MEMORANDUM

TO: Docket for rulemaking, "Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Other Solid Waste Incineration Units" (EPA-HQ-OAR-2003-0156)

DATE: June 12, 2025

SUBJECT: Economic Impact Analysis for the Final Standards of Performance for New Stationary Sources and Emission Guidelines for Existing Sources: Other Solid Waste Incineration Units

1. Introduction

In accordance with requirements under the Clean Air Act (CAA) 129(a)(5), the U.S. Environmental Protection Agency (EPA) performed a 5-year review of the emissions standards and other requirements for Other Solid Waste Incineration (OSWI) units. The EPA subsequently published a notice of proposed rulemaking on August 30, 2020 (85 FR 54178) and a supplemental notice of proposed rulemaking (SNPRM) on July 24, 2024 (89 FR 60342). Based on our analysis of the comments received for this 5-year review and supplemental proposal, we are finalizing our determination that the CAA section 129(a)(5) review does not mandate revising the OSWI standards for new and existing sources. The EPA is finalizing certain other revisions in accordance with its authority under the CAA, including revisions to the OSWI New Source Performance Standards (NSPS) and Emission Guidelines (EG). We are finalizing applicability-related and definitional changes, including; changes to OSWI subcategories, including regulating under the OSWI standards certain small incineration units that are currently regulated under the Commercial and Industrial Solid Waste Incineration Units (CISWI) standards; changes to the startup, shutdown, and malfunction (SSM) provisions; and changes to testing, monitoring, recordkeeping, and reporting requirements. We are also making other miscellaneous technical and editorial changes to the regulatory text.

2. Industry Background

Under the 2005 OSWI standards, the term "OSWI unit" was defined as a very small municipal waste combustion (VSMWC) unit, an institutional waste incineration (IWI) unit, or an air curtain incinerator (ACI). A VSMWC unit under the 2005 rule was any municipal waste combustion unit that has the capacity to combust less than 35 tons per day (TPD) of municipal solid waste (MSW) or refuse-derived fuel. Under the 2005 rule, an IWI unit was any combustion unit that combusts institutional waste and was a distinct operating unit of the institutional facility that generated the waste. ACI units were purposed for wood waste, clean lumber and yard waste.

Small remote incinerators (SRI) are located at commercial businesses and are currently regulated under the Commercial and Industrial Solid Waste Incineration Units (CISWI) standards. The SRIs are primarily owned by oil and gas companies and burn municipal-type solid waste that is

generated by the oil and gas workers and is not associated with oil and gas activities. These incinerators are typically located in remote areas that have no substitute waste removal options.

As required by section 129 of the CAA, the OSWI NSPS and EG rules set emission standards for nine pollutants: cadmium (Cd), carbon monoxide (CO), dioxins/furans (D/F), hydrochloric acid (HCl), lead (Pb), mercury (Hg), oxides of nitrogen (NO_X), particulate matter (PM), and sulfur dioxide (SO_2). The rules also established opacity standards.

3. Regulatory Amendments Finalized in this Action

The EPA is finalizing changes to the OSWI standards. The preamble to the final rule contains a detailed discussion of the final amendments and their justification. Below is a summary of those amendments:

1. Changes to the applicability of the NSPS and EG in order to address inconsistent definitions between OSWI and other section 129 rulemakings, address remand considerations, including classification of certain units to rudimentary combustion devices, which reduces the number of facilities with applicable requirements under the OSWI standards (see preamble sections III.B and III.D),
2. MACT floor recalculations for the VSMWC and IWI units with capacities less than or equal to 10 tons per day (TPD) source categories for the pollutants hydrogen chloride (HCl), lead (Pb), mercury (Hg), sulfur dioxide (SO_2), nitrogen oxides (NO_X), particulate matter (PM), dioxins/furans (DF), and carbon monoxide (CO) (see preamble section III.C),
3. To eliminate provisions that OSWI standards do not apply during periods of Startup, Shutdown, and Malfunction (SSM) (see preamble section III.E),
4. Revisions to Testing and Compliance. For OSWI units that have a capacity less than or equal to 10 TPD, we are finalizing revisions to the initial and continuous compliance requirements to introduce alternatives to conducting the initial and annual performance tests and to remove the requirements to install, calibrate, maintain, and operate continuous emissions monitoring systems (CEMS) for certain sources (see preamble section III.F.1),
5. Several revisions to the recordkeeping and reporting requirements (see preamble section III.F.2),
6. That owners and operators of OSWI units submit electronic copies of required performance test reports, performance evaluation reports, deviation reports, and annual compliance reports (see preamble section III.F.3), and
7. Minor technical edits and clarifications to improve the readability and comprehensibility of the rule (see preamble section III.F.4).

