U.S. Environmental Protection Agency

Information Collection Request

**Title:** NESHAP for Primary Aluminum Reduction Plants (40 CFR Part 63, Subpart LL) (Renewal)

**OMB Control Number:** 2060-0360

**EPA ICR Number:** 1767.10

**Abstract:** The National Emission Standards for Hazardous Air Pollutants (NESHAP) for the regulations published at (40 CFR Part 63, Subpart LL) were proposed on September 26, 1996; promulgated on October 7, 1997; and amended on October 15, 2015. These regulations apply to owner or operator of the affected facilities, which include new or existing potlines, paste production plants, or anode bake furnaces associated with primary aluminum production and located at a major source, and for each new pitch storage tank associated with a primary aluminum reduction plant. New facilities include those that commenced either construction or reconstruction after the date of proposal. This information is being collected to assure compliance with 40 CFR Part 63, Subpart LL.

In general, all NESHAP standards require initial notifications, performance tests, and periodic reports by the owners/operators of the affected facilities. They are also required to maintain records of the occurrence and duration of any startup, shutdown, or malfunction in the operation of an affected facility or any period during which the monitoring system is inoperative. These notifications, reports, and records are essential in determining compliance, and are required of all affected facilities subject to NESHAP.

Any owner/operator subject to the provisions of this part shall maintain a file of these measurements, and retain the file for at least five years following the date of such measurements, maintenance reports, and records. All reports required to be submitted electronically are submitted through the EPA's Central Data Exchange (CDX), using the Compliance and Emissions Data Reporting Interface (CEDRI), where the delegated state or local authority can review them. In the event that there is no such delegated authority, the EPA regional office can review them. All other reports are sent to the delegated state or local authority. In the event that there is no such delegated authority, the reports are sent directly to the EPA regional offices. The use of the term "Designated Administrator" throughout this document refers to the U.S. EPA or a delegated authority such as a state agency. The term "Administrator" alone refers to the U.S. EPA Administrator.

There are approximately six primary aluminum reduction facilities, which are owned and operated by the primary aluminum reduction industry. None of the six facilities in the United States are owned by state, local, tribal or the Federal government. They are all owned and operated by privately-owned, for-profit businesses. We assume that they will all respond. The burden to the “Affected Public” may be found in Table 1: Annual Respondent Burden and Cost – NESHAP for Primary Aluminum Reduction Plants (40 CFR Part 63, Subpart LL) (Renewal). The burden to the “Federal Government” burden is attributed entirely to work performed by federal employees or government contractors and may be found in Table 2: Average Annual EPA Burden and Cost – NESHAP for Primary Aluminum Reduction Plants (40 CFR Part 63, Subpart LL) (Renewal).

Based on our consultations with industry representatives, there is an average of one affected facility at each plant site and each plant site has only one respondent (i.e., the owner/operator of the plant site).

Over the next three years, approximately six respondents per year will be subject to the standard, and no additional respondents per year will become subject to the standard.

The active ICR had the following Terms of Clearance (TOC):

“In accordance with 5 CFR 1320, the information collection is approved for three years. As terms of clearance, upon renewal of this collection, EPA is required to include the following in its supporting statement for this and other NESHAP ICRs: (1) a description of the regulatory text applicable to the ICR including submission specifications; (2) a clear description of the data elements being collected under the ICR; (3) screen shots of the electronic portal where the reporting requirements are submitted to EPA (with the control number and burden statement); (4) a detailed discussion of how information is submitted and the extent to which electronic reporting is available; (5) evidence of consultation with respondents (by actively reaching out to stakeholders as permitted by the PRA) to ensure the supporting statement's accuracy on availability of data, frequency of collection, clarity of instructions, accuracy of burden estimate, relevance of data elements, and similar PRA matters; and (6) discussion of how EPA addressed substantive concerns raised by respondents and other stakeholders during consultation and in response to comments received on FR notices. In addition, please convert the supporting statement to the standard 18 question SS-A format upon renewal.”

The relevant regulatory text is referenced in section 12b of this document. We have created a supplementary document including the regulatory text that describes the ICR requirements, which includes a description of the data elements being collected under the ICR, as identified in section 12b of this document. All electronic collection in this information collection is submitted through EPA's ERT, as discussed in section 3 of this document. Additional Paperwork Reduction Act requirements for CEDRI and ERT, including the burden statement and OMB control number, are available at: https://www.epa.gov/electronic-reporting-air-emissions/paperwork-reduction-act-pra-cedri-and-ert. We have created supplementary documents that include screenshots of the electronic portal where the reporting requirements are submitted online to EPA, including the OMB burden statement on the electronic portal. A description of the EPA’s consultation with respondents and how EPA responded to any concerns raised by respondents or other stakeholders is discussed in section 8 of this document. Per the Terms of Clearance on the previous ICR, this supporting statement follows the standard 18-question format.

**Supporting Statement A**

1. **NEED AND AUTHORITY FOR THE COLLECTION**

*Explain the circumstances that make the collection of information necessary. Identify any legal or administrative requirements that necessitate the collection.*

The EPA is charged under Section 112 of the Clean Air Act, as amended, to establish standards of performance for each category or subcategory of major sources and area sources of hazardous air pollutants. These standards are applicable to new or existing sources of hazardous air pollutants and shall require the maximum degree of emission reduction. In addition, section 114(a) states that the Administrator may require any owner/operator subject to any requirement of this Act to:

(A) Establish and maintain such records; (B) make such reports; (C) install, use, and maintain such monitoring equipment, and use such audit procedures, or methods; (D) sample such emissions (in accordance with such procedures or methods, at such locations, at such intervals, during such periods, and in such manner as the Administrator shall prescribe); (E) keep records on control equipment parameters, production variables or other indirect data when direct monitoring of emissions is impractical; (F) submit compliance certifications in accordance with Section 114(a)(3); and (G) provide such other information as the Administrator may reasonably require.

In the Administrator's judgment, total fluoride (TF), polycyclic organic matter (POM), particulate matter (PM), nickel, arsenic, polychlorinated biphenyl (PCB), mercury (Hg), and carbonyl sulfide emissions from primary aluminum reduction plants either cause or contribute to air pollution that may reasonably be anticipated to endanger public health and/or welfare. Therefore, the NESHAP were promulgated for this source category at 40 CFR Part 63, Subpart LL.

