**SUPPORTING STATEMENT**

**ENVIRONMENTAL PROTECTION AGENCY**

**NSPS/NESHAP for Wool Fiberglass Insulation Manufacturing Plants (40 CFR Part 60, Subpart PPP and 40 CFR Part 63, Subpart NNN) (Renewal)**

**1. Identification of the Information Collection**

**1(a) Title of the Information Collection**

NSPS/NESHAP for Wool Fiberglass Insulation Manufacturing Plants (40 CFR Part 60, Subpart PPP and 40 CFR Part 63, Subpart NNN) (Renewal), EPA ICR Number 1160.12, OMB Control Number 2060-0114

**1(b) Short Characterization/Abstract**

The New Source Performance Standards (NSPS) for Wool Fiberglass Insulation Manufacturing Plantswere proposed on February 7, 1984, promulgated on February 25, 1985, and amended on October 17, 2000. These regulations apply to new and existing facilities with rotary spin (RS) wool fiberglass insulation manufacturing lines. The purpose of this NSPS is to control the emissions of particulate matter from each RS wool fiberglass insulation manufacturing line. The standard limits particulate emissions to 5.5 kilograms per megagram (11.0 lb./ton) of molten glass used to manufacture the product. New facilities include those that commenced construction, modification, or reconstruction after the date of proposal.

The National Emission Standards for Hazardous Air Pollutants (NESHAP) for Wool Fiberglass Insulation Manufacturing Plants were proposed on March 31, 1997, promulgated on June 14, 1999, and amended on April 20, 2006. These regulations apply to each glass melting furnace located at a wool fiberglass manufacturing plant; each RS manufacturing line producing building insulation; each new and existing flame attenuation (FA) manufacturing line that produces pipe products; and each new FA manufacturing line that produces heavy density products. Plants that manufacture mineral wool from rock or slag are not subject to the proposed rule, but they are subject to a separate NESHAP standard for mineral wool production. A facility that is determined to be an area source would not be subject to this NESHAP standard. New facilities include those that commenced construction or reconstruction after the date of proposal. This information is being collected to assure compliance with 40 CFR part 60, subpart PPP and 40 CFR part 63, subpart NNN.

In general, all NSPS and 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 NSPS and NESHAP.

Any owner/operator subject to the provisions of 40 CFR part 60, subpart PPP shall maintain a file of these measurements, and retain the file for at least two years following the date of such measurements, maintenance reports, and records. Any owner/operator subject to the provisions of 40 CFR part 63, subpart NNN 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 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 U. S. Environmental Protection Agency (EPA) regional office.

Over the next three years, an average of 61 respondents per year will be subject to these standards, and no additional respondents will become subject to these standards annually. There are approximately 32 sources currently subject to 40 CFR part 60, subpart PPP, and 29 sources subject to 40 CFR part 63, subpart NNN. The number of affected sources subject to these regulations was estimated based on information available from the North American Insulation Manufacturing Association (NAIMA).

The Office of Management and Budget (OMB) approved the currently active ICR without any “Terms of Clearance.”

The burden to the “Affected Public” may be found below in Table 1a: Annual Respondent Burden and Cost – NSPS for Wool Fiberglass Insulation Manufacturing Plants (40 CFR Part 60, Subpart PPP) (Renewal), and below in Table 1b: Annual Respondent Burden and Cost – NESHAP for Wool Fiberglass Insulation Manufacturing Plants (40 CFR Part 63, Subpart NNN) (Renewal). The “burden” to the Federal Government is attributed entirely to work performed by either Federal employees or government contractors and may be found below in Table 2a: Average Annual EPA Burden and Cost – NSPS for Wool Fiberglass Insulation Manufacturing Plants (40 CFR Part 60, Subpart PPP) (Renewal), and below in Table 2b: Average Annual EPA Burden and Cost – NESHAP for Wool Fiberglass Insulation Manufacturing Plants (40 CFR Part 63, Subpart NNN) (Renewal).

**2. Need for and Use of the Collection**

**2(a) Need/Authority for the Collection**

The EPA is charged under Section 111 of the Clean Air Act (CAA), as amended, to establish standards of performance for new stationary sources that reflect:

**. . .** application of the best technological system of continuous emissions reduction which (taking into consideration the cost of achieving such emissions reduction, or any non-air quality health and environmental impact and energy requirements) the Administrator determines has been adequately demonstrated. Section 111(a)(l).

The Agency refers to this charge as selecting the best demonstrated technology (BDT). Section 111 also requires that the Administrator review and, if appropriate, revise such standards every four years.

The EPA is also 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, particulate emissions and hazardous air pollutant (HAP) emissions from wool fiberglass insulation manufacturing plants either cause or contribute to air pollution that may reasonably be anticipated to endanger public health or welfare. Therefore, the NSPS and NESHAP were promulgated for this source category at 40 CFR part 60,subpart PPP, and 40 CFR part 63,subpart NNN, respectively.

**2(b) Practical Utility/Users of the Data**

Both the recordkeeping and reporting requirements in the standards ensure compliance with the applicable regulations which where 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 the 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 the 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 the standard is 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.

**3. Non-duplication, Consultations, and Other Collection Criteria**

The requested recordkeeping and reporting are required under 40 CFR part 60,subpart PPP and 40 CFR part 63,subpart NNN.

**3(a) Non-duplication**

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 similar 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.

