers pass-through those costs (or cost savings in the case of regulatory actions that reduce compliance costs) to consumers. The ultimate distributional outcome will depend on how changes in electricity and other fuel and input prices and lower returns to labor and capital propagate through the economy and interact with existing government transfer programs. The

distribution of compliance costs may be regressive or progressive, depending on the factors such as the form of the regulation and other implementation choices.

The EPA used the peer-reviewed CGE model SAGE to evaluate the economy-wide social costs and economic impacts of the 2024 Carbon Pollution Standards (CPS).[11] To estimate the impacts of the CPS, SAGE used the estimated change "in real resource" expenditures by the electricity sector under the final CPS. These real resources constitute the additional physical and labor inputs the sector purchases because of the regulation, while also accounting for changes in transfers such as tax and subsidy payments, financing charges for new capital, and insurance. The EPA is considering applying a similar approach using SAGE to estimate the economy-wide social costs and economic impacts of the final repeal of the 2024 MATS RTR.

2.3.3   *Impacts on Fuel Prices, Fuel Consumption, and Electricity Prices*

The proposed repeal has minimal estimated energy market impacts. Table 2-7 presents a variety of projected national average energy market impacts that were projected for the 2024 MATS RTR analysis. The changes to retail electricity prices and indicators for coal and natural gas were each estimated to be approximately zero percent in all run years under the 2024 MATS RTR, and, as such, these impacts are expected to be minimal under this proposed action. The projected energy market and electricity retail rate impacts of the 2024 MATS RTR are discussed more extensively in section 3.5 of the 2024 MATS RTR RIA, which also presents projections of power sector generation and capacity changes by technology and fuel type.[12]

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[11] Available in the docket for the 2024 CPS rule here: https://www.regulations.gov/document/EPA-HQ-OAR-2023-0072-8913.

[12] Available in the docket for the 2024 MATS RTR rule here: https://www.regulations.gov/document/EPA-HQ-OAR-2018-0794-6966.

Table 2-7   National Impacts on Fuel Prices, Fuel Consumption, and Electricity Prices (million 2024 dollars)

		2028	2030	2035
Retail electricity prices (2024 mills/kWh)	Baseline with 2024 MATS RTR	117	120	116
	Proposed Repeal	117	120	116
	Change	0.0%	0.0%	0.0%
Average price of coal delivered to the power sector (2024 $/MMBtu)	Baseline with 2024 MATS RTR	1.9	1.9	1.9
	Proposed Repeal	1.9	1.9	1.9
	Change	0.0%	0.0%	0.0%
Coal production for power sector use (million tons)	Baseline with 2024 MATS RTR	250	218	141
	Proposed Repeal	250	218	141
	Change	0.0%	0.0%	0.0%
Price of natural gas delivered to power sector (2024$/MMBtu)	Baseline with 2024 MATS RTR	3.4	3.6	3.5
	Proposed Repeal	3.4	3.6	3.5
	Change	0.0%	0.0%	0.0%
Price of average Henry Hub (spot) (2024$/MMBtu)	Baseline with 2024 MATS RTR	3.4	3.5	3.5
	Proposed Repeal	3.4	3.5	3.5
	Change	0.0%	0.0%	0.0%
Natural gas use for electricity generation (TCF)	Baseline with 2024 MATS RTR	12	12	9.3
	Proposed Repeal	12	12	9.3
	Change	0.0%	0.0%	0.0%

Note: Values rounded to two significant figures.

2.3.4   *Presidential Proclamation 10914: Relief for Certain Stationary Sources to Promote American Energy*

As discussed in this earlier in this Section, certain regulatory changes that have occurred since the promulgation of the 2024 MATS RTR are not reflected in this analysis. Presidential Proclamation 10914 titled *Regulatory Relief for Certain Stationary Sources to Promote American Energy* is an action that impacts the baseline of this proposed repeal but is not modeled and reflected is the results presented in this RIA. The Proclamation exempts certain stationary sources, as identified in Annex I, from compliance with the 2024 MATS RTR requirements.[13] As set out in the Proclamation, the exemption lasts for a period of two years beyond the 2024 MATS RTR compliance date, which is the period beginning July 8, 2027, and concluding July 8, 2029.

