

SUPPORTING STATEMENT

Information Collection Title: Radiation Sampling and Exposure Records

Authority: 30 CFR 57.5037 and 57.5040

Collection Instrument(s): MSHA Form 4000-9, Record of Individual Exposure to Radon Daughters

Note to Reviewer(s): MSHA is requesting an extension to continue this currently approved information collection request. No changes were made to the request since the last approval. This is an extension, without change, of a currently approved collection.

General Instructions

A Supporting Statement, including the text of the notice to the public required by 5 CFR 1320.5(a)(i)(iv) and its actual or estimated date of publication in the *Federal Register*, must accompany each request for approval of a collection of information. The Supporting Statement must be prepared in the format described below, and must contain the information specified in Section A below. If an item is not applicable, provide a brief explanation. When the question “Does this ICR contain surveys, censuses or employ statistical methods” is checked "Yes", Section B of the Supporting Statement must be completed. OMB reserves the right to require the submission of additional information with respect to any request for approval.

Specific Instructions

A. Justification

1. Explain the circumstances that make the collection of information necessary. Identify any legal or administrative requirements that necessitate the collection. Attach a copy of the appropriate section of each statute and regulation mandating or authorizing the collection of information.

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 of Labor 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. Under the authority of Section 103 of the Federal Mine Safety and Health Act of 1977, MSHA is required to issue regulations requiring operators to maintain accurate records of employee exposures to potentially toxic materials or harmful physical

agents which are required to be monitored or measured under any applicable mandatory health or safety standard promulgated under this Act.

Airborne radon and radon daughters exist in every uranium mine and in several other underground mining commodities. Radon is radioactive gas. It diffuses into the underground mine atmosphere through the rock and the ground water. Radon decays in a series of steps into other radioactive elements, which are solids, called radon daughters. Radon and radon daughters are invisible and odorless. Decay of radon and its daughters results in emissions of alpha energy.

Medical doctors and scientists have associated high radon daughter exposures with lung cancer. The health hazard arises from breathing air contaminated with radon daughters which are in turn deposited in the lungs. The lung tissues are sensitive to alpha radioactivity.

The amounts of airborne radon daughters to which most miners can be exposed with no adverse effects have been established and are expressed as working levels (WL). The current MSHA standard is a maximum personal exposure of 4 working level months (WLM) per year.

Excess lung cancer in uranium miners, just as coal workers' pneumoconiosis, silicosis, and other debilitating occupational diseases, has been recognized for many years. Thus, an adequate base of accurate exposure level data is essential to control miners' exposures and permit an evaluation of the effectiveness of existing regulations. The standard at 30 CFR 57.5037 established the procedures to be used by the mine operator in sampling mine air for the presence and concentrations of radon daughters. Operators are required to conduct weekly sampling where concentrations of radon daughters exceed 0.3 WL. Sampling is required bi-weekly where uranium mines have readings of 0.1 WL to 0.3 WL and every 3 months in non-uranium underground mines where the readings are 0.1 WL to 0.3 WL. Mine operators are required to keep records of all mandatory samplings. Records must include the sample date, location, and results, and must be retained at the mine site or nearest mine office for at least 2 years.

The standard at 30 CFR 57.5040 requires mine operators to calculate and record individual exposures to radon daughters on MSHA Form 4000-9 "Record of Individual Exposure to Radon Daughters." The calculations are based on the results of the weekly sampling required by 30 CFR 57.5037. Records must be maintained by the operator and submitted to MSHA annually.

2. 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 sampling and recordkeeping requirement alerts the mine operator and MSHA to possible failure in the radon daughter control system, and permits appropriate corrective

action to be taken in a timely manner. Data submitted to MSHA is intended to: (a) establish a means by which MSHA can assure compliance with underground radiation standards; and (b) assure that miners can, on written request, have records of cumulative exposures made available to them or their estate, and to medical and legal representatives who have obtained written authorization.

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, mine operators may retain the records in whatever method they choose, which may include using computer technology. MSHA Form 4000-9 can be printed from the MSHA web site at <https://www.msha.gov/support-resources/forms-online-filing/2018/05/23/record-individual-exposure-radon-daughters>. MSHA allows electronic submission of MSHA Form 4000-9.

4. 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.

Records are unique to each mine and pertain to radon daughter concentration in the exhaust air. Records are of individual miner's exposure to concentrations of radon daughters. Calculations are based on air samples taken at designated work areas and the time miners were present in those areas. No similar information exists.

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

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

6. Describe the consequences 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 collection to assure that a miner does not exceed the annual exposure limit to radon daughters, the individual miner could be at increased risk of developing lung cancer.

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 secrets, 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.**

This collection of information is consistent with the guidelines in 5 CFR 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 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.

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.

MSHA published a 60-day Federal Register notice on March 6, 2020 (85 FR 13189). MSHA received no public comments.

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

MSHA does not provide payments or gifts to respondents.

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

Operators are given no assurances of confidentiality; however, the records of an individual's exposure to radon daughters that are submitted to MSHA are covered by a Privacy Act Systems of Records Notice, MSHA 1, Mine Safety and Health Administration Standardized Information System (MSIS) (81 FR 25766) published on April 29, 2016. The records are stored in locked file cabinets and are accessible only to authorized personnel during working hours.

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 such 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.**

*** 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 under Item 13.**

The potential respondent universe is one active underground uranium mines and three non-producing underground mines. Therefore, MSHA's estimates are based on four mine operators being required to weekly record sampling results and maintenance of those weekly records. Standard 57.5037 requires operators to take air samples for concentrations of radon daughters and to keep records of the results of the samples. Based on the results of the air samples, section 57.5040 requires the operator to calculate and record individual miners' exposures to radon daughters.