**3(b) Public Notice Required Prior to ICR Submission to OMB**

An announcement of a public comment period for the renewal of this ICR was published in the Federal Register (77 FR 63813) on October 17, 2012. No comments were received on the burden published in the Federal Register.

**3(c) Consultations**

The Agency’s industry experts have been consulted, and the Agency’s internal data sources and projections of industry growth over the next three years have been considered. The primary source of information as reported by industry, in compliance with the recordkeeping and reporting provisions in the standard, is the Online Tracking Information System (OTIS) which is operated and maintained by EPA's Office of Compliance. OTIS is EPA’s database for the collection, maintenance, and retrieval of all compliance data. The growth rate for the industry is based on our consultations with the Agency’s internal industry experts.

Industry trade associations 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: 1) the North American Insulation Manufacturing Association (NAIMA), at (703) 684-0084; and 2) Central States Insulation Association (CSIA), at (888) 294-0084.

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.

**3(d) Effects of Less Frequent Collection**

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.

**3(e) General Guidelines**

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

The NESHAP standard requires 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.

**3(f) Confidentiality**

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 (CBI) (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).

**3(g) Sensitive Questions**

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

**4. The Respondents and the Information Requested**

**4(a) Respondents/SIC Codes**

The respondents to the recordkeeping and reporting requirements are wool fiberglass insulation manufacturing plants[[1]](#footnote-1). The United States Standard Industrial Classification (SIC) code for the respondents affected by the standards is SIC 3296, which corresponds to the North American Industry Classification System (NAICS) code 327993 for Mineral Wool Manufacturing.

**4(b) Information Requested**

**(i) Data Items**

In this ICR, all the data that is recorded or reported is required by the NSPS/NESHAP for Wool Fiberglass Insulation Manufacturing Plants (40 CFR Part 60, Subpart PPP, and 40 CFR Part 63, Subpart NNN).

A source must make the following reports:

| **Notifications/Reports (40 CFR Part 60, Subpart PPP)** | |
| --- | --- |
| Construction/reconstruction | 60.7(a)(1) |
| Actual startup | 60.7(a)(3) |
| Initial performance test | 60.8(d) |
| Physical or operational change | 60.7(a)(4) |
| Initial performance test results | 60.8(a) |
| Semiannual reports of exceedances of control device operating parameters | 60.684(d) |

| **Notifications/Reports (40 CFR Part 63, Subpart NNN)** | |
| --- | --- |
| Applicability | 63.9(a), 63.1389(a)(1-3) |
| Construction/reconstruction | 63.9(b)(3-4), 63.1389(a)(4) |
| Actual startup | 63.9(b)(2) and (4) |
| Special compliance requirements | 63.9(d), 63.1389(a)(5) |
| Initial performance test | 63.9(e), 63.1389(a)(6) |
| Continuous monitoring system notifications | 63.9(g) |
| Compliance status | 63.9(h), 63.1389(a)(7) |
| Request for extension of compliance, adjustments to time periods, and changes in information | 63.9(c), (i) and (j), 63.43 |
| Operations, maintenance, and monitoring plan | 63.6(e)(1)-(e)(2), 63.1383(a) |
| Report of performance test results | 63.10(d)(2), 63.1386(b) |
| Startup, shutdown, and malfunction plans and reports | 63.6(e)(3), 63.10(d)(5), 63.1386(c) |
| Excess emissions | 63.1386(e) |

A source must keep the following records:

| **Recordkeeping (40 CFR Part 60, Subpart PPP)** | |
| --- | --- |
| Startups, shutdowns, malfunctions, and periods where the continuous monitoring system is inoperative | 60.7(b) |
| Records are required to be retained for two years | 60.7(f) |
| Continuous measurements of control device operating parameters | 60.684(d) |

| **Recordkeeping (40 CFR Part 63, Subpart NNN)** | |
| --- | --- |
| General recordkeeping requirements (e.g., startups, shutdowns, and malfunctions including process equipment, air pollution control equipment, maintenance performed, and actions taken outside the scope of the existing plans) | 63.10(b)(2), 63.1386(d) |
| Continuous measurements of control device operating parameters:  - Bag leak detection system alarms  - ESP parameter values used to measure performance  - Air temperature above the molten glass in a cold top  furnace  - Uncontrolled glass-melting furnace parameter values to measure performance  - The formulation of each binder patch and the LOI and density for each product manufactured  - Process parameter levels for RS and FA manufacturing  lines that use process modifications to comply with the emission limits  - Scrubber pressure drop, scrubbing liquid flow rate, and any chemical additive  - Incinerator operating temperature and the results from  periodic inspection of incinerator components  - Glass pull rate | 63.1386(d)(2)(i-ix) |

Electronic Reporting

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.

Also, regulatory agencies in cooperation with the respondents continue to create reporting systems to transmit data electronically. However, electronic reporting systems are still not widely used. At this time, it is estimated that approximately 10 percent of all the respondents use electronic reporting.