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[13] Presidential Proclamation 10914 titled *Regulatory Relief for Certain Stationary Sources to Promote American Energy* (90 FR 16777, April 21, 2025) is available here:
https://www.federalregister.gov/documents/2025/04/21/2025-06936/regulatory-relief-for-certain-stationary-sources-to-promote-american-energy.

During this two-year period, the stationary sources identified in Annex I will continue to be subject to the pre-2024 MATS RTR compliance obligations.

Prior to the Proclamation, all MATS-affected EGUs were subject to the revised requirements in the 2024 MATS RTR. However, only a subset of the total affected EGUs were expected to need to take additional action to be in compliance based on the analysis supporting that final rule. We compared this list of potentially impacted EGUs to the list in Annex I. Based on the analysis supporting the 2024 MATS RTR and Annex I, Table 2-8 presents the number of EGUs the EPA estimated to be impacted by the 2024 MATS RTR and whether they appear in Annex I. The table shows that the majority, but not all, of potentially impacted units identified in the 2024 analysis appear in Annex I. We also note that Annex I includes units that the EPA did not anticipate being incrementally impacted by the 2024 MATS RTR.

Table 2-8   Summary of the Presidential Proclamation Impacts

2024 MATS RTR Requirement	EGUs Exempt Under Annex I	EGUs Not Exempt Under Annex I
fPM Standard (Surrogate Standard for Non-Hg HAP Metals)	25	8
Hg Standard for Lignite-Fired EGUs	19	3
Continuous Emissions Monitoring Systems (PM CEMS) Requirement	122	72

A shift in the compliance timeline for certain EGUs that is different than modeled in the 2024 MATS RIA would likely result in different projected compliance costs and emissions changes, and the overall magnitude of costs and benefits would be lower.

2.4   References

OMB. (2003). Circular A-4: Regulatory Analysis. Washington DC. https://www.whitehouse.gov/wp-content/uploads/legacy_drupal_files/omb/circulars/A4/a-4.pdf

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3 BENEFITS ANALYSIS

3.1 Introduction

In this section, we discuss the HAP benefits and present health benefits estimates associated with the emissions changes for the proposed repeal, as well as include certain non-monetized disbenefits. The monetized health impact estimates provided for this proposed repeal are presented in 2024 dollars, whereas the benefits estimates presented in the 2024 MATS RTR RIA were presented in 2019 dollars. Similar to Section 2, this section relies on the emissions changes produced for the 2024 MATS RTR RIA analysis to assess the health impacts of the proposed repeal.[14]

The 2024 MATS RTR RIA provides a detailed discussion of the methods used to estimate the human health impacts of projected changes in the concentrations of $PM_{2.5}$ and ozone resulting from projected emissions changes under the rule. See section 4 of the 2024 MATS RTR RIA for details on quantifying health benefits. Also, see Appendix A of the 2024 MATS RTR RIA for additional details on the air quality modeling and analysis used to create $PM_{2.5}$ and ozone air quality surfaces, as well as a presentation of these uncertainties and limitations associated with the methodologies.

The EPA is unable to quantify and monetize all the potential impacts of this proposed repeal. Section 3.3.2 provides a discussion of these additional unquantified impacts.

Consistent with E.O. 14154 "Unleashing American Energy" (90 FR 8353, January 20, 2025) and the memorandum titled "Guidance Implementing Section 6 of Executive Order 14154, Entitled 'Unleashing American Energy'", the EPA did not monetize benefits associated with CO_2 emissions changes. For a brief discussion of uncertainties and limitations associated with monetizing CO_2-related domestic climate benefits, see Section 5.4 of this RIA.

3.2 HAP Benefits

Under this proposed repeal, the 2024 MATS RTR would no longer reduce emissions of Hg and non-Hg HAP metals. Those projections estimated that the 2024 MATS RTR would result in 9,500 pounds of reductions in emissions of Hg and 49 tons of non-Hg HAP metals across all

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[14] Available in the docket for the 2024 MATS RTR rule here: https://www.regulations.gov/document/EPA-HQ-OAR-2018-0794-6966.

run years. Hg emitted from U.S. EGUs can deposit to watersheds and associated waterbodies where it can bioaccumulate as methylmercury (MeHg) in aquatic species. Consumption of these species can increase exposure to MeHg, which has adverse impacts on neurodevelopment and the cardiovascular system and can exert genotoxic activity (ATSDR, 2024). The EPA has classified MeHg as a "possible" human carcinogen (U.S. EPA, 2001).