The final rule defines a “rudimentary combustion device” to be a combustion device with a capacity less than or equal to 10 TPD that is designed and constructed without one or more of the following elements:

1. A stack, chimney, or pipe designed for the purpose of discharging flue gases from combustion;
2. Mechanical draft to provide air flow;
3. Burners designed to initiate and/or assist the combustion process, including burners designed to burn supplementary fuel; or
4. An ancillary power supply to operate.

Information gathered on incineration units located in Tribal lands in rural Alaska indicates that these units that do not meet one or more of the elements and would not be covered by the final OSWI rules.

The EPA has determined that it is appropriate to account for certain small incineration units in the OSWI standards (specifically, small remote incinerators (SRI) that are located at commercial businesses which are currently regulated under the CISWI standards). We note that many of these units are not currently meeting the CISWI standards and the implementation of the CISWI standards was prohibited for units in the State of Alaska by Congress.[1] The EPA's decision to regulate these SRI units located at commercial businesses under the OSWI standards is discussed further in sections III.C and IV.B of the preamble to the final rule.

3. Inventory of OSWI and CISWI Units

The starting point for developing the inventory of existing units potentially affected by this action was the previous inventory of OSWI units developed for the Section 111 and 129 standards in 2005. Other data sources were searched to identify additional OSWI facilities and units to add to this 2005 inventory. The inventory was further improved with the incorporation of data on CISWI-regulated SRIs provided by an industry association. The search strategy and resources accessed to build the current inventory are described in a docketed memorandum.[2] The total baseline inventory of affected units broken down by type is shown in Table 1.

[1] As specified in the Consolidated Appropriations Act of 2024, H.R. 4366, section 432, the EPA is precluded from "expending funds to implement or enforce 40 CFR part 60 subpart DDDD with respect to units in the state of Alaska that are defined as small remote incinerator until a subsequent regulation is issued." Consolidated Appropriations Act, 2024. Public Law 118–42 (2024, March 8). https://www.congress.gov/bill/118th-congress/house-bill/4366/text.
[2] Eastern Research Group, Inc. (ERG). 2025. *Memorandum to Felica Davis, U.S. Environmental Protection Agency. Inventory of Other Solid Waste Incineration (OSWI) Units for Final OSWI Rulemaking*.

Table 1. Baseline Inventory of OSWI and CISWI Affected Units

Unit Type	No. of Facilities	No. of Units
	OSWI	
VSMWC	10	11
IWI	93	105
ACI	29	29
Subtotal	**132**	**145**
	CISWI	
SRI	25	29
Total	**157**	**174**

The units are operated by multiple industry types based on NAICS data about each operator. Common NAICS are presented in Table 2.

Table 2. NAICS Codes for Facilities in Inventory

NAICS (2-Digit Code)	Description	No. of Facilities	No. of Units
21	Mining, Quarrying, and Oil and Gas Extraction	18	20
22	Utilities	4	4
23	Construction	5	5
31-33	Manufacturing	11	13
42	Wholesale Trade	3	3
44-45	Retail Trade	2	2
48	Transportation and Warehousing	2	2
53	Real Estate and Rental and Leasing	2	2
54	Professional, Scientific, and Technical Services	2	2
55	Management of Companies and Enterprises	1	1
56	Administrative and Support and Waste Management and Remediation Services	4	4
61	Educational Services	37	38
62	Health Care and Social Assistance	3	3
71	Arts, Entertainment, and Recreation	1	1
81	Other Services (except Public Administration)	11	11
92	Public Administration	51	63
	Total	**157**	**174**

As mentioned in the previous section, the EPA is revising the applicability of the OSWI rules. Table 3 presents the count of units by subcategory in the baseline rules and their subcategories under the final rule. A first revision is the addition of a definition for a rudimentary combustion device. Nine VSMWC units and 105 IWI units in the baseline inventory meeting one of the four

criteria described in the previous section transition under the final rule to being defined as rudimentary combustion devices. Two VSMWC are regulated under the final rule under a new subcategory for VSMWC with capacities greater than 10 TPD. A final transition shown in Table 3 is the movement of 29 SRI units from the baseline CISWI rule to a new OSWI subcategory for VSMWC which combust less than or equal to 10 TPD of municipal solid waste.