**(ii) Respondent Activities**

| **Respondent Activities** |
| --- |
| Read instructions. |
| Install, calibrate, maintain, and operate CMS for opacity, or for pressure drop and liquid supply pressure for 40 CFR part 63, subpart NNN sources. Install, calibrate, maintain, and operate CMS for opacity, or for pressure drop and liquid supply pressure for wet scrubber for 40 CFR part 60, subpart PPP sources. |
| Perform initial performance test, Reference Methods 1-5, 316 or 318; method for determining LOI; method for determining free-formaldehyde content of resin; and method for the determination of product density, and repeat performance tests if necessary for 40 CFR part 63, subpart NNN sources. Perform initial performance test, Reference Method 5E test, and repeat performance tests if necessary for 40 CFR part 60, subpart PPP sources. |
| 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 the purpose of collecting, validating, and verifying information. |
| Develop, acquire, install, and utilize technology and systems for the purpose of processing and maintaining information. |
| Develop, acquire, install, and utilize technology and systems for the purpose of disclosing and providing information. |
| Train personnel to be able to respond to a collection of information. |

Currently sources are using monitoring and reporting equipment that provide parameter data in an automated way (e.g., continuous parameter monitoring system). Although personnel at the source still need to evaluate the data, this type of monitoring equipment has significantly reduced the burden associated with monitoring and recordkeeping.

**5. The Information Collected: Agency Activities, Collection Methodology, and Information Management**

**5(a) Agency Activities**

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

| **Agency Activities** |
| --- |
| 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 Online Tracking Information System (OTIS). |

**5(b) Collection Methodology and Management**

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. 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 entered into OTIS which is operated and maintained by EPA's Office of Compliance. OTIS is EPA’s database for the collection, maintenance, and retrieval of compliance data for approximately 125,000 industrial and government-owned facilities. EPA uses the OTIS 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.

The records required by 40 CFR part 60, subpart PP must be retained by the owner/operator for two years. The records required by 40 CFR part 63, subpart NNN must be retained by the owner/operator for five years.

**5(c) Small Entity Flexibility**

There are no small entities (i.e., small businesses) affected by this regulation. According to the *Wool Fiberglass Insulation Manufacturing Industry – Background Information for Proposed Standards* (EPA-450/3-82-022a): “The Small Business Administration (SBA) definition of a small business for SIC code 3296 Mineral Wool is 750 employees. All of the four publicly-held firms that manufacture wool fiberglass insulation have more than 750 employees. Therefore, none of the firms meet the SBA definition of a small business.

**5(d) Collection Schedule**

The specific frequency for each information collection activity within this request is shown below in Table 1a: Annual Respondent Burden and Cost – NSPS for Wool Fiberglass Insulation Manufacturing Plants (40 CFR Part 60, Subpart PPP) (Renewal), and below in Table 1b: Annual Respondent Burden and Cost – NESHAP for Wool Fiberglass Insulation Manufacturing Plants (40 CFR Part 63, Subpart NNN) (Renewal).

**6. Estimating the Burden and Cost of the Collection**

Table 1 documents the computation of individual burdens for the recordkeeping and reporting requirements applicable to the industry for each of the subparts 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. Wherever appropriate, specific tasks and major assumptions have been identified. Responses to this information collection are mandatory.

The Agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a currently valid OMB Control Number.

**6(a) Estimating Respondent Burden**

The average annual burden to industry over the next three years from these recordkeeping and reporting requirements is estimated to be 18,559 (Total Labor Hours from Tables 1a, and 1b below). This estimate includes 2,631 hours for 40 CFR part 60, subpart PPP, and 15,928 hours for 40 CFR part 63, subpart NNN. These hours are based on Agency studies and background documents from the development of the regulation, Agency knowledge and experience with the NSPS and NESHAP programs, the previously approved ICR, and any comments received.

**6(b) Estimating Respondent Costs**

**(i) Estimating Labor Costs**

This ICR uses the following labor rates:

Managerial $121.44 ($57.83 + 110%)

Technical $100.23 ($47.73 + 110%)

Clerical $50.51 ($24.05 + 110%)

These rates are from the United States Department of Labor, Bureau of Labor Statistics, March 2012, “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 the benefit packages available to those employed by private industry.

**(ii) Estimating Capital/Startup and Operation and Maintenance Costs**

The type of industry costs associated with the information collection activities in the subject standards 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 monitors and other costs such as photocopying and postage.

**(iii) Capital/Startup vs. Operation and Maintenance (O&M) Costs**

| **Capital/Startup vs. Operation and Maintenance (O&M) Costs** | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
| (A)  Continuous Monitoring Device | (B)  Capital/Startup Cost for One Respondent | (C)  Number of New Respondents | (D)  Total Capital/Startup Cost, (B X C) | (E)  Annual O&M Costs for One Respondent | (F)  Number of Respondents with O&M1 | (G)  Total O&M,  (E X F) |
| **NSPS for Wool Fiberglass Insulation Manufacturing Plants (40 CFR Part 60, Subpart PPP)** | | | | | | |
| Particulate Matter Monitoring | $15,000 | 0 | $0 | $16,500 | 29 | $478,500 |
| **NESHAP for Wool Fiberglass Manufacturing Plants (40 CFR Part 63, Subpart NNN)** | | | | | | |
| Baghouse Leak Detection | $9,100 | 0 | 0 | $500 | 20 | $10,000 |
| Furnace Temperature Monitoring | $1,500 | 0 | 0 | $0 | 15 | $0 |
| Formaldehyde Emission Monitoring | $15,000 | 0 | 0 | $0 | 50 | $0 |

1In order to calculate O&M costs for 40 CFR part 63, subpart NNN, the estimates provided in column F were not based on the number of respondents but, instead, based on the total number of continuous monitoring devices that exist within the industry. For example, we estimate that there are 20 baghouses used within the wool fiberglass manufacturing industry. Some respondents may have more than one baghouse located at their facility.

The total capital/startup costs for this ICR are zero. This is the total of column D in the above table.