Additionally, some HAP metals emitted by U.S. EGUs are persistent and bioaccumulative and others have the potential to cause cancer. Exposure to these HAP metals, depending on exposure duration and levels of exposures, is associated with a variety of adverse health effects. See Section 4 of the 2024 MATS RTR RIA for a detailed discussion of HAP benefits.

3.3   Criteria Pollutant Impacts

The health benefits analysis presented in this section applies methods consistent with those employed most recently in the final PM National Ambient Air Quality Standards (NAAQS) RIA (U.S. EPA, 2024a). The 2024 MATS RTR was estimated to reduce emissions of $PM_{2.5}$, SO_2, and NO_X by 5,400 tons, 770 tons, and 220 tons, respectively. The EPA's approach for selecting $PM_{2.5}$ and ozone-related health endpoints to quantify and monetize is summarized below. For a full description of the methods, please see *Estimating PM$_{2.5}$- and Ozone-Attributable Health Benefits: 2024 Update* (Health Benefits TSD) (U.S. EPA, 2024b). The EPA's methods for estimating health benefits due to changes in $PM_{2.5}$ and ground-level ozone concentrations were reviewed by an EPA Science Advisory Board (SAB) in 2023 (U.S. EPA Science Advisory Board, 2024). This SAB panel concluded that EPA's methods are "scientifically robust and appropriate for regulatory analyses." The panel made several recommendations for improvements, including valuing changes in nonfatal health risks with willingness-to-pay measures or broader measures of the cost of illness, using scenario-based demographic projections, and updating inputs to the calculation of the value of a statistical life.

3.3.1   Estimated Economic Value of Criteria Pollutant Impacts

To directly compare the impact of emissions changes associated with the proposed repeal with cost estimates, the number of instances of each air pollution-attributable health impact must be converted to a monetary value. This requires a valuation estimate for each unique health

endpoint and potentially also discounting if the impacts are expected to accrue over more than a single year, as recommended by the EPA's *Guidelines for Preparing Economic Analyses* (2024c). See Section 4.3.9 of the 2024 MATS RTR RIA for details on the estimated number of avoided premature deaths and illnesses in each year relative to the baseline along with the 95 percent confidence interval. Table 4-2 and Table 4-3 in the 2024 MATS RTR RIA report the ozone and $PM_{2.5}$-related premature mortality and illnesses that were quantified in that RIA, respectively. Below, Table 3-1 reports the estimates of avoided premature mortalities due to this proposed repeal—assuming the quantified $PM_{2.5}$ and ozone-related human health benefits reported in the 2024 MATS RTR RIA will no longer occur. The number of avoided premature deaths was calculated from the sum of individual reduced mortality across the contiguous United States. The estimated number of avoided premature deaths in each year is relative to the baseline along with the 95 percent confidence interval. Negative numbers indicate avoided premature mortalities that will no longer occur under this proposed action.

Table 3-1   Estimated PM2.5 and Ozone-Related Avoided Premature Mortality [a]

	Ozone-related Avoided Premature Mortality[b]	PM2.5-related Avoided Premature Mortality
2028	-0.017 (-0.0068 to -0.27) and -0.37 (-0.26 to -0.48)	-3.4 (-3 to -3.8) and -7.2 (-5.2 to -9.2)
2030	-0.0009 (-0.0004 to -0.0014) and -0.019 (-0.013 to -0.025)	-1.3 (-1.1 to -1.4) and -2.7 (-1.9 to -3.4)
2035	0.0032 (0.005 to 0.0013) and 0.07 (0.091 to 0.049)	-0.84 (-0.74 to -0.94) and -1.7 (-1.2 to -2.1)