Table 3. Transition between Baseline and Final Rule Subcategories (Count of Units)

		Under Final Rule				
		VSMWC ≤ 10 TPD	**VSMWC > 10 TPD**	**ACI**	**Rudimentary**	**Total**
Under Baseline Rules	VSMWC (OSWI)	0	2	0	9	11
	IWI (OSWI)	0	0	0	105	105
	ACI (OSWI)	0	0	29	0	29
	SRI (CISWI)	29	0	0	0	29
	Total	**29**	**2**	**29**	**114**	**174**

4. Costs of the Revisions

a. Baseline Assumptions

The EPA does not have complete information on the number of OSWI units in compliance with the current OSWI standards because the 2005 rule was not fully implemented via state plans or a federal plan. Additionally, the 2005 final OSWI rule did not require electronic reporting. As a result, we do not have internal compliance reports from existing facilities that would definitively demonstrate their compliance. However, from the data gathering efforts described in Section 3 of this memo, we are aware of a small number of units that are complying with the current OSWI NSPS. Therefore, the actual number of units in compliance in the baseline is not zero but is likely low. Because of the minimal implementation of the 2005 standards, the primary baseline for this analysis assumes no facilities are implementing the 2005 standards.

As part of this baseline, we assume that 10 percent of the non-ACI facilities are assumed to have complied (and continue to comply) with the 2005 rule. The 10 percent of facilities we are assuming to have complied includes units that are newly subcategorized as rudimentary under the final rule. Because of the time elapsed since the 2005 rule, we additionally assume that the units that are complying with the baseline rule would need to replace the capital equipment required under the 2005 rule. We assume the remaining facilities have not complied with the 2005 rule and likely would not comply in the future with the 2005 requirements in the absence of this final action. We include the estimation of effects using this alternative baseline to show the potential cost savings that would have occurred if the 2005 rule was implemented at the assumed 10 percent level.

For the VSMWC, IWI, and ACI units in the alternative baseline of 2005 OSWI rule, compliance costs are comprised of initial and annual testing, parametric monitoring costs, CO and O_2 CEMS monitoring costs, and associated recordkeeping and reporting. With respect to the SRI units that are currently covered by the CISWI rule and that will be regulated under the final OSWI rule, the CISWI costs in the alternative baseline are associated with afterburner retrofits, activated carbon injection (ACI), fabric filters, and recordkeeping and reporting requirements. We assume these units have yet to comply with CISWI requirements and have no sunk compliance-related capital or ongoing expenditures.

b. Unit-level Costs of Environmental Requirements

This section presents the unit-level costs under the alternative 2005 rule baseline requirements as well as under the final 2025 amendments, which are drawn from a memorandum on the final rules cost and emission reductions.[3] The cost estimates are based on previous analyses and are escalated to 2024 dollars.

Compliance costs are divided into three categories: up-front capital, initial one-time costs, and ongoing annual costs. Capital costs include costs for controls and monitoring equipment. Initial one-time costs are non-capital costs such as initial testing and one-time recordkeeping and reporting. Annual costs include annual testing or monitoring requirements, operation and maintenance (O&M) costs for capital infrastructure (sensors, equipment, etc.), and costs of recordkeeping and reporting. Table 4 presents these costs under the 2005 OSWI rule alternative baseline, split by OSWI baseline subcategory and compliance cost. Table 5 presents these costs at the unit level for SRI units under the alternative baseline CISWI rule.

The costs under the final amendments, inclusive of SRI units in the final OSWI rule, represent the projected costs under the final rule. The difference between the two represents the incremental cost impacts of the final amendments relative to the 2005 OSWI rule alternative baseline. We note that the unit-level compliance cost estimates for VSMWC <10 TPD (SRIs) under the 2025 Final Rule Amendments assume those units avail themselves of the substitute means of compliance demonstration program and have fewer requirements as a result.

[3] Eastern Research Group, Inc. (ERG). 2025. *Memorandum to Felica Davis, U.S. Environmental Protection Agency. Costs and Impacts for Final Other Solid Waste Incinerators Rulemaking.*

Table 4. Unit-level Compliance Costs under the 2005 OSWI Rule Primary Baseline (2024 dollars, 10 percent compliance)

Unit Type	Controls and Equipment	Monitoring	Testing	Recordkeeping & Reporting	Total
		Capital Costs			
ACI	$0	$0	$0	$0	**$0**
VSMWC >10 TPD	$0	$430,000	$0	$0	**$430,000**
VSMWC<10 TPD	$0	$430,000	$0	$0	**$430,000**
IWI	$0	$430,000	$0	$0	**$430,000**
		Initial One-Time Costs			
ACI	$0	$0	$0	$0	**$0**
VSMWC >10 TPD	$0	$0	$77,000	$47,000	**$120,000**
VSMWC<10 TPD	$0	$0	$77,000	$47,000	**$120,000**
IWI	$0	$0	$77,000	$47,000	**$120,000**
		Annual Costs			
ACI	$0	$0	$3,000	$2,800	**$5,800**
VSMWC >10 TPD	$0	$76,000	$77,000	$58,000	**$210,000**
VSMWC<10 TPD	$0	$76,000	$77,000	$58,000	**$210,000**
IWI	$0	$76,000	$77,000	$51,000	**$200,000**

Note: Figures are rounded to two significant digits.