1. **PRACTICAL UTILITY/USERS OF THE DATA**

*Indicate how, by whom, and for what purpose the information is to be used. Except for a new collection, indicate the actual use the agency has made of the information received from the current collection.*

The recordkeeping and reporting requirements in these standards ensure compliance with the applicable regulations which were promulgated in accordance with the Clean Air Act. The collected information is also used for targeting inspections and as evidence in legal proceedings.

Performance tests are required in order to determine an affected facility’s initial capability to comply with the emission standards. Continuous emission monitors are used to ensure compliance with these standards at all times. During the performance test a record of the operating parameters under which compliance was achieved may be recorded and used to determine compliance in place of a continuous emission monitor.

The notifications required in these standards are used to inform the Agency or delegated authority when a source becomes subject to the requirements of the regulations. The reviewing authority may then inspect the source to check if the pollution control devices are properly installed and operated, leaks are being detected and repaired, and that the standards are being met. The performance test may also be observed.

The required semiannual reports are used to determine periods of excess emissions, identify problems at the facility, verify operation/maintenance procedures, and for compliance determinations.

Additionally, the EPA is requiring electronic reporting for certain notifications or reports. The EPA is requiring that owners or operators of affected sources would submit electronic copies of initial notifications required in 40 CFR 63.9(b), notifications of change in information already provided required in 40 CFR 63.9(j), performance test reports required in 63.850(b), and performance evaluation reports required in 63.850(c) through the EPA's Central Data Exchange (CDX), using the Compliance and Emissions Data Reporting Interface (CEDRI). For the notifications required in 40 CFR 63.9(b) and 63.9(j), owners and operators would be required to upload a PDF of the required notifications.

CEDRI includes the Electronic Reporting Tool (ERT) software, which is used by facilities to generate electronic reports of performance tests and performance evaluations. EPA is also requiring that 40 CFR Part 63, Subpart LL performance test reports and performance evaluation data be submitted through the EPA’s ERT. We have created supplementary documents that include screenshots of the electronic portal where the reporting requirements are submitted online to EPA, including the OMB burden statement on the electronic portal.

1. **USE OF TECHNOLOGY**

*Describe whether, and to what extent, the collection of information involves the use of automated, electronic, mechanical, or other technological collection techniques or other forms of information technology, e.g., permitting electronic submission of responses, and the basis for the decision for adopting this means of collection. Also describe any consideration of using information technology to reduce burden.*

Some of the respondents are using monitoring equipment that automatically records parameter data. Although personnel at the affected facility must still evaluate the data, internal automation has significantly reduced the burden associated with monitoring and recordkeeping at a plant site.

The rule was amended to include electronic reporting provisions on October 15, 2015. Respondents are required to use the EPA’s Electronic Reporting Tool (ERT) to develop performance test reports and performance evaluation reports and submit them through the EPA’s Compliance and Emissions Data Reporting Interface (CEDRI), which can be accessed through the EPA’s Central Data Exchange (CDX) (https://cdx.epa.gov/). The ERT is an application rather than a form, and the requirement to use the ERT is applicable to numerous subparts. The splash screen of the ERT contains a link to the Paperwork Reduction Act (PRA) requirements, such as the OMB Control Number, expiration date, and burden estimate for this and other subparts. Respondents are also required to submit electronic copies of certain notifications through EPA’s CEDRI. The notification is an upload of their currently required notification in portable document format (PDF) file. The For purposes of this ICR, it is assumed that there is no additional burden associated with the requirement for respondents to submit the notifications and reports electronically. The supplemental files to this ICR renewal contain screenshots showing the CDX homepage for CEDRI login, the CEDRI PRA screen, the CEDRI interface for managing reports for various subparts, and the landing page of the ERT that shows the link to PRA information.

Electronic copies of records may also be maintained in order to satisfy federal recordkeeping requirements. For additional information on the Paperwork Reduction Act requirements for CEDRI and ERT for this rule, see: https://www.epa.gov/electronic-reporting-air-emissions/paperwork-reduction-act-pra-cedri-and-ert.

Information contained in these reports is reported by state and local governments in the ICIS Air database, which is operated and maintained by the EPA's Office of Compliance. The EPA uses ICIS for tracking air pollution compliance and enforcement by local and state regulatory agencies, EPA regional offices, and EPA headquarters. The EPA and its delegated authorities can edit, store, retrieve and analyze the data.

1. **EFFORTS TO IDENTIFY DUPLICATION**

*Describe efforts to identify duplication. Show specifically why any similar information already available cannot be used or modified for use for the purposes described in Item 2 above.*

For reports required to be submitted electronically, the information is sent through the EPA's CDX, using CEDRI, where the appropriate EPA regional office can review it, as well as state and local agencies that have been delegated authority. If a state or local agency has adopted under its own authority its own standards for reporting or data collection, adherence to those non-Federal requirements does not constitute duplication.

For all other reports, if the subject standards have not been delegated, the information is sent directly to the appropriate EPA regional office. Otherwise, the information is sent directly to the delegated state or local agency. If a state or local agency has adopted its own standards to implement the Federal standards, a copy of the report submitted to the state or local agency can be sent to the Administrator in lieu of the report required by the Federal standards. Therefore, duplication does not exist.

1. **MINIMIZING BURDEN ON SMALL BUSINESSES AND SMALL ENTITIES**

*If the collection of information impacts small businesses or other small entities, describe any methods used to minimize burden.*

The majority of the respondents are large entities (i.e., large businesses). However, the impact on small entities (i.e., small businesses) was taken into consideration during the development of the regulation. Due to technical considerations involving the process operations and the types of control equipment employed, the recordkeeping and reporting requirements are the same for both small and large entities. The Agency considers these to be the minimum requirements needed to ensure compliance and, therefore, cannot reduce them further for small entities. To the extent that larger businesses can use economies of scale to reduce their burden, the overall burden will be reduced.

1. **CONSEQUENCES OF LESS FREQUENT COLLECTION**

*Describe the consequence to Federal program or policy activities if the collection is not conducted or is conducted less frequently, as well as any technical or legal obstacles to reducing burden.*

Less frequent information collection would decrease the margin of assurance that facilities are continuing to meet the standards. Requirements for information gathering and recordkeeping are useful techniques to ensure that good operation and maintenance practices are applied and emission limitations are met. If the information required by these standards was collected less frequently, the proper operation and maintenance of control equipment and the possibility of detecting violations would be less likely.