[a] Values rounded to two significant figures. The two benefits estimates are separated by the word "and" to signify that they are two separate estimates. The estimates do not represent lower- and upper-bound estimates and should not be summed.
[b] The first ozone mortality estimate uses the pooled Katsouyanni et al. (2009) and Zanobetti et al. (2008) short-term ozone exposure risk estimate and the second ozone mortality estimate uses the Turner et al. (2016) long-term ozone exposure risk estimate. Applied risk estimate derived from April-September exposures to estimates of ozone across the May-September warm season and converted ozone risk estimate metric from MDA1 to MDA8 for the short-term ozone exposure risk estimate.
[c] The first $PM_{2.5}$ mortality estimate uses the Wu et al. (2020) long-term $PM_{2.5}$ exposure mortality risk estimate and the second $PM_{2.5}$ mortality estimate uses the Pope et al. (2019) long-term $PM_{2.5}$ exposure mortality risk estimate.

Table 3-2 reports the estimates of the economic value of avoided premature mortality and illnesses in each year relative to the baseline along with the 95 percent confidence intervals.

Table 3-2   Estimated Economic Value of Avoided Ozone and PM$_{2.5}$-Attributable Premature Mortality and Illnesses for the Proposed Repeal for 2028, 2030, and 2035 (95 percent confidence interval; million 2024 dollars)[a]

	Discount Rate[b]	PM$_{2.5}$ and Ozone-Related Health Benefits[c,d]
2028	3%	-$47 (-$6.4 to -$120) and -$99 (-$11 to -$260)
	7%	-$41 (-$5.1 to -$110) and -$89 (-$9.2 to -$230)
2030	3%	-$17 ($2.2 to -44) and -$35 (-$3.7 to -$93)
	7%	-$15 ($1.8 to -$40) and -$31 (-$3.2 to -$83)
2035	3%	-$11 (-$0.91 to -$29) and -$21 ($0.48 to -$59)
	7%	-$10 (-$0.78 to -$26) and -$19 ($0.46 to -$53)

[a] Values rounded to two significant figures. The two benefits estimates are separated by the word "and" to signify that they are two separate estimates. The estimates do not represent lower- and upper-bound estimates and should not be summed.
[b] Estimates represent sums of all future benefit streams discounted back to the analysis year (2028, 2030, or 2035) to account for lags in the onset of health effects. These estimates have not been discounted to 2025.
[c] The first estimate is the sum of ozone mortality estimated using the pooled short-term ozone exposure risk estimate and the Wu et al. (2020) long-term PM$_{2.5}$ exposure mortality risk estimate.
[d] The second estimate is the sum of the Turner et al. (2016) long-term ozone exposure risk estimate and the Pope et al. (2019) long-term PM$_{2.5}$ exposure mortality risk estimate.

3.3.2   Additional Unquantified Benefits

The monetized benefit estimates presented in this section do not include potential health impacts from changes in Hg and non-Hg HAP metals emissions from the proposed repeal. Data, time, and resource limitations prevented the EPA from quantifying certain estimated health impacts and monetizing certain estimated benefits for the 2024 MATS RTR analysis associated with incremental changes in direct exposure to NO$_2$ and SO$_2$, independent of the role NO$_2$ and SO$_2$ play as precursors to PM$_{2.5}$ and ozone, ecosystem effects, and visibility impairment that might result from emissions changes associated with the proposed repeal. For a full list of the non-monetized benefits, see Section 4.3.10 of the 2024 MATS RTR RIA.

3.4   Total Benefits

Table 3-3 presents the undiscounted stream of annual PM$_{2.5}$ and ozone-related health benefits and non-monetized disbenefits. Table 3-4 presents the present values (PVs) and equivalent annualized values (EAVs), calculated for the 2028 to 2037 timeframe.

Table 3-3   Total Benefits under the Proposed Repeal from 2028 through 2037 (million 2024 dollars, undiscounted)[a]

	PM$_{2.5}$ and O$_3$-related Health Benefits[b]	
	3%	7%
2028	-99	-89
2029	-100	-91
2030	-35	-31
2031	-36	-32
2032	-20	-18
2033	-20	-18
2034	-21	-19
2035	-21	-19
2036	-22	-19
2037	-22	-20
Non-Monetized Disbenefits[c]		
From increases of about 65,00 to 95,000 tons of CO$_2$ annually[d]		
From increases of about 900 to 1,000 pounds of Hg annually		
From increases of about 4 to 7 tons of non-Hg HAP metals annually		
Disbenefits from repealing the PM CEMS requirement		

[a] Values have been rounded to two significant figures and are presented to no smaller than two decimal places. Values may not appear to add correctly due to rounding.
[b] The estimated value of the health benefits in the table are the larger (in magnitude) of the two estimates presented in Table 3-2. Monetized benefits include those related to public health associated with changes in PM$_{2.5}$ and ozone concentrations.
[c] Several categories of costs and benefits remain unmonetized and are not reflected in the table.
[d] Non-monetized benefits are anticipated for years 2030 and 2031 from decreases of about 36,000 tons of CO$_2$ annually.