Calculations are performed on a weekly basis and the results are reported to MSHA annually. MSHA estimates that it takes a mine supervisor 30 minutes, each week, to complete the calculations and record the results. In addition, MSHA estimates that it takes a clerk 1 hour and 30 minutes (90 minutes), each week, to maintain and keep a record of the results and disclose them to a 3rd party such as legal or medical representatives. MSHA estimates that, on average, mines typically operate 50 weeks out of the year. Finally, MSHA estimates that, once each year, a clerk at the mine takes 25 minutes to mail or fax the annual report to MSHA. Hourly wages¹ for metal and nonmetal supervisors and clerical personnel are from Bureau of Labor Statistics (BLS), Occupational Employment Statistics (OES) May 2018 survey.² MSHA increased the OES hourly wage rates for benefits by a 1.49 benefit-scaling factor and 1.037 inflation factor³ to obtain fully loaded wages.⁴ MSHA estimates that a mine supervisor earns an hourly wage rate of \$59.03 per hour, and a clerk earns an hourly wage rate of \$33.44 per hour.

The burden for recording the sampling results and calculations for the individual miner's results of exposure to radon daughter concentrations is estimated below.

¹ For all wage rates, MSHA uses the relevant precision throughout the calculation to avoid compound rounding errors and rounds at the final rate value. Displayed intermediate calculation values are presented to explain the calculation and are representative but the final rate value reflects the correct rounding and final estimate.

² 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.

³ The inflation factor comes from BLS Employment Cost Index access by menu <http://www.bls.gov/data/>. The data series CIS2020000405000I, Wages and salaries for Private industry workers in Construction, extraction, farming, fishing, and forestry occupations, Index is updated from Q2 2018 to Q2 2019, $137.0/132.1 = 1.037$.

⁴ The benefit-scaler comes from BLS Employer Costs for Employee Compensation access by menu <http://www.bls.gov/data/> or directly with <http://data.bls.gov/cgi-bin/srgate>. 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 average 2018Qtr4-2019Qtr3 to determine that 32.9 percent of total loaded wages are benefits. The scaling factor is a detailed calculation, but may be approximated with the formula and values $1 + (\text{benefit percentage}/(1-\text{benefit percentage})) = 1 + (.329/(1-.329)) = 1.49$.

Estimated Annualized Respondent Cost and Hour Burden

| Standard/ Data Collection Instrument | Number of Respondents | No. of Responses per Respondent | Total Responses | Average Burden per Response (in minutes) | Total Burden Hours | Hourly Wage Rate* | Total Burden Costs |
|---|-----------------------|---------------------------------|-----------------|--|--------------------|-------------------|--------------------|
| MSHA Form 4000-9 Recordkeeping | 4 | 50 | 200 | 30 | 100 | \$59.03 | \$5,903 |
| MSHA Form 4000-9 3 rd Party Disclosure | 4 | 50 | 200 | 90 | 300 | \$33.44 | \$10,032 |
| MSHA Form 4000-9 Reporting | 4 | 1 | 4 | 25 | 2 | \$33.44 | \$67 |
| Unduplicated Totals | 4 | | 404 | | 402 | | \$16,002 |

*Wage Rate calculations explained in footnotes 1, 3, and 4. First Line Supervisor wage rate multiple Standard Occupational Classification (SOC) code from OES May 2018 survey, (NAICS code 212200, Metal Ore Mining) (\$59.03=\$38.20 x 1.49 x 1.037). Clerical wage rate from OES May 2018 survey, Standard Occupational Classification (SOC) code 43-9061, Office Clerks, General (NAICS code 212200, Metal Ore Mining) \$33.44=\$21.64 x 1.49 x 1.037)

13. 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 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 collections 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.**

MSHA estimates that the yearly cost to copy and mail or fax the annual reports to MSHA is minimal and will average \$5 per mine per year.

Cost Burden: 4 mines x \$5 per mine = \$20

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.

MSHA estimates 4 hours per mine annually to perform data analysis for 4 annual reports (from Question 12). Estimated cost is based on a GS-12 Mine Safety and Health Inspector salary at the weighted average rate of \$57.08 per hour including benefits.⁵ Presented below is the annual burden on the Federal Government.

Hour Burden: 4 mines x 4 h per mine = 16 h
Cost of Hour Burden: 16 h x \$57.08/h = \$913.28

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

There is one less respondent (5 mines to 4 mines) resulting in fewer hours (502 to 402) and responses (505 to 404). The cost burden has decreased from \$25.00 to \$20.00. There are no program changes or other adjustments from the last approved OMB inventory.

16. 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

⁵ Hourly wage rate developed from Office of personnel Management (OPM) Dec 2018 *FedScope* employment cube, <http://www.fedscope.opm.gov/>. Data search qualifiers are: Agency = DLMS, Occupation = 1822, Work Schedule = Full-Time, Salary Grade = GS-12, Measures = Average Salary or Employment. [Average annual salary = \$85,155. In order to include the cost of benefits, the average annual salary was multiplied by a federal benefit-scaler of 1.399 (FY 2020). [\$57.08 = \$85,155/2,087 annual hours x 1.399 benefit load factor.]

and ending dates of the collection of information, completion of report, publication dates, and other actions.

Statistical analysis of exposure data is performed in-house by MSHA. Publication of the collected data per se is not contemplated. Disclosure of the data in consolidated and summary form will be published in annual reports on Metal and Nonmetal Mine Safety and Health.

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.

MSHA will display the expiration date on any instruments.

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

There are no exceptions to the certification statement.

B. COLLECTION OF INFORMATION EMPLOYING STATISTICAL METHODS

This information collection does not employ statistical methods.