1. **GENERAL GUIDELINES**

*Explain any special circumstances that require the collection to be conducted in a manner inconsistent with OMB guidelines.*

These reporting or recordkeeping requirements do not violate any of the regulations promulgated by OMB under 5 CFR Part 1320, Section 1320.5.

These standards require the respondents to maintain all records, including reports and notifications for at least five years. This is consistent with the General Provisions as applied to the standards. EPA believes that the five-year records retention requirement is consistent with the Part 70 permit program and the five-year statute of limitations on which the permit program is based. The retention of records for five years allows EPA to establish the compliance history of a source, any pattern of non-compliance and to determine the appropriate level of enforcement action. EPA has found that the most flagrant violators have violations extending beyond five years. In addition, EPA would be prevented from pursuing the violators due to the destruction or nonexistence of essential records.

1. **PUBLIC COMMENT AND CONSULTATIONS**

**8a. Public Comment**

*If applicable, provide a copy and identify the date and page number of publication in the Federal Register of the Agency's notice, required by 5 CFR 1320.8(d), soliciting comments on the information collection prior to submission to OMB. Summarize public comments received in response to that notice and describe actions taken by the Agency in response to these comments. Specifically address comments received on cost and hour burden.*

An announcement of a public comment period for the renewal of this ICR was published in the Federal Register (88 FR 31748) on May 18, 2023. No comments were received on the burden published in the Federal Register for this renewal.

**8b. Consultations**

*Describe efforts to consult with persons outside the Agency to obtain their views on the availability of data, frequency of collection, the clarity of instructions and recordkeeping, disclosure, or reporting format (if any), and on the data elements to be recorded, disclosed, or reported. Consultation with representatives of those from whom information is to be obtained or those who must compile records should occur at least once every 3 years - even if the collection of information activity is the same as in prior periods. There may be circumstances that may preclude consultation in a specific situation. These circumstances should be explained.*

The Agency has consulted industry experts and internal data sources to project the number of affected facilities and industry growth over the next three years. The primary source of information as reported by industry, in compliance with the recordkeeping and reporting provisions in the standard, is the Integrated Compliance Information System (ICIS). ICIS is EPA’s database for the collection, maintenance, and retrieval of compliance data for industrial and government-owned facilities. The growth rate for the industry is based on our consultations with the Agency’s internal industry experts. Approximately six respondents will be subject to the standard over the three-year period covered by this ICR.

Industry trade association(s) and other interested parties were provided an opportunity to comment on the burden associated with the standard as it was being developed and the standard has been previously reviewed to determine the minimum information needed for compliance purposes. In developing this ICR, we contacted both the Society for Mining, Metallurgy and Exploration, Inc. at (303) 948 4200, and the Aluminum Association at (703) 358-2960. In this case, no comments were received.

It is our policy to respond after a thorough review of comments received since the last ICR renewal as well as those submitted in response to the first Federal Register notice. In this case, no comments were received.

1. **PAYMENTS OR GIFTS TO RESPONDENTS**

*Explain any decisions to provide payments or gifts to respondents, other than remuneration of contractors or grantees.*

No payments or gifts are made to respondents.

1. **ASSURANCE OF CONFIDENTIALITY**

*Describe any assurance of confidentiality provided to respondents and the basis for the assurance in statute, regulation, or Agency policy. If the collection requires a systems of records notice (SORN) or privacy impact assessment (PIA), those should be cited and described here.*

Any information submitted to the Agency for which a claim of confidentiality is made will be safeguarded according to the Agency policies set forth in Title 40, chapter 1, part 2, subpart B - Confidentiality of Business Information (see 40 CFR 2; 41 FR 36902, September 1, 1976; amended by 43 FR 40000, September 8, 1978; 43 FR 42251, September 20, 1978; 44 FR 17674, March 23, 1979).

1. **JUSTIFICATION FOR SENSITIVE QUESTIONS**

*Provide additional justification for any questions of a sensitive nature, such as sexual behavior and attitudes, religious beliefs, and other matters that are commonly considered private. This justification should include the reasons why the Agency considers the questions necessary, the specific uses to be made of the information, the explanation to be given to persons from whom the information is requested, and any steps to be taken to obtain their consent.*

The reporting or recordkeeping requirements in the standard do not include sensitive questions.

1. **RESPONDENT BURDEN HOURS & LABOR COSTS**

*Provide estimates of the hour burden of the collection of information. The statement should:*

* *Indicate the number of respondents, frequency of response, annual hour burden, and an explanation of how the burden was estimated. Generally, estimates should not include burden hours for customary and usual business practices.*
* *If this request for approval covers more than one form, provide separate hour burden estimates for each form and the aggregate the hour burdens.*
* *Provide estimates of annualized cost to respondents for the hour burdens for collections of information, identifying and using appropriate wage rate categories. The cost of contracting out or paying outside parties for information collection activities should not be included here. Instead, this cost should be included as O&M costs under non-labor costs covered under question 13.*

**12a. Respondents/NAICS Codes**

The respondents to the recordkeeping and reporting requirements are primary aluminum reduction plants. The United States Standard Industrial Classification (SIC) code for the respondents affected by the standards is SIC 3334, which corresponds to the North American Industry Classification System (NAICS) code 331313 for Alumina Refining and Primary Aluminum Production.

Based on our research for this ICR, on average over the next three years, approximately six existing respondents will be subject to the standard. It is estimated that no additional respondents per year will become subject. The number of respondents is calculated using the table Number of Respondents that addresses the three years covered by this ICR.

The total number of annual responses per year is calculated using the table Total Annual Responses shown below. The number of Total Annual Responses is 20.

**12b. Information Requested**

In this ICR, all the data that are recorded or reported is required by the NESHAP for Primary Aluminum Reduction Plants (40 CFR Part 63, Subpart LL).