The total operation and maintenance (O&M) costs for this ICR are $488,500. This is the total of column G.

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 $488,500. This estimate includes $478,500 for 40 CFR part 60, subpart PPP, and $10,000 for 40 CFR part 63, subpart NNN. These are recordkeeping costs.

**6(c) Estimating Agency Burden and 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 cost during the three years of the ICR is estimated to be $29,478. This estimate includes $6,634 for 40 CFR part 60, subpart PPP, and $22,844 for 40 CFR part 63, subpart NNN.

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

Managerial $62.27 (GS-13, Step 5, $38.92 + 60%)

Technical $46.21 (GS-12, Step 1, $28.88 + 60%)

Clerical $25.01 (GS-6, Step 3, $15.63 + 60%)

These rates are from the Office of Personnel Management (OPM), 2012 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 below in Table 2a: Average Annual EPA Burden and Cost – NSPS for Wool Fiberglass Insulation Manufacturing Plants (40 CFR Part 60, Subpart PPP) (Renewal), and below in Table 2b: Average Annual EPA Burden and Cost – NESHAP for Wool Fiberglass Insulation Manufacturing Plants (40 CFR Part 63, Subpart NNN) (Renewal).

**6(d) Estimating the Respondent Universe and Total Burden and Costs**

Based on our research for this ICR, on average over the next three years, approximately 61 existing respondents will be subject to the standard. Approximately 32 sources are currently subject to 40 CFR part 60, subpart PPP, and 29 sources are subject to 40 CFR part 63, subpart NNN. It is estimated that no additional respondents will become subject to these standards annually. The overall average number of respondents, as shown in the table below is 61 per year.

The number of respondents is calculated using the following table that addresses the three years covered by this ICR.

| **Number of Respondents** | | | | | |
| --- | --- | --- | --- | --- | --- |
| 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 | 61 | 0 | 0 | 61 |
| 2 | 0 | 61 | 0 | 0 | 61 |
| 3 | 0 | 61 | 0 | 0 | 61 |
| Average | 0 | 61 | 0 | 0 | 61 |

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

Column D is subtracted to avoid double-counting respondents. As shown above, the average Number of Respondents over the three year period of this ICR is 61.

The total number of annual responses per year is calculated using the following table:

| **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 Responses  E=(BxC)+D |
| **40 CFR part 60, subpart PPP** | | | | |
| Semiannual Exceedance Report | 32 | 2 | 0 | 64 |
| **40 CFR part 63, subpart NNN** | | | | |
| Excess Emissions Report | 29 | 2 | 0 | 58 |
| Startup, Shutdown, and Malfunction Report 1 | 2.9 | 2 | 0 | 5.8 |
|  | | | | |
|  |  |  | Total | 127.8 |

1 Assume 10% of the plants are required to submit annual Startup, Shutdown, and Malfunction Reports.

The number of Total Annual Responses is 128.

The total annual labor costs are $1,797,060. This includes $254,776 for 40 CFR part 60, subpart PPP, and $1,542,284 for 40 CFR part 63, subpart NNN. Details regarding these estimates may be found below in Table 1a: Annual Respondent Burden and Cost – NSPS for Wool Fiberglass Insulation Manufacturing Plants (40 CFR Part 60, Subpart PPP) (Renewal), and below in Table 1b: Annual Respondent Burden and Cost – NESHAP for Wool Fiberglass Insulation Manufacturing Plants (40 CFR Part 63, Subpart NNN) (Renewal).

**6(e) Bottom Line Burden Hours and Cost Tables**

The detailed bottom line burden hours and cost calculations for the respondents and the Agency are shown in Tables 1 and 2, respectively, and summarized below.

**(i) Respondent Tally**

The total annual labor hours for both subparts are 18,559 at a cost of $1,797,060; this which includes 2,631 hours at a cost of $254,776, for 40 CFR part 60, subpart PPP, and 15,928 hours at a cost of $1,542,284, for 40 CFR part 63, subpart NNN. Details regarding these estimates may be found below in Table 1a: Annual Respondent Burden and Cost – NSPS for Wool Fiberglass Insulation Manufacturing Plants (40 CFR Part 60, Subpart PPP) (Renewal), and below in Table 1b: Annual Respondent Burden and Cost – NESHAP for Wool Fiberglass Insulation Manufacturing Plants (40 CFR Part 63, Subpart NNN) (Renewal).

Furthermore, the annual public reporting and recordkeeping burden for this collection of information is estimated to average 41 hours per response for 40 CFR part 60, subpart PPP, and 249 hours per response for 40 CFR part 63, subpart NNN.

The total annual capital/startup and O&M costs to the regulated entity are $478,500 for 40 CFR part 60, subpart PPP, and $10,000 for 40 CFR part 63, subpart NNN. The total annual capital/startup and O&M costs for both subparts are $488,500. The cost calculations are detailed in Section 6(b)(iii), Capital/Startup vs. Operation and Maintenance (O&M) Costs.

**(ii) The Agency Tally**

The combined, average annual Agency burden and cost over next three years is estimated to be 654 labor hours at a cost of $29,478(see below Tables 2a and 2b). The average annual Agency burden and cost is estimated to be 147 labor hours at a cost of $6,634 for 40 CFR part 60, subpart PPP, and 507 labor hours at a cost of $22,844 for 40 CFR part 63, subpart NNN. See below Table 2a: Average Annual EPA Burden and Cost – NSPS for Wool Fiberglass Insulation Manufacturing Plants (40 CFR Part 60, Subpart PPP) (Renewal), and below in Table 2b: Average Annual EPA Burden and Cost – NESHAP for Wool Fiberglass Insulation Manufacturing Plants (40 CFR Part 63, Subpart NNN) (Renewal).

