

**Supporting Statement for  
Paperwork Reduction Act Submissions**

**Information Collection Title:** Ventilation Plan and Main Fan Maintenance Record

**Collection Instrument(s):** None

**Authority:** 30 CFR Sections 57.8520, 57.8525 (pertains to metal and nonmetal underground mines)

**A. JUSTIFICATION**

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

Section 103(h) of the Federal Mine Safety and Health Act of 1977 (Mine Act), 30 U.S.C. 813(h), authorizes the Mine Safety and Health Administration (MSHA) to collect information necessary to carry out its duty in protecting the safety and health of miners. Further, Section 101(a) of the Mine Act, 30 U.S.C. 811 authorizes the Secretary to develop, promulgate, and revise as may be appropriate, improved mandatory health or safety standards for the protection of life and prevention of injuries in coal and metal and nonmetal mines.

Underground mines usually present harsh and hostile working environments. The ventilation system is the most vital life support system in underground mining and a properly operating ventilation system is essential for maintaining a safe and healthful working environment. A well planned mine ventilation system is necessary to assure a fresh air supply to miners at all working places, to control the amounts of harmful airborne contaminants in the mine atmosphere, and to dilute possible accumulation of explosive gases.

Lack of adequate ventilation in underground mines has resulted in fatalities from asphyxiation and/or explosions due to a buildup of explosive gases. Inadequate ventilation can be a primary factor for deaths caused by disease of the lungs (e.g. silicosis). In addition, poor working conditions from lack of adequate ventilation

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contribute to accidents resulting from heat stress, limited visibility, or impaired judgment from contaminants.

30 CFR Section 57.8520 requires the mine operator to prepare a written plan of the mine ventilation system. The plan is required to be updated at least annually. Upon written request of the District Manager, the plan or revisions must be submitted to MSHA for review and comment. The requested plan must include a current mine map or schematic, or a series of mine maps or schematics, mine fan data, diagram or description or sketches showing how ventilation is accomplished and the number and type of internal combustion engine units used underground.

The main mine fans constitute the major components of a ventilation system for the entire underground mining operation. 30 CFR Section 57.8525 requires that the main ventilation fans for an underground mine be maintained according to either the manufacturers' recommendations or a written periodic schedule. Upon request of an Authorized Representative of the Secretary of Labor, this fan maintenance schedule must be made available for review.

The air flow provided by the fans assures fresh air to the miners at working faces, reduces the chance of the air reaching threshold limit values of airborne contaminants, and dilutes accumulations of possible explosive gases. A regular fan maintenance schedule is necessary to assure an uninterrupted and vital supply of air. The maintenance is normally scheduled as recommended by the fan manufacturers. The standard recognizes, however, that some installations may justify a more liberal schedule, others a more stringent schedule. Regardless of regularity, based on the loads of individual fans, the records assure compliance with the standard and may serve as a warning mechanism for possible ventilation problems before they occur.

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

The information collected under 30 CFR Section 57.8520 is used to: (a) assure that each operator of an underground metal and nonmetal mine routinely plans, reviews, and updates the mine's ventilation system; (b) ensure the availability of accurate and current ventilation information; and (c) provide MSHA with the opportunity to alert the mine operator to potential hazards.

Regarding section 57.8525, the mine operator maintains the information is for its use. Ventilation personnel may use the information when called upon to solve a problem. MSHA uses the information to determine whether the fans have been adequately maintained in compliance with the standard.

**3. 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.**

In order to comply with the Government Paperwork Elimination Act (GPEA), MSHA permits mine operators to retain these records in whatever method they choose, which may include utilizing computer technology.

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

The ventilation plan and main fan maintenance record are unique for each mine. There is no duplicate information available.

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

This information collection does not have a significant impact on small businesses or other small entities.

**6. 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.**

Without this information, MSHA would not be able to verify compliance with standards 30 CFR Sections 57.8520 and 57.8525.