Table 5. Unit-level Compliance Costs for SRIs under the CISWI Rule Alternative Baseline (2024 dollars, full compliance scenario)

Unit Type	Controls and Equipment	Monitoring	Testing	Recordkeeping & Reporting	Total
		Capital Costs			
SRI in CISWI	$920,000	$0	$0	$0	**$920,000**
		Initial One-Time Costs			
SRI in CISWI	$0	$27,000	$84,000	$0	**$110,000**
		Annual Costs			
SRI in CISWI	$170,000	$16,000	$84,000	$12,000	**$280,000**

Note: Figures are rounded to two significant digits.

Table 6 presents the unit-level compliance cost estimates under the final amendments by OSWI unit type and technology requirement. In the final rule, VSMWC units are subcategorized into units with capacities larger than 10 TPD and units with capacities less than or equal to 10 TPD, which results in different cost estimates.

Table 6. Unit-level Compliance Costs under the 2025 Final Amendments Relative to Primary Baseline (2024 dollars)

Unit Type	Controls and Equipment	Monitoring	Testing	Recordkeeping & Reporting	Total
		Capital Costs			
ACI	0	0	0	0	**0**
VSMWC >10 TPD	0	430,000	0	0	**430,000**
VSMWC<10 TPD (SRIs)	0	0	0	0	**0**
Rudimentary	0	0	0	0	**0**
		Initial One-Time Costs			
ACI	0	0	0	0	**0**
VSMWC >10 TPD	0	0	77,000	47,000	**120,000**
VSMWC<10 TPD (SRIs)	0	0	0	5,500	**5,500**
Rudimentary	0	0	0	0	**0**
		Annual Costs			
ACI	0	0	3,000	2,800	**5,800**
VSMWC >10 TPD	0	76,000	77,000	58,000	**210,000**
VSMWC<10 TPD (SRIs)	0	0	0	12,000	**12,000**
Rudimentary	0	0	0	0	**0**

Note: Figures are rounded to two significant digits. For more information on the cost estimates, see the docketed memo "Eastern Research Group, Inc. (ERG). 2025. *Memorandum to Felica Davis, U.S. Environmental Protection Agency. Costs and Impacts for Final Other Solid Waste Incinerators Rulemaking.*"

Based on the final rule definition of rudimentary combustion units, and the lack of data in the OSWI inventory, the EPA assumed that 114 units from 101 facilities in two categories, IWI and VSMWC with capacities less than or equal to 10 TPD at baseline, are rudimentary units and these units would not be required in the final rulemaking to comply with standards and have no costs for compliance associated with them. However, because we lack information on the operating status of these units, it is also possible that some, or most, of these units may no longer be in operation, leading this analysis to over-estimate avoided regulatory cost.

Additionally, the EPA is finalizing that certain operators of existing units may be able to participate in a substitute means of compliance demonstration and alternative waste characterization. VSMWC (including SRI) and IWI units that meet the substitute means of compliance demonstration would not be required to perform the initial testing on individual units. This would lower that category of capital costs to $0 for those operators. Annual costs are unaffected by the substitute means of compliance. See preamble section III.F.1 for more details on the substitute means of compliance demonstration.

As a result of the final amendments, the inventory of facilities and to which the new requirements apply is reduced. Table 7 presents the resultant incremental costs of this final action at the unit-level. We list units by type and by the transition from baseline to final rule

subcategories as described in Table 3. Note that the incremental costs are negative across the unit types.