Table 3-4 Present Value and Equivalent Annualized Value of Total Benefits (million 2024 dollars, discounted to 2025)[a]

PM$_{2.5}$ and O$_3$-related Health Benefits[b]			
3% Discount Rate		7% Discount Rate	
PV	EAV	PV	EAV
-340	-39	-240	-35
Non-Monetized Disbenefits[c]			
From increases of about 65,00 to 95,000 tons of CO$_2$ annually[d]			
From increases of about 900 to 1,000 pounds of Hg annually			
From increases of about 4 to 7 tons of non-Hg HAP metals annually			
From repealing the PM CEMS requirement			

[a] Values have been rounded to two significant figures. Values may not appear to add correctly due to rounding.
[b] The estimated value of the health benefits in the table are the larger (in magnitude) of the two estimates presented in Table 3-2. Monetized benefits include those related to public health associated with changes in PM$_{2.5}$ and ozone concentrations.
[c] Several categories of costs and benefits remain unmonetized and are not reflected in the table.
[d] Non-monetized benefits are anticipated for years 2030 and 2031 from decreases of about 36,000 tons of CO$_2$ annually.

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4   ECONOMIC IMPACTS

4.1   Overview

This section analyzes the potential impacts on small entities and the potential labor impacts associated with this action relative to a baseline with the 2024 MATS RTR requirements.

4.2   Small Entity Analysis

The Regulatory Flexibility Act (RFA; 5 U.S.C. §601 et seq.), as amended by the Small Business Regulatory Enforcement Fairness Act (Public Law No. 104121), provides that whenever an agency publishes a proposed rule, it must prepare and make available an initial regulatory flexibility analysis (IRFA), unless it certifies that the rule, if promulgated, will not have a significant economic impact on a substantial number of small entities (5 U.S.C. §605[b]). Small entities include small businesses, small organizations, and small governmental jurisdictions. An IRFA describes the economic impact of the rule on small entities and any significant alternatives to the rule that would accomplish the objectives of the rule while minimizing significant economic impacts on small entities. An agency may certify that a rule will not have a significant economic impact on a substantial number of small entities if the rule relieves regulatory burden, has no net burden, or otherwise has a positive economic effect on the small entities subject to the rule.

As described in Section 2 of this RIA, the cost estimates presented in the 2024 MATS RTR RIA are an estimate of the increased power industry expenditures required to implement the final requirements of the 2024 MATS RTR. By repealing these provisions, this proposed action would lead to reductions in EAV of costs over the 2028 to 2037 timeframe of about $120 and $110 million per year at discount rates of three and seven percent, respectively.

For this small entity analysis, the EPA used IPM-derived unit-level cost estimates under full compliance with the 2024 MATS RTR requirements. Net impact estimates were based on the following: operating and retrofit costs, sale or purchase of allowances, and the change in fuel costs or electricity generation revenues under this repeal action relative to a base case with the requirements. In the 2024 MATS RTR RIA, the EPA identified 45 potentially affected EGUs owned by 24 small entities that would together incur compliance costs of about $2.4 million (in

2024 dollars) in 2028, the year of compliance. Of these small entities, one was projected to incur compliance cost reductions greater than 1 percent of baseline revenue, and two were projected to incur compliance cost increases greater than 1 percent (relative to a baseline without the requirements). The remaining 23 entities were not projected to experience compliance cost changes of more than 1 percent. Under the proposed repeal, these projected compliance cost changes for small entities will be avoided. Consequently, the EPA expects that this deregulatory action, if finalized as proposed, would result in compliance cost savings for facilities otherwise affected by the three provisions in the 2024 MATS RTR. Based on this analysis, the EPA concludes that the estimated compliance cost savings under the proposed rule will not have a significant economic impact on a substantial number of small entities.