A source must make the following reports:

| **Notifications** |
| --- |
| Initial notification when source becomes subject to standard. | §63.9(b), §§63.850(a)(1)-(3) |
| Request for Compliance Extension | §63.9(c) |
| New Source Notification for Special Compliance Requirements | §63.9(d) |
| Notification and application of construction/reconstruction. | §63.5(d), §63.9(b)(4), §63.850(a)(4) |
| Notification of initial performance test. | §63.7(b), §63.9(e), §63.850(a)(5) |
| Notification of initial compliance status. | §63.850(a)(6), §§63.9(h)(1)-(3) |
| One-time notification for each affected source of the intent to use an HF continuous emission monitor. | §63.850(a)(7) |
| Notification of compliance approach. | §63.850(a)(8)  |
| One-time notification for startup of an existing potline or potroom group, anode bake furnace, or paste production plant that was shut down for a long period and subsequently restarted. | §63.850(a)(9) |
| Notification of compliance status including excess emissions report. | §63.9(h) |

| **Reports** |
| --- |
| Performance test results/reports. | §63.10(d)(2), §63.850(b) |
| Continuous emissions monitoring system performance evaluation reports. | §63.10(d)(2), §63.850(c) |
| Opacity or visible emissions reports. | §63.10(d)(3) |
| Progress reports. | §63.10(d)(4) |
| Excess emissions reports. | §63.850(d)(1) |
| Malfunction reports. | §63.850(d)(2) |
| Additional CMS reports, Recordkeeping/Reporting waiver. | §63.10(e), §63.10(f) |
| Design specifications for pitch storage tank controls | §63.847(g) |

A source must keep the following records:

| **Recordkeeping** |
| --- |
| Records of all reports and notifications. | §63.10(b)(1) |
| Records are required to be retained for five years. The most recent two years of records must be retained at the facility. | §63.10(b)(1), §63.850(e)(1) |
| Records of aluminum production rate and anode production. | §§63.850(e)(4)(i)-(ii) |
| Records of design information for paste production plant capture systems and alternative control devices. | §§63.850(e)(4)(iv)-(v) |
| Records supporting the monitoring of similar potlines demonstrating that the performance of similar potlines is the same as or better than that of potlines sampled by manual methods. | §63.850(e)(4)(vi) |
| Records supporting a request for reduced sampling of potlines. | §63.850(e)(4)(vii) |
| Records supporting the correlation of emissions measured by a continuous emission monitoring system to emissions measured by manual methods. | §63.850(e)(4)(viii) |
| The implementation plan for emissions averaging. | §63.850(e)(4)(ix) |
| Records demonstrating that the daily inspection of a potline with wet roof scrubbers for secondary emission control has been performed as required. | §63.850(e)(4)(x) |
| Records demonstrating that the daily visual inspection of the exhaust stack for each control device has been performed as required, including the results of each inspection. | §63.850(e)(4)(xi) |
| Records of information and data required by §63.10(c) for a potline equipped with an HF continuous emission monitor, including: all required CMS measurements, date and time when the CMS was inoperative or out of control, periods of excess emissions and parameter monitoring exceedances, periods of SSM, repairs or adjustments to the CMS, total process operating time during the reporting period, and all procedures that are part of a quality control program.  | §63.850(e)(4)(xii), §63.10(b)(2), §§63.10(c)(1), §§63.10(c)(5)-(8), §§63.10(c)(12)-(14) |
| Records documenting the corrective actions taken when the limits for an operating parameter were exceeded, when visible emissions indicating abnormal operation were observed from a control device stack during a daily inspection, or when a problem was detected during the daily inspection of a wet roof scrubber for potline secondary control. | §63.10(b)(2), §63.850(e)(4)(xiii) |
| Records documenting any POM data that are invalidated due to the installation and startup of a cathode. | §63.850(e)(4)(xiv) |
| Records documenting the portion of TF that is measured as particulate matter and the portion that is measured as gaseous when the particulate and gaseous fractions are quantified separately using an approved test method. | §63.850(e)(4)(xv) |
| Records of the occurrence and duration of each malfunction of operation (*i.e.* process equipment) or the air pollution control equipment and monitoring equipment. | §63.10(b)(2), §63.850(e)(4)(xvi) |
| Records of actions taken during periods of malfunction to minimize emissions, including corrective actions to restore malfunctioning process and air pollution control and monitoring equipment to its normal or usual manner of operation. | §63.10(b)(2), §63.850(e)(4)(xvii) |
| Records of performance tests, CMS performance evaluations, and opacity and visible emission observations; | §63.7(g), §63.10(b)(2)(viii) |
| Records of applicability determinations.  | §63.10(b)(3) |

**12c. Respondent Activities**

| **Respondent Activities** |
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| Familiarization with the regulatory requirements. |
| Install, calibrate, maintain, and operate CMS for opacity, or for pressure drop and liquid supply pressure for dry alumina scrubbers, dry coke scrubbers, wet scrubbers, electrostatic precipitators and wet roof scrubbers. If approved by the appropriate regulatory agency, a respondent may install, calibrate, maintain, and operate an HF CMS for the monitoring of TF secondary emissions as an alternative method. |
| Perform initial performance test, Reference Method 1, 2, 3, 4, 5, 5D or 5I, 13A or 13B, 14 or 14A, 17, 18, 22, 25 or 25A, 26 or 26A, 29, 315, and CARB 428 tests, and repeat performance tests if necessary. |
| Write the notifications and reports listed above. |
| Enter information required to be recorded above. |
| Submit the required reports developing, acquiring, installing, and utilizing technology and systems for collecting, validating, and verifying information. |
| Develop, acquire, install, and utilize technology and systems for processing and maintaining information. |
| Develop, acquire, install, and utilize technology and systems for disclosing and providing information. |
| Train personnel to be able to respond to a collection of information. |
| Transmit, or otherwise disclose the information. |

**12d. Respondent Burden Hours and Labor Costs**

Table 1 documents the computation of individual burdens for the recordkeeping and reporting requirements applicable to the industry for the subpart included in this ICR. The individual burdens are expressed under standardized headings believed to be consistent with the concept of burden under the Paperwork Reduction Act. Where appropriate, specific tasks and major assumptions have been identified. Responses to this information collection are mandatory.

The average annual burden to industry over the next three years from these recordkeeping and reporting requirements is estimated to be 39,200 hours (Total Labor Hours from Table 1). These hours are based on Agency studies and background documents from the development of the regulation, Agency knowledge and experience with the NESHAP program, the previously approved ICR, and any comments received.

This ICR uses the following labor rates:

Managerial $163.17 ($77.70 + 110%)

Technical $130.28 ($62.04 + 110%)

Clerical $65.71 ($31.29 + 110%)

These rates are from the United States Department of Labor, Bureau of Labor Statistics, September 2022, “Table 2. Civilian workers by occupational and industry group.” The rates are from column 1, “Total compensation.” The rates have been increased by 110 percent to account for varying industry wage rates and the additional overhead business costs of employing workers beyond their wages and benefits, including business expenses associated with hiring, training, and equipping their employees.