**7. Explain any special circumstances that would cause an information collection to be conducted in a manner:**

- **requiring respondents to report information to the agency more often than quarterly;**
- **requiring respondents to prepare a written response to a collection of information in fewer than 30 days after receipt of it;**

- **requiring respondents to submit more than an original and two copies of any document;**
- **requiring respondents to retain records, other than health, medical, government contract, grant-in-aid, or tax records for more than three years;**
- **in connection with a statistical survey, that is not designed to produce valid and reliable results that can be generalized to the universe of study;**
- **requiring the use of a statistical data classification that has not been reviewed and approved by OMB;**
- **that includes a pledge of confidentiality that is not supported by authority established in statute or regulation, that is not supported by disclosure and data security policies that are consistent with the pledge, or which unnecessarily impedes sharing of data with other agencies for compatible confidential use; or**
- **requiring respondents to submit proprietary, trade secret, or other confidential information unless the agency can demonstrate that it has instituted procedures to protect the information's confidentiality to the extent permitted by law.**

In the event of a mine accident or similar emergency situation, MSHA representatives may require this information to be provided more frequently than quarterly or require respondents to submit proprietary, trade secret, or other confidential information in order to ensure the safety and health of miners. The standards provide that mine operators make the ventilation plan and fan maintenance schedules available to MSHA upon request.

This collection of information is otherwise consistent with 5 CFR Section 1320.5.

**8. 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 Section 1320.8(d), soliciting comments on the information collection prior to submission to OMB.**

MSHA published a 60-day Federal Register notice on July 29, 2016 (81 FR 50022). MSHA received no comments.

**9. Explain any decision to provide any payment or gift to respondents, other than remuneration of contractors or grantees.**

MSHA does not provide any payment or gift to respondents.

**10. Describe any assurance of confidentiality provided to respondents and the basis for the assurance in statute, regulation, or agency policy.**

MSHA makes no assurances of privacy to mine operators regarding these records.

**11. 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.**

There are no questions of a sensitive nature.

**12. 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. Unless directed to do so, agencies should not conduct special surveys to obtain information on which to base hour burden estimates. Consultation with a sample (fewer than 10) of potential respondents is desirable. If the hour burden on respondents is expected to vary widely because of differences in activity, size, or complexity, show the range of estimated hour burden, and explain the reasons for the variance. 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 aggregate the hour burdens in Item 13 of OMB Form 83-I.**
- **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 in Item 13.**

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Hourly wages in this answer are from Bureau of Labor Statistic (BLS), Occupational Employment Statistics (OES) May 2015 survey<sup>1</sup>. MSHA increased the OES hourly wage rates for benefits by a 1.49 benefit scaling factor<sup>2</sup> to obtain fully loaded wages.

**30 CFR Section 57.8520**

Section 57.8520 requires the mine operator to prepare a written plan of the mine ventilation system. The plan is required to be updated at least annually. As of May 2016, MSHA records indicated that 227 underground metal and nonmetal mines are subject to this standard. In addition, MSHA estimates that 5 new mines will open annually and thus require the development of a new plan. MSHA estimates that a mine supervisor, earning \$53.91 per hour, will take 24 hours to: develop a mine plan for a new mine; or revise and update a plan for an existing mine.<sup>3</sup> Also, a clerical employee, earning \$22.58 per hour, will take 6 minutes to prepare each submission.<sup>4</sup> MSHA estimates the following burden hours and related costs.

**Develop new plan**

5 new plans x 24 hours	= 120 hours
5 new plans x 6 minutes	= 1 hour
<b>Burden Hours</b>	<b>= 121 hours</b>

120 hours x \$53.91 per hour	= \$6,469
1 hour x \$22.58 per hour	= \$23
<b>Burden Hour Costs</b>	<b>= \$6,492</b>

**Review and update existing plan**

227 existing plans x 24 hours	= 5,448 hours
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<sup>1</sup>For those not familiar with the OES survey, see item "E3. How to get OES data. What are the different ways to obtain OES estimates from this website?" at [http://www.bls.gov/oes/oes\\_ques.htm](http://www.bls.gov/oes/oes_ques.htm).