4.3   Labor Impacts

In the 2024 MATS RTR RIA, the EPA concluded: "Generally, there are significant challenges when trying to evaluate the employment effects due to an environmental regulation from employment effects due to a wide variety of other economic changes, including the impact of the coronavirus pandemic on labor markets and the state of the macroeconomy generally. For EGUs, this rule may result in a sizable near-term increase in construction-related jobs related to the installation of new pollution controls, and any changes in recurring non-construction employment are expected to be small."

The EPA concludes that the proposed repeal may result in a near-term decrease in construction-related jobs related to not installing new pollution controls, and any changes in recurring non-construction employment are expected to be small. For further discussion of the EPA's projected employment changes, including an overview of power sector employment and analytical methodology utilized, see section 5.3 of the 2024 MATS RTR RIA.

5   COMPARISON OF BENEFITS AND COSTS

5.1   Introduction

This section provides the estimates of the costs, benefits, and net benefits of the proposed action, as well as discusses unquantified impacts. The reduced compliance cost expenditures reported in this section are not social costs; instead, we use compliance costs as a proxy for social costs. We do not account for changes in costs and benefits due to changes in economic welfare in the broader economy arising from shifts in production and consumption that may be induced by the proposed action. Furthermore, costs and benefits due to interactions with pre-existing market distortions outside the electricity sector are omitted. Additional limitations of the analysis and sources of uncertainty are described throughout the RIA and summarized later in this section.

5.2   Methods

The EPA calculated the PV of benefits, costs, and net benefits for the years 2028 through 2037, using three and seven percent beginning-of-period discount rates from the perspective of 2025 for the proposed repeal. All estimates are in 2024 dollars.

This calculation of a PV requires an annual stream of values for each year of the 2028 to 2037 timeframe. The EPA used IPM to estimate costs and emissions changes for the projection years 2028, 2030, and 2035 for the 2024 MATS RTR analysis. The year 2028 approximates the compliance year for the 2024 MATS RTR requirements. In the IPM modeling used for this RIA, the 2028 projection year is representative of 2028 and 2029, the 2030 projection year is representative of 2030 and 2031, and the 2035 projection year is representative of 2032 to 2037. Estimates of costs and emissions changes in other years are determined from the mapping of projection years to the calendar years that they represent. Consequently, the costs and emissions estimates from IPM in each projection year are applied to the years that it represents.[15]

The projected PM$_{2.5}$ and ozone-related health benefits are based on projection year emission estimates and also account for year-specific variables that influence the size and

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[15] Projected costs associated with the CEMS requirement are not based on IPM. For information on these avoided cost estimates, see Section 2.

distribution of the benefits from the 2024 MATS RTR analysis. These variables include population growth, income growth, and the baseline mortality rate.[16]

5.3 Results

Table 5-1 presents the undiscounted stream of benefits, costs, and net benefits over the 2028 through 2037 timeframe for the proposed repeal. Table 5-2 presents the associated PV and EAV of the discounted stream of costs, benefits, and net benefits over this timeframe. The EAV represents the value of a typical cost or benefit for each year of the analysis.

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[16] As these variables differ by year, the health benefit estimates vary by year, including when different years are based on the same IPM projection year emission estimate.

Table 5-1   Net Benefits of the Proposed Repeal from 2028 through 2037 (million 2024 dollars, undiscounted)[a]

Year	PM₂.₅ and O₃-related Health Benefits[b] 3%	7%	Compliance Costs	Net Benefits 3%	7%
2025	-	-	-	-	-
2026	-	-	-	-	-
2027	-	-	-	-	-
2028	-99	-89	-140	39	49
2029	-100	-91	-140	36	47
2030	-35	-31	-140	110	110
2031	-36	-32	-140	100	110
2032	-20	-18	-110	94	96
2033	-20	-18	-110	94	96
2034	-21	-19	-110	93	95
2035	-21	-19	-110	93	95
2036	-22	-19	-110	92	95
2037	-22	-20	-110	92	94

Non-Monetized Disbenefits[c]

From increases of about 65,00 to 95,000 tons of CO_2 annually[d]

From increases of about 900 to 1,000 pounds of Hg annually

From increases of about 4 to 7 tons of non-Hg HAP metals annually

From repealing the PM CEMS requirement

[a] Values have been rounded to two significant figures. Values may not appear to add correctly due to rounding.