We assume that burdens for managerial tasks take 5% of the time required for technical tasks because the typical tasks for managers are to review and approve reports. Clerical burdens are assumed to take 10% of the time required for technical tasks because the typical duties of clerical staff are to proofread the reports, make copies and maintain records.

1. **Respondent CAPITAL AND O&m CostS**

*Provide an estimate for the total annual cost burden to respondents or record keepers resulting from the collection of information. (Do not include the cost of any hour burden already reflected on the burden worksheet).*

*The cost estimate should be split into two components: (a) a total capital and start-up cost*

*component (annualized over its expected useful life) and (b) a total operation and maintenance and purchase of services component. The estimates should consider costs associated with generating, maintaining, and disclosing or providing the information. Include descriptions of methods used to estimate major cost factors including system and technology acquisition, expected useful life of capital equipment, the discount rate(s), and the period over which costs will be incurred. Capital and start-up costs include, among other items, preparations for collecting information such as purchasing computers and software; monitoring, sampling, drilling, and testing equipment; and record storage facilities.*

*If cost estimates are expected to vary widely, agencies should present ranges of cost burdens and explain the reasons for the variance. The cost of purchasing or contracting out information collections services should be a part of this cost burden estimate.*

*Generally, estimates should not include purchases of equipment or services, or portions thereof, made: (1) prior to October 1, 1995, (2) to achieve regulatory compliance with requirements not associated with the information collection, (3) for reasons other than to provide information or keep records for the government, or (4) as part of customary and usual business or private practices.*

The type of industry costs associated with the information collection activities in the subject standard(s) are both labor costs which are addressed elsewhere in this ICR and the costs associated with continuous monitoring. The capital/startup costs are one-time costs when a facility becomes subject to the regulation. The annual operation and maintenance costs are the ongoing costs to maintain the monitor(s) and other costs such as photocopying and postage.

The total capital/startup costs for this ICR are $110,000. This is the total of column D shown below in the table Capital/Startup vs. Operation and Maintenance (O&M) Costs.

The total operation and maintenance (O&M) costs for this ICR are $189,000. This is the total of column G shown below in the table Capital/Startup vs. Operation and Maintenance (O&M) Costs.

The average annual cost for capital/startup and operation and maintenance costs to industry over the next three years of the ICR is estimated to be $299,000. These are recordkeeping costs.

1. **AGENCY** **COSTS**

*Provide estimates of annualized costs to the Federal government. Also, provide a description of the method used to estimate cost, which should include quantification of hours, operational expenses (such as equipment, overhead, printing, and support staff), and any other expense that would not have been incurred without this collection of information.*

**14a. Agency Activities**

The EPA conducts the following activities in connection with the acquisition, analysis, storage, and distribution of the required information:

* Review notifications and reports, including performance test reports, and excess emissions reports, required to be submitted by industry.
* Audit facility records.
* Input, analyze, and maintain data in the Enforcement and Compliance History Online (ECHO) and ICIS.

Following notification of startup, the reviewing authority could inspect the source to determine whether the pollution control devices are properly installed and operated. Performance test reports are used by the Agency to discern a source’s initial capability to comply with the emission standard, and note the operating conditions under which compliance was achieved. Data and records maintained by the respondents are tabulated and published for use in compliance and enforcement programs. The semiannual reports are used for problem identification, as a check on source operation and maintenance, and for compliance determinations.

Information contained in the reports is reported by state and local governments in the ICIS Air database, which is operated and maintained by EPA's Office of Compliance. EPA uses ICIS for tracking air pollution compliance and enforcement by local and state regulatory agencies, EPA regional offices and EPA headquarters. EPA and its delegated Authorities can edit, store, retrieve and analyze the data.

**14b. Agency Labor Cost**

The only costs to the Agency are those costs associated with analysis of the reported information. EPA's overall compliance and enforcement program includes activities such as the examination of records maintained by the respondents, periodic inspection of sources of emissions, and the publication and distribution of collected information. The average annual Agency burden and cost over next three years is estimated to be 184 labor hours at a cost of $9,810. See Table 2: Average Annual EPA Burden and Cost – NESHAP for Primary Aluminum Reduction Plants (40 CFR Part 63, Subpart LL) (Renewal).

This cost is based on the average hourly labor rate as follows:

 Managerial $73.46 (GS-13, Step 5, $45.91 + 60%)

Technical $54.51 (GS-12, Step 1, $34.07 + 60%)

Clerical $29.50 (GS-6, Step 3, $18.44 + 60%)

These rates are from the Office of Personnel Management (OPM), 2023 General Schedule, which excludes locality rates of pay. The rates have been increased by 60 percent to account for the benefit packages available to government employees. Details upon which this estimate is based appear at the end of this document in Table 2: Average Annual EPA Burden and Cost – NESHAP for Primary Aluminum Reduction Plants (40 CFR Part 63, Subpart LL) (Renewal).

We assume that burdens for managerial tasks take 5% of the time required for technical tasks because the typical tasks for managers are to review and approve reports. Clerical burdens are assumed to take 10% of the time required for technical tasks because the typical duties of clerical staff are to proofread the reports, make copies and maintain records.

**14c. Agency Non-Labor Costs**

There are no non-labor costs to the Agency associated with this information collection.

1. **REASONS FOR CHANGE IN BURDEN**

*Explain the reasons for any program changes or adjustments reported in the burden or capital/O&M cost estimates.*

There is an adjustment decrease in the total estimated burden as currently identified in the OMB Inventory of Approved Burdens due to a decrease in the number of sources from eight to six compared to the previously approved ICR. The decrease in sources also resulted in a decrease in the labor costs, which was offset slightly by the use of updated labor rates. This ICR uses labor rates from the most recent Bureau of Labor Statistics report (September 2022) to calculate respondent burden costs. There was also a decrease in the overall total capital and O&M costs due to the decrease in number of sources.

1. **PUBLICATION OF** **DATA**

*For collections of information whose results will be published, outline plans for tabulation and publication. Address any complex analytical techniques that will be used. Provide the time schedule for the entire project, including beginning and ending dates of the collection of information, completion of report, publication dates, and other actions.*

All non-CBI data submitted electronically to the Agency through CEDRI are available to the public for review and printing and are accessible using WebFIRE. Electronically submitted emissions data from performance testing or performance evaluations using the Electronic Reporting Tool or templates attached to CEDRI, as well as data from reports from regulations with electronic templates, are tabulated; data submitted as portable document format (PDF) files attached to CEDRI are neither tabulated nor subject to complex analytical techniques. Electronically submitted emissions data used to develop emissions factors undergo complex analytical techniques and the draft emissions factors are available on the Clearinghouse for Inventories and Emission Factors listserv at https://www.epa.gov/chief/chief-listserv for public review and printing. Electronically submitted emissions data, as well as other data, obtained from one-time or sporadic information collection requests often undergo complex analytical techniques; results of those activities are included in individual rulemaking dockets and are available at https://www.regulations.gov/ for public review and printing.