<sup>2</sup> The benefit scaler comes from BLS Employer Costs for Employee Compensation access by menu <http://www.bls.gov/data/> or directly with <http://download.bls.gov/pub/time.series/cm/cm.data.0.Current>. The data series CMU2030000405000P, Private Industry Total benefits for Construction, extraction, farming, fishing, and forestry occupations, is divided by 100 to convert to a decimal value. MSHA used the latest 4-quarter moving average 2015Qtr2-2016Qtr1 to determine that 33.0 percent of total loaded wages are benefits. The scaling factor =  $1 + (\text{benefits}/(1-\text{benefits})) = 1 + (.33/(1-.33)) = 1.49$ .

<sup>3</sup> Hourly wages from OES May 2015 survey, Standard Occupational Classification (SOC) code 491011. First-Line Supervisors of Mechanics, Installers, and Repairers; employment weighted average for Metal Ore mining (NAICS 212200) and Nonmetallic Mineral Mining and Quarrying (NAICS 212300). MSHA calculated an employment weighted average hourly wage of \$36.18 that is multiplied by a 1.49 benefit scaling factor to obtain a fully loaded hourly wage of \$53.91.

<sup>4</sup> : Hourly wage from Standard Occupational Classification (SOC) code 439061, Office Clerks, General; employment weighted average for Metal Ore mining (NAICS 212200) and Nonmetallic Mineral Mining and Quarrying (NAICS 212300). MSHA calculated an employment weighted average hourly wage of \$15.15 that is multiplied by a 1.49 benefit scaling factor to obtain a fully loaded hourly wage of \$22.58.

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227 existing plans x 6 minutes	= 23 hours
<b>Burden Hours</b>	<b>= 5,471 hours</b>
5,448 hours x \$53.91 per hour	= \$293,702
23 hours x \$22.58 per hour	= \$519
<b>Burden Hour Costs</b>	<b>= \$294,221</b>

**Section 57.8520 Burden Responses = 232**  
**Burden Hours = 5,592 hours**  
**Burden Hour Costs = \$300,713**

**30 CFR Section 57.8525**

Section 57.8525 requires that the main ventilation fans for an underground mine be maintained according to either the manufacturers' recommendations or a written periodic schedule. As of May 2016, there are approximately 227 underground metal and nonmetal mines. Approximately 50 of these mines rely on natural ventilation of air movement and, therefore, have no fans. MSHA estimates that the remaining 177 mines have an average of 1.5 main fans per mine, for a total of 265 main fans (177 x 1.5) which must be maintained according to either the manufacturer's recommendations or a written periodic schedule adopted by the mine operator. Based on experience, MSHA estimates that approximately 90 percent of these fans are maintained, as a normal business practice, according to the manufacturer's recommendation. Therefore, such mine operators would incur no burden associated with adopting a written, periodic maintenance schedule adopted by the mine operator. See 5 CFR Section 1320.3(b)(2).

The remaining 27 fans (265 x 10 percent) are maintained according to written periodic schedules adopted by mine operators, which are reviewed regularly by MSHA inspectors. MSHA estimates that of the 27 fans written maintenance schedules would need to be developed or revised for about one-third or 9 fans each year. MSHA estimates that a mine maintenance supervisor, earning \$53.91 per hour, will take one hour to develop or revise a written periodic maintenance schedule for a main fan; and a clerical person, earning \$22.58 per hour, will take 30 minutes to type, copy, and distribute the schedule. MSHA estimates the following burden hours and related costs.