[b] The estimated value of the health benefits in the table are the larger (in magnitude) of the two estimates presented in Table 3-2. Monetized benefits include those related to public health associated with changes in PM₂.₅ and ozone concentrations.

[c] Several categories of costs and benefits remain unmonetized and are not reflected in the table.

[d] Non-monetized benefits are anticipated for years 2030 and 2031 from decreases of about 36,000 tons of CO_2 annually.

Table 5-2   Net Benefits of the Proposed Repeal from 2028 through 2037 (million 2024 dollars, discounted to 2025)[a]

Year	PM2.5 and O3-related Health Benefits[b]		Compliance Costs		Net Benefits	
	3%	7%			3%	7%
2025	-	-	-	-	-	-
2026	-	-	-	-	-	-
2027	-	-	-	-	-	-
2028	-91	-72	-130	-110	35	40
2029	-90	-69	-120	-110	32	36
2030	-30	-22	-120	-100	91	78
2031	-30	-21	-120	-94	88	72
2032	-16	-11	-93	-71	77	60
2033	-16	-11	-90	-66	74	56
2034	-16	-10	-87	-62	72	52
2035	-16	-9.7	-85	-58	69	48
2036	-16	-9.2	-82	-54	67	45
2037	-15	-8.8	-80	-51	65	42
	PM2.5 and O3-related Health Benefits[b]		**Compliance Costs**		**Net Benefits**	
	Discount Rate					
	3%	7%	3%	7%	3%	7%
PV	**-340**	**-240**	**-1,000**	**-770**	**670**	**530**
EAV	**-39**	**-35**	**-120**	**-110**	**78**	**75**
Non-Monetized Disbenefits[c]						
From increases of about 65,00 to 95,000 tons of CO_2 annually[d]						
From increases of about 900 to 1,000 pounds of Hg annually						
From increases of about 4 to 7 tons of non-Hg HAP metals annually						
From repealing the PM CEMS requirement						

[a] Values have been rounded to two significant figures. Values may not appear to add correctly due to rounding.
[b] The estimated value of the health benefits in the table are the larger (in magnitude) of the two estimates presented in Table 3-2. Monetized benefits include those related to public health associated with changes in $PM_{2.5}$ and ozone concentrations.
[c] Several categories of costs and benefits remain unmonetized and are not reflected in the table.
[d] Non-monetized benefits are anticipated for years 2030 and 2031 from decreases of about 36,000 tons of CO_2 annually.

5.4   Uncertainties and Limitations

Throughout the RIA, we considered several sources of uncertainty, both quantitatively and qualitatively, regarding the emissions changes, benefits, and costs estimated for the proposed repeal. We summarize the key elements of our discussions of uncertainty below.

Presidential proclamation: In the RIA for this proposed action, which is based upon the 2024 MATS RTR RIA, the EPA modeling assumes full compliance with the 2024 MATS RTR with identical compliance dates across all EGUs. A shift in the compliance timeline for certain EGUs that is different than modeled in the 2024 MATS RIA would likely result in different projected compliance costs and emissions changes. As result, estimates of costs and benefits of the 2024 MATS RTR would likely be different under new modeling, and we note this conclusion as an important uncertainty in this proposal RIA. That said, if full compliance is staggered by two years for a subset of EGUs for each of the three provisions, estimates of both costs and benefits would be lower as a result of additional discounting of the stream of costs and benefits for the exempted EGUs.

Compliance costs: The IPM-projected annualized cost estimates provided in this analysis are meant to show the increase in production (generating) costs to the power sector in response to the 2024 MATS RTR requirements. There are several key areas of uncertainty related to the electric power sector that are worth noting, including assumptions about electricity demand, natural gas supply and demand, longer-term planning by utilities, and assumptions about the cost and performance of controls. Additional uncertainties in the cost analysis are introduced by the fact that the "true" baseline in this RIA is different than the baseline modeling that informed the 2024 MATS RTR RIA, which provides the estimates of compliance cost here. There is also uncertainty associated with the estimated costs for the PM CEMS requirement.