1. **DISPLAY OF EXPIRATION DATE**

*If seeking approval to not display the expiration date for OMB approval of the information collection, explain the reasons that display would be inappropriate.*

EPA will display the expiration date for OMB approval of the information collection.

1. **CERTIFICATION STATEMENT**

*Explain each exception to the topics of the certification statement identified in “Certification for Paperwork Reduction Act Submissions.”*

There are no exceptions to the topics of the certification statement.

**Table 1: Annual Respondent Burden and Cost – NESHAP for Primary Aluminum Reduction Plants (40 CFR Part 63, Subpart LL) (Renewal)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Burden Item** | **(A)**  | **(B)**  | **(C)**  | **(D)** | **(E)**  | **(F)** | **(G)** | **(H)**  |
| **Person-hours per occurrence** | **No. of occurrences per respondent per year** | **Person- hours per respondent per year (C=AxB)** | **Respondents per year a** | **Technical person- hours per year (E=CxD)** | **Management person-hours per year (F=Ex0.05)** | **Clerical person-hours per year (G=Ex0.1)** | **Cost ($) b** |
| 1. Applications | N/A |   |   |   |   |   |   |   |
| 2. Surveys and Studies | N/A |   |   |   |   |   |   |   |
| 3. Reporting Requirements |   |   |   |   |   |   |   |   |
| A. Familiarization with regulatory requirements c |   |   |   |   |   |   |   |   |
| New Sources | 4 | 1 | 4 | 0 | 0 | 0 | 0 | $0.00  |
| Existing Sources | 2 | 1 | 2 | 6 | 12 | 0.6 | 1.2 | $1,740.11  |
| B. Required activities  |   |   |   |   |   |   |   |   |
| Acquisition, Installation, and Utilization of Technology and Systems | 8 | 1 | 8 | 0 | 0 | 0 | 0 | $0.00  |
| Initial performance test d | 100 | 1 | 100 | 0 | 0 | 0 | 0 | $0.00  |
| Annual performance tests d, e | 100 | 13.09 | 1,309 | 6 | 7,854 | 392.7 | 785.4 | $1,138,904.61  |
| Semiannual performance tests for TF and PM f, g | 200 | 10 | 2,000 | 6 | 12,000 | 600 | 1,200 | $1,740,114.00  |
| Semiannual POM testing f, g | 100 | 6.36 | 636 | 6 | 3,816 | 190.8 | 381.6 | $553,356.25  |
| Semiannual performance test (CEM or Alcan cassette) h, i | 40 | 2.18 | 87.2 | 6 | 523.2 | 26.16 | 52.32 | $75,868.97  |
| Quarterly performance test j, k | 200 | 16 | 3,200 | 0 | 0 | 0 | 0 | $0.00  |
| Daily Monitoring | 2 | 730 | 1,460 | 6 | 8,760 | 438 | 876 | $1,270,283.22  |
| C. Create information | See 3B |   |   |   |   |   |   |   |
| D. Gather existing information | See 3B |   |   |   |   |   |   |   |
| E. Write report | See 3B |   |   |   |   |   |   |   |
| Notification of applicability | 2 | 1 | 2 | 0 | 0 | 0 | 0 | $0.00  |
| Notification of construction/‌reconstruction | 2 | 1 | 2 | 0 | 0 | 0 | 0 | $0.00  |
| Notification of actual startup | 2 | 1 | 2 | 0 | 0 | 0 | 0 | $0.00  |
| Notification of special compliance requirements | N/A |   |   |   |   |   |   |   |
| Notification of performance test | 2 | 1 | 2 | 0 | 0 | 0 | 0 | $0.00  |
| Notification of compliance status | 4 | 1 | 4 | 0 | 0 | 0 | 0 | $0.00  |
| Design specifications for pitch storage tank controls l | 46 | 1 | 46 | 0 | 0 | 0 | 0 | $0.00  |
| NESHAP waiver application | N/A |   |   |   |   |   |   |   |
| Report of performance test | See 3B |   |   |   |   |   |   |   |
| Report of monitoring exceedances m, n | 16 | 2 | 32 | 0.6 | 19.2 | 0.96 | 1.92 | $2,784.18  |
| Report of no excess emissions m, o | 8 | 2 | 16 | 5.4 | 86.4 | 4.32 | 8.64 | $12,528.82  |
| Malfunction report m, p | 8 | 2 | 16 | 1 | 16 | 0.8 | 1.6 | $2,320.15  |
| ***Subtotal for Reporting Requirements*** |  |  |   |  | **38,050** | **$4,797,900**  |
| 4. Recordkeeping Requirements  |   |   |   |   |   |   |   |   |
| A. Familiarization with regulatory requirements | See 3B |   |   |   |   |   |   |   |
| B. Plan activities | N/A |   |   |   |   |   |   |   |
| C. Implement activities (COS calculations) | 1 | 11 | 11 | 6 | 66 | 3.3 | 6.6 | $9,570.63  |
| D. Develop record system | N/A |   |   |   |   |   |   |   |
| E. Time to enter information |   |   |   |   |   |   |   |   |
| Records of all information required by standards q | 3 | 52 | 156 | 6 | 936 | 46.8 | 93.6 | $135,728.89  |
| F. Time to train personnel | N/A |   |   |   |   |   |   |   |
| G. Time to adjust existing ways to comply with previously applicable requirements | N/A |   |   |   |   |   |   |   |
| H. Time to transmit or disclose information m, r | 1 | 2 | 2 | 6 | 12 | 0.6 | 1.2 | $1,740.11  |
| I. Time for audits | N/A |   |   |   |   |   |   |   |
| ***Subtotal for Recordkeeping Requirements*** |  |  |  |  | **1,166** | **$147,040**  |
| **TOTAL LABOR BURDEN AND COST (rounded) s** |  |  |  |  | **39,200** | **$4,940,000**  |
| **TOTAL CAPITAL AND O&M COSTS (rounded) s** |  |  |  |  |  |  |  | **$299,000**  |
| **GRAND TOTAL (rounded) s** |  |  |  |  |  |  |  | **$5,240,000**  |
|  |  |  |  |  |  |  |  |  |
| **Assumptions:** |
| a Assumes that there is an average of 6 respondents per year subject to the standards and that no additional respondents per year will become subject to the standards.  |
| b This ICR uses the following labor rates: Managerial $163.17 ($77.70+ 110%); Technical $130.28 ($62.04 + 110%); and Clerical $65.71 ($31.29 + 110%). These rates are from the United States Department of Labor, Bureau of Labor Statistics, September 2022, “Table 2. Civilian Workers, by occupational and industry group.” The rates are from column 1, “Total compensation.” The rates have been increased by 110 percent to account for varying industry wage rates and the additional overhead business costs of employing workers beyond their wages and benefits, including business expenses associated with hiring, training, and equipping their employees. |
| c We have assumed all existing respondents will have to familiarize with the regulatory requirements each year.  |
| d Assumes it takes 100 hours to complete each required TF, POM, PM, and Hg test for primary controls of potlines, bake furnaces and paste production plants. |
| e We assume an average of 13.09 tests per facility (primary control systems). This estimate is based on the Final Cost Impacts for the Primary Aluminum Production Source Category for the 2015 amendments which estimates: 35 potlines and 8 pitch storage tanks will require annual POM testing; 37 potlines, 12 anode bake furnaces, and 10 paste production plants will require annual PM testing; 12 anode bake furnaces will require annual Hg testing; and 30 potlines will require annual testing for TF (Note: there are a total of 37 potlines that require TF testing; however, 7 potlines are located in states that already required testing). (35+8+37+12+10+12+30 =144 tests at 11 facilities = 13.09 tests/facility). |
| f Assumes it takes 200 hours to test for secondary TF and PM emissions from potlines and 100 hours to test for secondary POM emissions from potlines. |
| g We assume an average of 10 tests per facility for PM and 6.36 tests per facility for POM secondary emissions from potlines. This estimate is based on the Final Cost Impacts for the Primary Aluminum Production Source Category for the 2015 amendments which estimates: 35 potlines will require semiannual POM testing; 37 potlines will require semiannual PM testing; and 18 potlines will require semiannual testing for TF (Note: there are a total of 37 potlines that require TF testing; however, 7 potlines are located in states that already required testing and 12 potlines do not have manifolds installed and will use the Method 14A Alcan Cassette test). [(37+18) x 2 tests/year = 110 TF and PM tests/year at 11 facilities = 10 tests/facility. 35 x 2 tests/yr = 70 POM tests/year at 11 facilities = 6.36 tests/facility]. |
| h Assumes it takes 40 hours for testing of similar potlines (CEM or Alcan cassette). |
| i Assumes 2.18 tests per facility, based on estimates from the Final Cost Impacts for the Primary Aluminum Production Source Category for the 2015 amendments which estimates that 12 potlines will not have manifolds installed and will use Alcan Cassette tests. (12x2/11 = 2.18 tests/facility). |
| j Assumes it takes 200 hours for a Method 315 test for secondary emissions at Soderberg plants. |
| k Per the Final Cost Impacts for the Primary Aluminum Production Source Category for the 2015 amendments the only remaining Soderberg plant in the U.S. has announced permanent shutdown. Therefore, no Soderberg plants will require quarterly testing. |
| l Assumes that all existing sources have design specifications for pitch storage tank controls in place. |
| m This rule requires that all existing respondents submit semiannual reports. Performance test results will be submitted with the semiannual reports. |
| n Assumes that 10 percent of the 8=6 plants (0.1×6 = 0.6) will have excess emissions. |
| o Assumes that the remaining 90 percent of the 8 plants (0.9×6 = 5.4) will not have excess emissions. |
| p Assumes that 10 percent of plants per year (0.1×6 = 0.6, rounded to 1) will report a malfunction incident. |
| q Assumes it takes 3 hours per week per plant to enter monitoring data into records. |
| r Assumes it takes 1 hour to transmit recorded information. |
| s Totals have been rounded to 3 significant figures. Figures may not add exactly due to rounding.  |