**6(f) Reasons for Change in Burden**

There is no change in the labor hours in this ICR compared to the pervious ICR. This is due to two considerations: 1) the regulations have not changed over the past three years; and 2) the growth rate for the industry is very low, negative or non-existent, so there is no significant change in the overall burden. However, there is an adjustment increase in the total estimated labor costs. The change in cost estimates occurred because the labor rates have increased since the last ICR. This ICR used the most recent labor rates in calculating all burden costs.

Additionally, the annual public reporting and recordkeeping burden for this collection of information has increased from 103 hours per response to 145 hours per response (41 hours per response for 40 CFR part 60, subpart PPP, and 249 hours per response for 40 CFR part 63, subpart NNN). This is due to a correction in the total number of annual responses. The total number of annual responses decreased from 180 to 128. To calculate the number of responses, the previous ICR assumed that all 29 sources subject to subpart NNN were required to submit Startup, Shutdown, and Malfunction (SSM) reports semiannually. This method was inconsistent with the Table 1 burden calculation, which assumed only 10% of all sources submit such reports. This ICR corrected the number of sources for submitting SSM reports, which results in a decrease in the number of responses for subpart NNN.

**6(g) Burden Statement**

The combined, annual public reporting and recordkeeping burden for this collection of information is estimated to average 145 hours per industry response. “Burden” means the total time, effort, or financial resources expended by persons to generate, maintain, retain, or disclose or provide information to or for a Federal agency. This includes the time needed to review instructions; develop, acquire, install, and utilize technology and systems for the purposes of collecting, validating, and verifying information, processing and maintaining information, and disclosing and providing information; adjust the existing ways to comply with any previously applicable instructions and requirements; train personnel to be able to respond to a collection of information; search data sources; complete and review the collection of information; and transmit or otherwise disclose the information.

An agency may not conduct or sponsor, and a person is not required to respond to, a collection of information unless it displays a valid OMB Control Number. The OMB Control Numbers for EPA regulations are listed at 40 CFR part 9 and 48 CFR chapter 15.

To comment on the Agency's need for this information, the accuracy of the provided burden estimates, and any suggested methods for minimizing respondent burden, including the use of automated collection techniques, EPA has established a public docket for this ICR under Docket ID Number EPA–HQ–OECA–2012–0658. An electronic version of the public docket is available at http://www.regulations.gov/ which may be used to obtain a copy of the draft collection of information, submit or view public comments, access the index listing of the contents of the docket, and to access those documents in the public docket that are available electronically. When in the system, select “search,” then key in the docket ID number identified in this document. The documents are also available for public viewing at the Enforcement and Compliance Docket and Information Center in the EPA Docket Center (EPA/DC), EPA West, Room 3334, 1301 Constitution Ave., NW, Washington, DC. The EPA Docket Center Public Reading Room is open from 8:30 a.m. to 4:30 p.m., Monday through Friday, excluding legal holidays. The telephone number for the Reading Room is (202) 566-1744, and the telephone number for the docket center is (202) 566-1752. Also, you can send comments to the Office of Information and Regulatory Affairs, Office of Management and Budget, 725 17th Street, NW, Washington, DC 20503, Attention: Desk Officer for EPA. Please include the EPA Docket ID Number EPA-HQ-OECA-2012–0658 and OMB Control Number 2060-0114 in any correspondence.

**Part B of the Supporting Statement**

This part is not applicable because no statistical methods were used in collecting this information.

**Table 1a: Annual Respondent Burden and Cost – NSPS for Wool Fiberglass Insulation Manufacturing Plants (40 CFR Part 60,**