Uncertainty in achievability of Hg emission standard for lignite-fired EGUs: As explained in Section III.A.3 of the preamble, the EPA is proposing to repeal the revised Hg limit for lignite-fired EGUs because the revised standard was based on insufficient available data demonstrating that lignite units can meet the lower limit over the range of boiler types and variable compositions of fuels used at lignite-fired EGUs. While the EPA found that all 22 lignite-fired EGUs at 12 facilities would need to control their Hg emissions to 95 percent or less to meet an emission standard of 1.2 lb/TBtu in the 2024 MATS RTR, the Agency did not demonstrate that this high level of Hg removal is achievable for all lignite-fired units while taking into account the wide-ranging and highly variable Hg content of the various lignite fuels.

In this RIA, which is based upon the 2024 MATS RTR RIA, the EPA modeling assumes full compliance with the Hg emission standard for lignite-fired EGUs under the 2024 MATS

RTR relative to the baseline without the rule requirements. If full compliance with this standard is more costly or less effective at Hg removal than modeled in the 2024 MATS RIA, it is possible that there would have been less projected emission reductions and higher compliance costs under the 2024 MATS RTR. As result, costs and benefits of the rule may have been different had alternative Hg emission standard assumptions for lignite-fired EGUs been used, and we note this conclusion as an important uncertainty in this proposal RIA.

Monetizing CO_2-related domestic climate benefits: There are significant uncertainties related to the monetization of greenhouse gases (GHGs) that include, but are not limited to: the magnitude of the change in climate due to a change in GHG emissions; the relationship between changes in the climate and the economy and therefore, the resulting economic impacts; future economic and population growth which are important for estimating vulnerability, willingness to pay to avoid impacts, and the ability to adapt to future changes; future technological advancements that would reduce vulnerability and impacts; the share of impacts from GHG emissions that affect citizens and residents of the United States; and the appropriate discount rates to use when discounting in an intergenerational context. Consistent with the memorandum titled "Guidance Implementing Section 6 of Executive Order 14154, Entitled 'Unleashing American Energy'", the EPA did not monetize impacts from changes in GHG emissions for this proposal (650 thousand tons of CO_2 over the time horizon of analysis). Monetizing these impacts could potentially result in flawed decision-making due to overreliance on highly uncertain values.

Monetized $PM_{2.5}$ and ozone-related benefits: The analysis of monetized $PM_{2.5}$ and ozone-related benefits described in Section 3.3 includes many data sources as inputs that are each subject to uncertainty. Input parameters include projected emissions inventories, projected compliance methods, air quality data from models (with their associated parameters and inputs), population data, population estimates, health effect estimates from epidemiology studies, economic data, and assumptions regarding the future state of the world (i.e., regulations, technology, and human behavior). When compounded, even small uncertainties can greatly influence the size of the total quantified benefits.

Interaction of the proposed action with NAAQS attainment: Had the 2024 MATS RTR been implemented, the projected emissions changes under the action would likely have

affected ambient $PM_{2.5}$ and ozone concentrations in parts of the U.S. Affected areas may have included locations both meeting and exceeding the NAAQS for $PM_{2.5}$ and ozone. States with nonattainment areas designated as moderate or higher are required to achieve concentration reductions in those areas sufficient to attain the NAAQS. The 2024 MATS RTR RIA did not account for how interaction with NAAQS compliance would affect the benefits and costs projected under the rule. The emissions reductions projected under the 2024 MATS RTR requirements for most years of analysis may have contributed to concentration reductions that aided states in reaching attainment. As these emissions reductions will not occur under this proposed repeal action, states may need to pursue emissions reductions from other sources to reach the standards, incurring costs for those sources. Similarly, in the analysis years where emissions increased until the 2024 MATS RTR compliance period, states may have needed to identify additional approaches to reduce emissions from local sources relative to the baseline to comply with the NAAQS. If this is the case, from a nationwide perspective, the estimates of avoided compliance costs and forgone emissions impacts and associated health impacts under this proposed rule may be under- or over-estimated depending on the specifics of how this proposed action interacts with NAAQS compliance.