**Table 2: Average Annual EPA Burden and Cost – NESHAP for Primary Aluminum Reduction Plants (40 CFR Part 63, Subpart LL) (Renewal)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Activity**  | **(A)**  | **(B)**  | **(C)**  | **(D)**  | **(E)**  | **(F)** | **(G)** | **(H)** |
| **EPA person- hours per occurrence** | **No. of occurrences per plant per year** | **EPA person- hours per plant-year (C=AxB)** | **Plants per year a** | **Technical person- hours per year (E=CxD)** | **Management person-hours per year (F=Ex0.05)** | **Clerical person-hours per year (G=Ex0.1)** | **Cost ($) b**  |
| New or reconstructed facilities c | 2 | 1 |   |   |   |   |   |   |
| Notification of applicability | 2 | 1 | 2 | 0 | 0 | 0 | 0 | $0  |
| Notification of construction and reconstruction | 2 | 1 | 2 | 0 | 0 | 0 | 0 | $0  |
| Notification of actual startup | 2 | 1 | 2 | 0 | 0 | 0 | 0 | $0  |
| Notification of special compliance requirements | N/A |   |   |   |   |   |   |   |
| Notification of initial performance test | 2 | 1 | 2 | 0 | 0 | 0 | 0 | $0  |
| Notification of compliance status | 8 | 1 | 8 | 0 | 0 | 0 | 0 | $0  |
| Review design specifications for pitch storage tank controls d | 10 | 1 | 10 | 0 | 0 | 0 | 0 | $0  |
| Existing facilities |   |   |   |   |   |   |   |   |
| Review of performance test report e | 11 | 2 | 22 | 6 | 132 | 6.6 | 13.2 | $8,070  |
| Review of excess emissions report f | 8 | 1 | 8 | 0.6 | 4.8 | 0.24 | 0.48 | $293  |
| Review of no excess emissions report g | 2 | 2 | 4 | 5.4 | 21.6 | 1.08 | 2.16 | $1,320  |
| Review of NESHAP waiver application | N/A |   |   |   |   |   |   |   |
| Malfunction report h | 2 | 1 | 2 | 1 | 2 | 0.1 | 0.2 | $122  |
| **TOTAL (rounded) i** |  |  |  |  | **184** | **$9,810**  |
|  |  |  |  |  |  |  |  |  |
| **Assumptions:** |  |  |  |  |  |  |  |  |
| a Assumes that there is an average of 6 respondents per year subject to the standards and that no additional respondents per year will become subject to the standards.  |
| b This cost is based on the average hourly labor rate as follows: Managerial $73.46 (GS-13, Step 5, $45.91 + 60%); Technical $54.51 (GS-12, Step 1, $34.07 + 60%); and Clerical $29.50 (GS-6, Step 3, $18.44 + 60%). This ICR assumes that Managerial hours are 5 percent of Technical hours, and Clerical hours are 10 percent of Technical hours. These rates are from the Office of Personnel Management (OPM), 2023 General Schedule, which excludes locality, rates of pay. The rates have been increased by 60 percent to account for the benefit packages available to government employees. |
| c Assumes that there are no new or reconstructed sources over the three-year period of this ICR.  |
| d Assumes that all existing sources have design specifications for pitch storage tank controls in place. |
| e Assumes that it will take 11 hours twice per year to review summary of performance tests requirements to be submitted by all 11 existing plants. |
| f Assumes that 10 percent of the 6 plants (0.1×6 = 0.6) will have excess emissions. |
| g Assumes that the remaining 90 percent of the 6 plants (0.9×6 = 5.4) will not have excess emissions. |
| h Assumes that 10 percent of plants per year (0.1×6 = 0.6, rounded to 1) will report a malfunction incident. |
| i Totals have been rounded to 3 significant figures. Figures may not add exactly due to rounding.  |