**Subpart PPP) (Renewal)**

| Burden Items | (A)  Hours per Occurrence | (B) Occurrences per Year | (C) Hours per Year (AxB) | (D) Respondents per Year a | (E) Technical Hours per Year (CxD) | (F) Managerial Hours per Year (Ex0.05) | (G) Clerical Hours per Year (Ex0.10) | (H)  Cost, $ b |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. Applications | N/A | | | | | | |  |
| 2. Survey and Studies | N/A | | | | | | |  |
| 3. Reporting Requirements |  |  |  |  |  |  |  |  |
| A. Read instructions c | 1 | 1 | 1 | 0 | 0 | 0 | 0 | $0 |
| B. Required activities |  |  |  |  |  |  |  |  |
| Initial performance tests d | 72 | 1 | 72 | 0 | 0 | 0 | 0 | $0 |
| Repeat performance tests e | 72 | 0.2 | 14.4 | 0 | 0 | 0 | 0 | $0 |
| C. Create information |  |  |  |  |  |  |  |  |
| D. Gather existing information |  |  |  |  |  |  |  |  |
| E. Write Report |  |  |  |  |  |  |  |  |
| Notification of construction/reconstruction f | 2 | 1 | 2 | 0 | 0 | 0 | 0 | $0 |
| Notification of actual startup f | 2 | 1 | 2 | 0 | 0 | 0 | 0 | $0 |
| Notification of physical or operational change f | 2 | 1 | 2 | 0 | 0 | 0 | 0 | $0 |
| Notification of initial performance test f | 2 | 1 | 2 | 0 | 0 | 0 | 0 | $0 |
| Report of performance test | Included in 3B | | | | | | |  |
| Semiannual exceedance report g | 4 | 2 | 8 | 32 | 256 | 12.8 | 25.6 | $28,506.37 |
| **Subtotal for Reporting Requirements** |  |  |  |  | **294.4** | | | **$28,506.37** |
| 4. Recordkeeping Requirements |  |  |  |  |  |  |  |  |
| A. Read instructions | Included in 3A | | | | | | |  |
| B. Plan activities | Included in 3B | | | | | | |  |
| C. Implement activities | Included in 3B | | | | | | |  |
| D. Develop record system | N/A | | | | | | |  |
| E. Time to enter information |  |  |  |  |  |  |  |  |
| 40 CFR Part 60, Subpart PPP |  |  |  |  |  |  |  |  |
| Records of operating parameters and  emissions h, i | 0.25 | 250 | 62.5 | 32 | 2,000 | 100 | 200 | $222,706.00 |
| Records of startups, shutdowns, and  malfunctions j | 1 | 1 | 1 | 32 | 32 | 1.6 | 3.2 | $3,563.30 |
| F. Train Personnel | N/A | | | | | | |  |
| G. Audits | N/A | | | | | | |  |
| **Subtotal for Recordkeeping Requirements** |  |  |  |  | **2,336.8** | | | **$226,269.30** |
| **Total Annual Burden and Cost (rounded)** |  |  |  |  | **2,631** | | | **$254,776** |

|  |
| --- |
| **Assumptions:** |
| a  We have assumed that there are approximately 32 respondents, with no additional new or reconstructed sources becoming subject to the rule over the next three years.. |
| b  This ICR uses the following labor rates: Managerial $121.44 ($57.83 + 110%), Technical $100.23 ($47.73 + 110%), and Clerical $50.51 ($24.05 + 110%). These rates are from the United States Department of Labor, Bureau of Labor Statistics, March 2012, “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 the benefit packages available to those employed by private industry. This ICR assumes that Clerical hours are 10% of Technical hours and Managerial hours are 5% of Technical hours.  c  We have assumed that it will take each respondent one hour to read instructions.  d We assume that it will take each respondent 72 hours to complete initial performance tests.  e We assume that 20percent of respondents will have to repeat the initial performance tests due to failures.  f  We assume that each respondent will take two hours to prepare notification reports.  g  We assume that each respondent will take four hours to prepare semiannual report.  h We assume that 0.25 hours is required to record operating parameters.  i We assume that each respondent will take 250 days per year to enter operating parameters and emissions records.  j We assume that it will take one hour per years for each respondent to record startups, shutdowns, malfunctions.etc. |

**Table 1b: Annual Respondent Burden and Cost – NESHAP for Wool Fiberglass Insulation Manufacturing Plants (40 CFR Part**

**63, Subpart NNN) (Renewal)**

| Burden Items | (A)  Hours per Occurrence | (B) Occurrences per Year | (C) Hours per Year (AxB) | (D) Respondents per Year a | (E) Technical Hours per Year (CxD) | (F) Managerial Hours per Year (Ex0.05) | (G) Clerical Hours per Year (Ex0.10) | (H)  Cost, $ b |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. Applications | N/A | | | | | | |  |
| 2. Survey and Studies | N/A | | | | | | |  |
| 3. Reporting Requirements |  |  |  |  |  |  |  |  |
| A. Read instructions c | 1 | 1 | 1 | 0 | 0 | 0 | 0 | $0 |
| B. Required activities |  |  |  |  |  |  |  |  |
| Initial performance tests d | 980 | 1 | 980 | 0 | 0 | 0 | 0 | $0 |
| Repeat performance tests e | 980 | 0.2 | 196 | 0 | 0 | 0 | 0 | $0 |
| Operations, maintenance, and monitoring  plan f | 40 | 1 | 40 | 0 | 0 | 0 | 0 | $0 |
| Startup, shutdown, and malfunction plan g | 40 | 1 | 40 | 0 | 0 | 0 | 0 | $0 |
| C. Create information |  |  |  |  |  |  |  |  |
| D. Gather existing information |  |  |  |  |  |  |  |  |
| E. Write Report |  |  |  |  |  |  |  |  |
| Notification of applicability h | 2 | 1 | 2 | 0 | 0 | 0 | 0 | $0 |
| Notification of construction/reconstruction h | 2 | 1 | 2 | 0 | 0 | 0 | 0 | $0 |
| Notification of actual startup h | 2 | 1 | 2 | 0 | 0 | 0 | 0 | $0 |
| Notification of special compliance  requirements h | 2 | 1 | 2 | 0 | 0 | 0 | 0 | $0 |
| Notification of initial performance test h | 2 | 1 | 2 | 0 | 0 | 0 | 0 | $0 |
| Notification of compliance status h | 2 | 1 | 2 | 0 | 0 | 0 | 0 | $0 |
| Request for extension of compliance,  adjustments to time periods, and changes in  information h, i | 2 | 1 | 2 | 0 | 0 | 0 | 0 | $0 |
| Report of performance test | Included in 3B | | | | | | |  |
| Excess emissions report j, k | 16 | 2 | 32 | 5.8 | 185.6 | 9.28 | 18.56 | $20,667.12 |
| Report of no excess emissions l, m | 1 | 2 | 2 | 23.2 | 46.4 | 2.32 | 4.64 | $5,166.78 |
| Quality improvement plan n | 40 | 1 | 40 | 0 | 0 | 0 | 0 | $0 |
| Startup, shutdown, and malfunction plan o, p | 8 | 2 | 16 | 2.9 | 46.4 | 2.32 | 4.64 | $5,166.78 |
| **Subtotal for Reporting Requirements** |  |  |  |  | **320.16** | | | **$31,000.68** |
| 4. Recordkeeping Requirements |  |  |  |  |  |  |  |  |
| A. Read instructions | Included in 3A | | | | | | |  |
| B. Plan activities | Included in 3B | | | | | | |  |
| C. Implement activities | Included in 3B | | | | | | |  |
| D. Develop record system | N/A | | | | | | |  |
| E. Time to enter information |  |  |  |  |  |  |  |  |
| Records of operating parameters and  emissions q | 9 | 52 | 468 | 29 | 13,572 | 678.6 | 1,357.2 | $1,511,282.92 |
| F. Train Personnel | N/A | | | | | | |  |
| G. Audits | N/A | | | | | | |  |
| **Subtotal for Recordkeeping Requirements** |  |  |  |  | **15,607.8** | | | **$1,511,282.92** |
| **Total Annual Burden and Cost (rounded)** |  |  |  |  | **15,928** | | | **$1,542,284** |