Table 7. Unit-level Incremental Potential Compliance Cost Savings due to the 2025 Final Amendments Under the Alternative Baseline (2024 dollars)

Unit Type	Controls and Equipment	Monitoring	Testing	Recordkeeping & Reporting	Total
		Capital Costs			
ACI (no transition)	0	0	0	0	**0**
VSMWC >10 TPD (no transition)	0	0	0	0	**0**
CISWI to VSMWC<10 TPD (SRIs)	-920,000	0	0	0	**-920,000**
VSMWC<10 TPD to Rudimentary	0	-430,000	0	0	**-430,000**
IWI to Rudimentary	0	-430,000	0	0	**-430,000**
		Initial Costs			
ACI (no transition)	0	0	0	0	**0**
VSMWC >10 TPD (no transition)	0	0	0	0	**0**
CISWI to VSMWC<10 TPD (SRIs)	0	-27,000	-84,000	5,500	**-110,000**
VSMWC<10 TPD to Rudimentary	0	0	-77,000	-47,000	**-120,000**
IWI to Rudimentary	0	0	-77,000	-47,000	**-120,000**
		Annual Costs			
ACI (no transition)	0	0	0	0	**0**
VSMWC >10 TPD (no transition)	0	0	0	0	**0**
CISWI to VSMWC<10 TPD (SRIs)	-170,000	-16,000	-84,000	100	**-270,000**
VSMWC<10 TPD to Rudimentary	0	-76,000	-77,000	-58,000	**-210,000**
IWI to Rudimentary	0	-76,000	-77,000	-51,000	**-200,000**

Note: Figures are rounded to two significant digits.

c. Present Value, Equivalent Annual Value and Incremental Costs Analysis of the Final Amendments

We present the incremental compliance costs associated with the final amendments of compliance in terms of the present value (PV) total cost and equivalent annualized value (EAV). The incremental costs under the alternative baseline are measured as the difference between the costs associated with the baseline OSWI and CISWI rule requirements and the costs associated with meeting the rule with final amendments in place after accounting for the 10 percent of the units assumed to be complying with the 2005 OSWI rule as described in section 4a above. Compliance costs are discounted at 3 and 7 percent rates over a 15-year period with costs starting in 2025 and discounted to 2025. We chose 2025 as the start year for the flow of compliance costs because, as is explained in the preamble of the final rule, the effective date for the rule for existing sources is in 2026. We allocated capital costs to 2025, the year of initial testing in this analysis, to ensure that units are in compliance starting in 2026.

The incremental costs of the final amendments in PV and EAV form are shown in Table 8. Negative values reflect cost reductions relative to the baseline regulatory requirements. The detailed calculations are presented in Appendix Tables A-1, A-2 and A-3. The detailed calculations under the alternative baseline are presented in Appendix Tables A-4, A-5 and A-6.

Table 8. Present Value (PV), Equivalent Annual Value (EAV) and Incremental Costs of the Final Amendments Calculated using 3 and 7 percent Discount Rates Under the Alternative Baseline, Discounted to 2025 (2024 dollars)

	Present Value		Equivalent Annual Value	
Scenario and Discount Rate	**3%**	**7%**	**3%**	**7%**
2025 Amendments	9.2	7.2	0.75	0.73
Alternative Baseline of 2025 Rule	170	140	14	14
Potential Cost savings under Alternative Baseline	**-160**	**-130**	**-13**	**-14**

Note: Figures are rounded to two significant digits. Sums may not total due to independent rounding. Under this alternative baseline, 10 percent of the non-ACI facilities are assumed to have complied (and continue to comply) with the 2005 OSWI rule. Detailed calculations presented in Tables A1 through A3 in the Appendix.

As shown in Table 8, the PV of the alternative baseline OSWI and relevant CISWI requirements is $170 million at a 3 percent discount rate and $140 million at a 7 percent discount rate. The EAV of the alternative baseline is $14 million at both a 3 percent and at a7 percent discount rate. The PV of the final OSWI requirements is $9.2 million at a 3 percent discount rate and $7.2 million at a 7 percent discount rate. The EAV of the 2025 Amendments is $750 thousand at a 3 percent discount rate and $730 thousand at a 7 percent discount rate. The potential PV incremental cost reduction of the final rule requirements over the baseline OSWI and relevant CISWI requirements is $160 million at a 3 percent discount rate and $130 million at a 7 percent discount rate. The potential EAV incremental cost reduction of the final rule requirements over the baseline OSWI and relevant CISWI requirements is $13 million at a 3 percent discount rate and $14 million at a 7 percent discount rate.

The substitute means of compliance demonstration program may result in not significant costs. This is due to the program design that creates an inventory of initial test data across unit types that operators, when applicable, can use as a proxy for their units. This means a single test of a unit type could be used for multiple units of the same type, creating a multiplier effect.