**Develop or Revise Written Schedule, Prepare and Distribute**

9 written schedules x 1 hour	= 9 hours
9 written schedules x 30 minutes	= 5 hours
<b>Burden Hours</b>	<b>= 14 hours</b>

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9 hours x \$53.91 per hour = \$485  
 5 hours x \$22.58 per hour = \$113  
**Burden Hour Costs = \$598**

**Section 57.8525 Burden**

**Responses = 9**  
**Burden Hours = 14 hours**  
**Burden Hour Costs = \$598**

**Grand Total Burden Hours and Costs**

**Respondents = 232**  
**Responses = 241 (232 + 9)**  
**Grand Total Burden Hours = 5,606**  
**Grand Total Burden Hour Costs = \$301,311**

**QUESTION 12 ANNUAL BURDEN**

Type of Respondent	Form/Regulation	No. of Respondents	No. of Responses per Respondent	Total No. of Responses (rounded)	Avg. Burden per Response (in hours)	Total Annual Burden (in hours/rounded to whole numbers)
Business or other for-profit	57.8520 (New Plan)	5	1	5	24 hours	120 (record-keeping hrs.)
Business or other for-profit	57.8520 (New Plan, Clerical Prep)	5	1	5	6 minutes	1 (record-keeping hrs.)
Business or other for-profit	57.8520 (Existing Plan)	227	1	227	24 hours	5,448 (record-keeping hrs.)



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Business or other for-profit	57.8520 (Existing Plan, Clerical Prep)	227	1	227	6 minutes	23 (record-keeping hrs.)
Business or other for-profit	57.8525 (Written Schedule)	9	1	9	1 hour	9 (record-keeping hrs.)
Business or other for-profit	57.8525 (Written Schedule, Clerical Prep)	9	1	9	30 minutes	5 (record-keeping hrs.)
<b>Total</b>				<b>241</b>		<b>5,606</b>

**13. Provide an estimate of the total annual cost burden to respondents or recordkeepers resulting from the collection of information. (Do not include the cost of any hour burden shown in Items 12 and 14.)**

- **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 take into account 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 time 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 collection services should be a part of this cost burden estimate. In developing cost burden estimates, agencies may consult with a sample of respondents (fewer than 10), utilize the 60-day pre-OMB submission public comment process and use existing economic or**

**regulatory impact analysis associated with the rulemaking containing the information collection, as appropriate.**

- **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.**

There is no annual cost burden to respondents or recordkeepers resulting from this collection of information.

**14. Provide estimates of annualized cost 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. Agencies also may aggregate cost estimates from Items 12, 13, and 14 in a single table.**

As of May 2016, MSHA records indicated that 227 underground metal and nonmetal mines are subject to this standard. MSHA estimates that each of these mines would revise their plan once each year. In addition, it is estimated that 5 new mines will open and thus require the development of a new plan.

Section 57.8520 requires that a plan of the mine ventilation system shall be set out by the operator in written form. Revisions of the system shall be noted and updated at least annually. The ventilation plan or revisions thereto shall be submitted to the District Manager for review and comments upon his request. MSHA estimates that it will take 8 hours by Agency personnel to review either a new or revised plan. MSHA estimates that a technical specialist (GS-12), earning \$53.08 per hour, will take 8 hours to review a submitted plan or revision.<sup>5</sup>

(5 new plans + 227 revised plans) x 8 hours x \$53.08 = **\$98,516**

**15. Explain the reasons for any program changes or adjustments reported on the burden worksheet.**

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<sup>5</sup> Hourly wage rate developed from Office of Personnel Management (OPM) December 2015 *FedScope* employment cube, <http://www.fedscope.opm.gov/>. Average annual salary of \$80,153 obtained from DOL-MSHA employees. Data search qualifiers are: agency = DLMS, occupation = 1822, Salary Grade = GS-12, Full time. In order to include the cost of benefits, the average annual salary was multiplied by a benefit scaler of 1.382. [\$53.08 = (\$80,153 x 1.382) ÷ 2,087 annual hrs.]

Burden hours decreased from 6,617 to 5,606 due to a decrease in the number of mines. Respondents decreased from 270 to 232, and responses decreased from 297 to 241. Burden costs remain the same at zero.

**16. For collections of information whose results are planned to 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.**

The results of this information collection are not scheduled for publication.

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

There are no required forms associated with this collection.

**18. Explain each exception to the certification statement identified in the "Certification for Paperwork Reduction Act Submissions".**

**B Statistical Methods**

There is no statistical methodology involved in this collection.