|  |  |
| --- | --- |
| **Assumptions:** | |
| a  We have assumed that there are approximately 29 respondents, with no additional new or reconstructed sources becoming subject to the rule over the next three years.  b This ICR uses the following labor rates: Managerial $121.44 ($57.83 + 110%), Technical $100.23 ($47.73 + 110%), and Clerical $50.51 ($24.05 + 110%). These rates are from the United States Department of Labor, Bureau of Labor Statistics, March 2012, “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 the benefit packages available to those employed by private industry. This ICR assumes that Clerical hours are 10% of Technical hours and Managerial hours are 5% of Technical hours.  c  We have assumed that it will take each respondent one hour to read instructions.  d We assume that it will take each respondent 980 hours to complete initial performance tests.  e We assume that 20percent of respondents will have to repeat the initial performance tests due to failures.  f We assume that each respondent will take 40 hours to prepare the operations, maintenance, and monitoring plan.  g We assume that each respondent will take 40 hours to prepare the startup, shutdown, and malfunction plan.  h We assume that it will take each respondent two hours to prepare each of the notifications.  i We assume that it will take each respondent one hour to write the extension of compliance; adjustments to time periods, and changes in information reports.  j  We assume that it will take each respondent 16 hours to prepare excess emissions reports.  k We assume that 20 percent of respondents are required to prepare excess emissions reports.  l We assume that each respondent will take one hour to prepare no excess emissions reports.  m We assume that 80 percent of respondents will submit the no excess emissions reports.  n  We assume that 40 percent of respondents are required to prepare the quality improvement plan.  o We assume that 10 percent of respondent will take eight hours to prepare startup, shutdown, and malfunction reports.  p We assume that 10 percent of respondents are required to submit annual startup, shutdown, malfunction reports.  q We assume that it will take each respondent nine hours each week to record records of operating parameters and emissions. | |
|  | |
|  | |
|  | |
|  | |
|  | |
|  | |
|  | |
|  | |
|  | |
|  | |
|  | |
|  | |
|  | |
|  | |

**Table 2a: Average Annual EPA Burden and Cost – NSPS for Wool Fiberglass Insulation Manufacturing Plants (40 CFR Part 60, Subpart PPP) (Renewal)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Burden Items | (A)  EPA Hours per Occurrence | (B) Occurrences per Year | (C)  EPA Hours per Year (AxB) | (D) Plants  per  Year a | (E) Technical Hours per Year (CxD) | (F) Managerial Hours per Year (Ex0.05) | (G) Clerical Hours per Year (Ex0.10) | (H)  Cost, $b |
| 1. Initial performance tests |  |  |  |  |  |  |  |  |
| A. New or modified plant c | 24 | 1 | 24 | 0 | 0 | 0 | 0 | $0 |
| 2. Repeat performance tests |  |  |  |  |  |  |  |  |
| A. New or modified plant c, d | 24 | 0.2 | 4.8 | 0 | 0 | 0 | 0 | $0 |
| 3. Report Review |  |  |  |  |  |  |  |  |
| A. New or modified plant |  |  |  |  |  |  |  |  |
| Notification of construction/reconstruction | 2 | 1 | 2 | 0 | 0 | 0 | 0 | $0 |
| Notification of actual startup | 1 | 1 | 1 | 0 | 0 | 0 | 0 | $0 |
| Notification of physical or operational change | 2 | 1 | 2 | 0 | 0 | 0 | 0 | $0 |
| Notification of initial performance test | 1 | 1.2 | 1.2 | 0 | 0 | 0 | 0 | $0 |
| Review performance test results e | 8 | 1.2 | 9.6 | 0 | 0 | 0 | 0 | $0 |
| Review semiannual exceedance/no  exceedance reports f | 2 | 2 | 4 | 32 | 128 | 6.4 | 12.8 | $6,633.54 |
| Subtotal Annual Burden |  |  |  |  | 128 | 6.4 | 12.8 | $6,633.54 |
| **Total Annual Burden and Cost (rounded)** |  |  |  |  | **147** | | | **$6,634** |