5. Emissions and Air Quality Impacts

Because OSWI units with capacities less than or equal to 10 TPD that are not moving from CISWI are expected to be able to comply with the revised emission limits in the final rule without the use of an add-on control device, there are no estimated emissions impacts based on the final OSWI standards for these units under both the primary and alternative baselines. We note that certain VSMWC units with capacities less than or equal to 10 TPD, which were previously regulated as SRIs by CISWI, will now be regulated under OSWI. Under the primary

baseline, we estimate no emissions changes for these units. Under the alternative baseline, however, because the emission limits for the IWI and VSMWC with capacities less than or equal to 10 TPD are less stringent than the CISWI limits, movement of the units will result in forgone emissions reductions, i.e., emissions reductions that would have occurred had the units stayed in CISWI and the CISWI requirements been implemented. Based on the OSWI emissions limits established for these units, we estimate under the alternative baseline that removing these units from CISWI will result in forgone emissions increase of 11.3 tons per year (TPY) of CAA section 129 pollutants, with the majority being PM (8.56 TPY) and CO (2.6 TPY), as a result.

However, as noted earlier in this EIA, many of the CISWI units are not currently meeting the CISWI standards and the implementation of the CISWI standards was prohibited for units in the State of Alaska by Congress. We anticipate that these units will be able to meet the standards in this final OSWI rule, which includes initial and continuous compliance requirements that could result in improved compliance and emissions reductions. These emissions impacts are documented in the memorandum, *Costs and Impacts for Other Solid Waste Incinerators*, which is available in the docket for this action.

6. Economic Impact Analysis

a. Availability of Landfilling as a Substitute

While the final amendments reduce the stringency of the OSWI rule, the EPA assumes that the majority of units have not performed compliance actions associated with the 2005 final rule The EIA associated with the promulgation of the 2005 OSWI standards suggested at the time that the rule might induce cost-minimizing operators to switch from OSWI to landfills to dispose of waste rather than incurring the costs associated with compliance.[4] The EIA reported the economic impacts of the "expected scenario" to be associated with shutting down incinerators and switching to landfills. As the 2005 rule was not fully implemented, the question of whether OSWI owner/operators will substitute landfill services for incineration remains important.

Assuming a landfill is accessible, if an OSWI unit is in operation, the operational costs must be lower currently than to pay landfill tipping fees and transportation costs; otherwise, operators would rationally switch to the lower cost option. However, not all OSWI operations, particularly operators of geographically remote units may not have nearby landfills, making the costs associated with substitution considerable. For other operators who are not as distant from a landfill option, the cost of shifting from incineration to landfilling may be less than the cost of complying with the final rule. In these cases, the operator would be assumed to make the rational decision to abandon use of the incinerator. This could reduce the total cost of the rule as operators shift to landfilling at less cost than is estimated for that unit's compliance with the federal regulation.

[4] Docket ID number: EPA-HQ-OAR-2003-0156-0101

b. Small Entity Analysis

The Regulatory Flexibility Act (RFA) requires an agency to prepare a regulatory flexibility analysis for any rule subject to notice and comment rulemaking requirements under the Administrative Procedure Act or any other statute unless the agency certifies that the rule will not have a significant economic impact on a substantial number of small entities. Small entities include small businesses, small organizations, and small governmental jurisdictions.

The EPA determined that this action will not have a significant economic impact on a substantial number of small entities (SISNOSE) under the RFA. In making this determination, the impact of concern is any significant adverse economic impact on small entities.

This final rule will impose minimal regulatory requirements for operators of VSMWC, IWI, and SRI units relative to the primary baseline of no controls TPD(less than $1 million/year in the aggregate) and potential cost savings relative to those specified in the baseline OSWI and CISWI rules. Of the 174 OSWI units in our dataset which are owned by 157 entities, 69 units (about 40 percent) are owned by 68 small entities. Of the $730,000 in annualized regulatory costs estimated under the primary baseline, we estimate about $600,000 (about 75 percent) accrue to small entities. The majority of the costs to small entities ($420,000 of the $600,000) are associated with two small entities that each own a single VSMWC that combust more than 10 TPD. Of the $13 million in potential annualized regulatory cost savings under the alternative baseline, about $3 million (or 23 percent) of the savings are estimated to accrue to small entities. However, under the primary baseline, 4 of 68 (about 6 percent) of the small entities are estimated to experience a cost-revenues impacts greater than 1 percent. Only a single small entity experiences a cost-revenues impacts greater than 3 percent. As a result of this analysis, the EPA determined that this action will not have a SISNOSE under the RFA.

7. Uncertainty

The analysis presented in this EIA is subject to several sources of uncertainty. We summarize the key sources of uncertainty here.

Inventory of OSWI Units: There is no set database for OSWI units, and our current inventory is uncertain. The regulatory impacts of the final amendments could be considerably different depending on the true number of potentially affected units.