| **Total Annual Responses** |
| --- |
| (A)Information Collection Activity | (B)Number of Respondents | (C)Number of Responses | (D)Number of Existing Respondents That Keep Records But Do Not Submit Reports | (E)Total Annual ResponsesE=(BxC)+D |
| Notification of applicability | 0 | 1 | N/A | 0 |
| Notification of construction/‌reconstruction | 0 | 1 | N/A | 0 |
| Notification of actual startup | 0 | 1 | N/A | 0 |
| Notification of initial performance test | 0 | 1 | N/A | 0 |
| Notification of compliance status/approach | 0 | 1 | N/A | 0 |
| Report of performance tests | 6 | 1 | N/A | 6 |
| Semiannual report of monitoring exceedances | 0.6 | 2 | N/A | 1.2 |
| Semiannual report of no excess emissions | 5.4 | 2 | N/A | 10.8 |
| Startup, shutdown, malfunction report | 1 | 2 | N/A | 2 |
| Submit a design specification for pitch storage tank controls | 0 | 1 | N/A | 0 |
|  |  |  | Total | 20 |

| **Number of Respondents** |
| --- |
|  | Respondents That Submit Reports | Respondents That Do Not Submit Any Reports |  |
| Year | (A)Number of New Respondents 1 | (B)Number of Existing Respondents | (C)Number of Existing Respondents that keep records but do not submit reports | (D)Number of Existing Respondents That Are Also New Respondents | (E)Number of Respondents(E=A+B+C-D) |
| 1 | 0 | 6 | 0 | 0 | 6 |
| 2 | 0 | 6 | 0 | 0 | 6 |
| 3 | 0 | 6 | 0 | 0 | 6 |
| Average | 0 | 6 | 0 | 0 | 6 |

1 New respondents include sources with constructed, reconstructed and modified affected facilities.

|  |
| --- |
| **Capital/Startup vs. Operation and Maintenance (O&M) Costs** |
| (A) | (B) | (C) | (D) | (E) | (F) | (G) |
| Continuous Monitoring Device | Capital/Startup Cost for One Respondent | Number of New Respondents  | Total Capital/Startup Cost, (B X C) | Annual O&M Costs for One Respondent | Number of Respondents with O&M | Total O&M,(E x F) |
| HF CEMs (similar potlines) a | $100,000  | 0 | $0  | $3,524  | 0 | $0  |
| Method 14 sampling manifolds at potlines b | $200,000  | 0 | $0  | $7,049  | 12 | $84,594  |
| Method 14A (alcan cassettes) sampling at potlines b | $92,000  | 0 | $0  | $3,243  | 11 | $35,672  |
| Install two manifold sampling systems at one facility c | $110,000  | 1 | $110,000  | $7,049  | 1 | $7,049  |
| Record storage d | $55  | 6 | $330  |   |   |   |
| PM testing on anode bake furnaces e |   |   |   | $5,625  | 6 | $33,750  |
| PM testing on paste production plants f |   |   |   | $5,625  | 5 | $28,125  |
| **Totals (rounded) g** |  |  | **$110,000**  |  |  | **$189,000**  |
| a The previous ICR (1767.08) assumes that no respondents are using hydrogen fluoride CEMS for monitoring similar potlines. |
| b We assume 12 potlines will used Method 14 testing for TF and 8 potlines do not have manifolds installed and will use Method 14A Alcan Cassette testing. These values are based on adjustments to estimates from the Final Cost Impacts for the Primary Aluminum Production Source Category for the 2015 amendments, which estimated 30 potlines at 9 facilities will require TF testing, including 18 potlines with manifolds and 12 potlines without manifolds. We have adjusted these estimates to account for the lower number of facilities. O&M costs have been updated from 1997 dollars to 2022 dollars using the CEPCI CE Index. |
| c Per the revisions in the 2015 RTR, one facility is required to install two manifold sampling systems at a total cost of $1 million. Annualized at 7% for 15 years, the annual cost is $110,000 per year. Cost data is from "Final Cost Impacts for the Primary Aluminum Production Source Category", September 1, 2015, EPA-HQ-OAR-0797-0423. |
| d Per the revisions in the 2015 RTR, all six facilities are required to install record storage systems at a total cost of $500 each, annualized at 7% for 15 years ($500 x capital recovery factor of 0.10979 = $55 annually). |
| e Per the revisions in the 2015 RTR, annual monitoring costs are estimated at $5,625/furnace/year. Cost data is from "Final Cost Impacts for the Primary Aluminum Production Source Category", September 1, 2015, EPA-HQ-OAR-0797-0423. |
| f Per the revisions in the 2015 RTR, annual monitoring costs are estimated at $5,625/plant/year. Cost data is from "Final Cost Impacts for the Primary Aluminum Production Source Category", September 1, 2015, EPA-HQ-OAR-0797-0423. |
| g Totals have been rounded to 3 significant figures. Figures may not add exactly due to rounding. |