|  |
| --- |
| **Assumptions:** |
| a We have assumed that there are approximately 32 respondents, with no additional new or reconstructed sources becoming subject to the rule over the next three years. |
| b This ICR uses the following labor rates: Managerial $62.27 (GS-13, Step 5, $38.92 + 60%) , Technical $46.21 (GS-12, Step 1, $28.88 + 60%), and Clerical $25.01 (GS-6, Step 3, $15.63 + 60%). These rates are from the Office of Personnel Management (OPM), 2012 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. This ICR assumes that Clerical hours are 10% of Technical hours and Managerial hours are 5% of Technical hours.  c We have assumed that it will take 24 hours for each new plant to participate in the performance testing.  d  We assume that 20 percent of new or modified plants will have to repeat performance test due to failures.  e We assume that each new or modified plant will take eight hour 1.2 times per year to review the performance test results reports.  f We have assumed that each plant will take two hours two times per year to review the semiannual exceedance/no exceedance reports.  **Table 2b: Average Annual EPA Burden and Cost – NESHAP for Wool Fiberglass Insulation Manufacturing Plants (40 CFR Part 63, Subpart NNN) (Renewal)** |

| Burden Items | (A)  EPA Hours per Occurrence | (B) Occurrences per Year | (C) EPA Hours per Year (AxB) | (D) Plants per  Year a | (E) Technical Hours per Year (CxD) | (F) Managerial Hours per Year (Ex0.05) | (G) Clerical Hours per Year (Ex0.10) | (H)  Cost, $b |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. Initial performance tests |  |  |  |  |  |  |  |  |
| A. New or modified plant c | 40 | 1 | 40 | 0 | 0 | 0 | 0 | $0 |
| 2. Repeat performance tests |  |  |  |  |  |  |  |  |
| A. New or modified plant c, d | 40 | 0.2 | 8 | 0 | 0 | 0 | 0 | $0 |
| 3. Report Review |  |  |  |  |  |  |  |  |
| A. New or modified plant |  |  |  |  |  |  |  |  |
| Notification of applicability e | 2 | 1 | 2 | 0 | 0 | 0 | 0 | $0 |
| Notification of construction/reconstruction e | 2 | 1 | 2 | 0 | 0 | 0 | 0 | $0 |
| Notification of actual startup e | 2 | 1 | 2 | 0 | 0 | 0 | 0 | $0 |
| Notification of special compliance requirements e | 1 | 1 | 1 | 0 | 0 | 0 | 0 | $0 |
| Notification of initial performance test e | 2 | 1 | 2 | 0 | 0 | 0 | 0 | $0 |
| Notification of compliance status e | 2 | 1 | 2 | 0 | 0 | 0 | 0 | $0 |
| Request for extension of compliance,  adjustments to time periods, and changes in  information f | 2 | 1 | 2 | 0 | 0 | 0 | 0 | $0 |
| Report of initial performance test | 40 | 1 | 40 | 0 | 0 | 0 | 0 | $0 |
| Excess emissions report g | 20 | 2 | 40 | 5.8 | 232 | 11.6 | 23.2 | $12,023.28 |
| Report of no excess emissions h | 2 | 2 | 4 | 23.2 | 92.8 | 4.64 | 9.28 | $4,809.31 |
| Quality improvement plan i | 40 | 1 | 40 | 0 | 0 | 0 | 0 | $0 |
| Startup, shutdown, and malfunction plan i | 40 | 1 | 40 | 0 | 0 | 0 | 0 | $0 |
| Operations, maintenance, and monitoring plan i | 40 | 1 | 40 | 0 | 0 | 0 | 0 | $0 |
| Startup, shutdown, and malfunction report j | 20 | 2 | 40 | 2.9 | 116 | 5.8 | 11.6 | $6,011.64 |
| Subtotal Annual Burden |  |  |  |  | 440.8 | 22.04 | 44.08 | $22,844.24 |
| **Total Annual Burden and Cost (rounded)** |  |  |  |  | **507** | | | **$22,844** |

|  |
| --- |
| **Assumptions:** |
| a We have assumed that there are approximately 29 respondents, with no additional new or reconstructed sources becoming subject to the rule over the next three years. |
| b This ICR uses the following labor rates: Managerial $62.27 (GS-13, Step 5, $38.92 + 60%) , Technical $46.21 (GS-12, Step 1, $28.88 + 60%), and Clerical $25.01 (GS-6, Step 3, $15.63 + 60%). These rates are from the Office of Personnel Management (OPM), 2012 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. This ICR assumes that Clerical hours are 10% of Technical hours and Managerial hours are 5% of Technical hours.  c We have assumed that it will take 40 hours for each new plant to participate in the performance testing.  d We assume that 20 percent of new or modified plants will have to repeat performance test due to failures.  e We assume that each new or modified plant will take two hour once per year to review the notification reports.  f We assume that each new or modified plant will take two hours once per year to completed request.  g We assume that 20 percent of plants will each take 20 hours twice per year to review excess emissions report.  h We assume that 80 percent of plants will each take two hours twice per year to review the no excess emissions report.  i We assume that it will take 40 hours once per year to review plans.  j We assume that it will take 20 hours twice per year to review startup, shutdown, and malfunction report. |
|  |
|  |
|  |
|  |

1. 40 CFR part 63, subpart NNN also includes plants that manufacture fiberglass for liquid and air filtration. However, the majority of the plants (90 percent) manufacture fiberglass for building insulation. [↑](#footnote-ref-1)