Baseline: The number of OSWI units in compliance with the current OSWI standards is also uncertain. For purposes of this evaluation, we assumed no implementation of the 2005 standards TPD in the primary baseline and 10 percent compliance of all non-SRI units in the alternative baseline. We also note that CISWI standards was prohibited for units in the State of Alaska by Congress. The future of a continued prohibition is hard to forecast.

Unit-level Costs: OSWI units vary considerably from each other, although we assume compliance costs are equivalent for each of the unit types. The cost estimates may not fully

account for this variability, as well as other factors that may influence compliance costs, such as geographic location and the ability to obtain emissions testing services.

Landfilling as Substitute for OSWI Compliance: The rate at which owner/operators of OSWI units substitute the use of landfilling services rather than incur the costs of OSWI compliance is uncertain and will influence the total cost reductions associated with the final amendments.

Number of Affected Entities Accessing Substitute Means of Compliance Demonstrations Program: This action finalizes a substitute means of compliance demonstration for certain sources, as the EPA recognizes that testing small OSWI units can present financial and technical challenges. How many owner/operators access this substitute means introduces uncertainty in the estimate of regulatory impacts.

Appendix. Present Value and Equivalent Annual Value Calculations

Table A-1. Undiscounted Incremental Costs of the Final Amendments, 2025-2039 (millions of 2024 dollars)

Year	Capital	Annual O&M	Testing/MRR	Total
2025	$0	$0	$0.16	$0.16
2026	$0	$0	$0.80	$0.80
2027	$0	$0	$0.80	$0.80
2028	$0	$0	$0.80	$0.80
2029	$0	$0	$0.80	$0.80
2030	$0	$0	$0.80	$0.80
2031	$0	$0	$0.80	$0.80
2032	$0	$0	$0.80	$0.80
2033	$0	$0	$0.80	$0.80
2034	$0	$0	$0.80	$0.80
2035	$0	$0	$0.80	$0.80
2036	$0	$0	$0.80	$0.80
2037	$0	$0	$0.80	$0.80
2038	$0	$0	$0.80	$0.80
2039	$0	$0	$0.80	$0.80

Note: Figures are rounded to two significant digits. Sums may not total due to independent rounding. Ten percent of the non-ACI facilities are assumed to have complied (and continue to comply) with the 2005 OSWI rule.

Table A-2. Discounted Incremental Costs of the Final Amendments, Present Value (PV) and Equivalent Annual Value (EAV) under 3 Percent Discount Rates, Discounted to 2025 (millions of 2024 dollars)

Year	Capital	Annual O&M	Testing/MRR	Total
2025	$0	$0	$0.16	$0.16
2026	$0	$0	$0.77	$0.77
2027	$0	$0	$0.75	$0.75
2028	$0	$0	$0.73	$0.73
2029	$0	$0	$0.71	$0.71
2030	$0	$0	$0.69	$0.69
2031	$0	$0	$0.67	$0.67
2032	$0	$0	$0.65	$0.65
2033	$0	$0	$0.63	$0.63
2034	$0	$0	$0.61	$0.61
2035	$0	$0	$0.59	$0.59
2036	$0	$0	$0.58	$0.58
2037	$0	$0	$0.56	$0.56
2038	$0	$0	$0.54	$0.54
2039	$0	$0	$0.53	$0.53
PV	**$0**	**$0**	**$9.2**	**$9.2**
EAV	**$0**	**$0**	**$0.75**	**$0.75**

Note: Figures are rounded to two significant digits. Sums may not total due to independent rounding. Ten percent of the non-ACI facilities are assumed to have complied (and continue to comply) with the 2005 OSWI rule.

Table A-3. Discounted Incremental Costs of the Final Amendments, Present Value (PV) and Equivalent Annual Value (EAV) under 7 Percent Discount Rates, Discounted to 2025 (millions of 2024 dollars)

Year	Capital	Annual O&M	Testing/MRR	Total
2025	$0	$0	$0.16	$0.16
2026	$0	$0	$0.75	$0.75
2027	$0	$0	$0.70	$0.70
2028	$0	$0	$0.65	$0.65
2029	$0	$0	$0.61	$0.61
2030	$0	$0	$0.57	$0.57
2031	$0	$0	$0.53	$0.53
2032	$0	$0	$0.50	$0.50
2033	$0	$0	$0.46	$0.47
2034	$0	$0	$0.43	$0.44
2035	$0	$0	$0.41	$0.41
2036	$0	$0	$0.38	$0.38
2037	$0	$0	$0.35	$0.36
2038	$0	$0	$0.33	$0.33
2039	$0	$0	$0.31	$0.31
PV	**$0**	**$0**	**$7.1**	**$7.2**
EAV	**$0**	**$0**	**$0.73**	**$0.73**

Note: Estimates rounded to two significant digits. Sums may not total due to independent rounding.

Table A-4. Undiscounted Incremental Costs of the Final Amendments Under the Alternative Baseline, 2025-2039 (millions of 2024 dollars)

Year	Capital	Annual O&M	Testing/MRR	Total
2025	-$32	$0	-$3.7	-$35
2026	$0	-$6.2	-$4.7	-$11
2027	$0	-$6.2	-$4.7	-$11
2028	$0	-$6.2	-$4.7	-$11
2029	$0	-$6.2	-$4.7	-$11
2030	$0	-$6.2	-$4.7	-$11
2031	$0	-$6.2	-$4.7	-$11
2032	$0	-$6.2	-$4.7	-$11
2033	$0	-$6.2	-$4.7	-$11
2034	$0	-$6.2	-$4.7	-$11
2035	$0	-$6.2	-$4.7	-$11
2036	$0	-$6.2	-$4.7	-$11
2037	$0	-$6.2	-$4.7	-$11
2038	$0	-$6.2	-$4.7	-$11
2039	$0	-$6.2	-$4.7	-$11

Note: Figures are rounded to two significant digits. Sums may not total due to independent rounding. Ten percent of the non-ACI facilities are assumed to have complied (and continue to comply) with the 2005 OSWI rule.

Table A-5. Discounted Incremental Costs of the Final Amendments Under the Alternative Baseline, Present Value (PV) and Equivalent Annual Value (EAV) under 3 Percent Discount Rates, Discounted to 2025 (millions of 2024 dollars)

Year	Capital	Annual O&M	Testing/MRR	Total
2025	-$32	$0	-$3.7	-$35
2026	$0	-$6.0	-$4.5	-$11.0
2027	$0	-$5.9	-$4.4	-$10.0
2028	$0	-$5.7	-$4.3	-$10.0
2029	$0	-$5.5	-$4.1	-$9.7
2030	$0	-$5.4	-$4.0	-$9.4
2031	$0	-$5.2	-$3.9	-$9.1
2032	$0	-$5.1	-$3.8	-$8.8
2033	$0	-$4.9	-$3.7	-$8.6
2034	$0	-$4.8	-$3.6	-$8.3
2035	$0	-$4.6	-$3.5	-$8.1
2036	$0	-$4.5	-$3.4	-$7.9
2037	$0	-$4.4	-$3.3	-$7.6
2038	$0	-$4.2	-$3.2	-$7.4
2039	$0	-$4.1	-$3.1	-$7.2
PV	**-$32**	**-$70**	**-$56**	**-$160**
EAV	**-$2.6**	**-$5.7**	**-$4.6**	**-$13**

Note: Figures are rounded to two significant digits. Sums may not total due to independent rounding. Ten percent of the non-ACI facilities are assumed to have complied (and continue to comply) with the 2005 OSWI rule.

Table A-6. Discounted Incremental Costs of the Final Amendments Under the Alternative Baseline, Present Value (PV) and Equivalent Annual Value (EAV) under 7 Percent Discount Rates, Discounted to 2025 (millions of 2024 dollars)

Year	Capital	Annual O&M	Testing/MRR	Total
2025	-$32	$0	-$3.7	-$35
2026	$0	-$5.8	-$4.4	-$10.0
2027	$0	-$5.4	-$4.1	-$9.8
2028	$0	-$5.1	-$3.8	-$9.1
2029	$0	-$4.7	-$3.6	-$8.5
2030	$0	-$4.4	-$3.3	-$8.0
2031	$0	-$4.1	-$3.1	-$7.5
2032	$0	-$3.9	-$2.9	-$7.0
2033	$0	-$3.6	-$2.7	-$6.5
2034	$0	-$3.4	-$2.5	-$6.1
2035	$0	-$3.2	-$2.4	-$5.7
2036	$0	-$3.0	-$2.2	-$5.3
2037	$0	-$2.8	-$2.1	-$5.0
2038	$0	-$2.6	-$1.9	-$4.6
2039	$0	-$2.4	-$1.8	-$4.3
PV	**-$32**	**-$54**	**-$44**	**-$130**
EAV	**-$3.2**	**-$5.6**	**-$4.6**	**-$14**

Note: Estimates rounded to two significant digits. Sums may not total due to independent rounding.