

Gamma Radiation Surveys  
OMB Control Number: 1219-0039  
OMB Expiration Date: 10/31/2025

**Supporting Statement for  
Gamma Radiation Surveys  
Paperwork Reduction Act Submissions**

This information collection request (ICR) seeks to extend, without change, a currently approved information collection.

**OMB Control Number:** 1219-0039

**Information Collection Request Title:** Gamma Radiation Surveys

**Type of OMB Review:** Extension

**Authority:**

Part 57 - Safety and Health Standards—Underground Metal and Nonmetal Mines  
Subpart D - Air Quality, Radiation, Physical Agents, and Diesel Particulate Matter  
30 CFR 57.5047 - Gamma radiation surveys.

**Collection Instrument(s):** None

**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), as amended, 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(a), authorizes the Secretary of Labor (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, metal, and nonmetal (MNM) mines.

The Paperwork Reduction Act (PRA) governs paperwork burdens imposed by Federal agencies on the public for using identical questions to collect information from 10 or more persons. Paperwork burden is defined in 44 U.S.C. 3502(2) as time, effort, or financial resources expended to generate, maintain, or provide information to or for a Federal agency. Under 44 U.S.C. 3507, policies and procedures of information collection are established for controlling paperwork burdens imposed by Federal agencies on the public, including evaluating public comments.

To fulfill the statutory mandates to promote miners' health and safety, MSHA requires the collection of information under the information collection request titled "Gamma Radiation Surveys." The information collection is intended to minimize the negative health effects from gamma rays on miners.

Gamma radiation occurs where radioactive materials are present. Natural sources of gamma radiation include uranium and other radioactive elements that can be found in rocks, soils, and ground water. Gamma radiation may also be found near equipment with radiation sources in surface and underground mine operations where gamma rays are used to measure the level and density of liquids, slurries, or solids. The equipment includes X-ray machines, weightometers, nuclear gauges, and diffraction units that are mounted outside tanks, pipes, bins, hoppers, or other types of vessels and contain radioactive materials.

The adverse health effects from exposure to gamma radiation vary depending upon the energy level of the radiation, the cumulative length of exposure, and the type of cell affected. Gamma rays penetrate the body and can cause cell death or damage in their path which can affect many of the body's organs. If a radioactive element is inhaled or ingested, gamma radiation can also be emitted and absorbed internally. As a result, gamma radiation can cause many types of cancer.

Burden costs associated with the ICR include:

- I. conducting annual gamma radiation surveys; and
- II. recording cumulative individual gamma radiation exposure.

Authorization and the associated rule text are described below.

## **I. Conducting Gamma Radiation Surveys**

Under section 103(c) of the Mine Act, 30 U.S.C. 813(c), 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 the Act.

Under 30 CFR 57.5047(a), mine operators are required to conduct gamma radiation surveys annually in all underground mines where radioactive ores are mined. Under 30 CFR 57.5047(b), surveys must be conducted in accordance with American National Standards Institute (ANSI) Standard N13.8-1973, entitled "Radiation Protection in Uranium Mines", which is incorporated by reference.

## **II. Recording Cumulative Gamma Radiation Exposure**

Under 30 CFR 57.5047(c), where average gamma radiation measurements are in excess of 2.0 milliroentgens per hour in the working place, gamma radiation dosimeters must be provided for all persons affected, and records of cumulative individual gamma radiation exposure must be kept. Under 30 CFR 57.5047(d), an annual individual gamma radiation exposure cannot exceed 5 rems.

### **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.**

Miners' exposure to gamma radiation should be monitored because it can cause many types of cancer. MSHA uses the information collected to evaluate whether a mine operator is demonstrating compliance with the radiation standards. The collected information on cumulative occupational radiation exposures serves two purposes: it aids in efforts to protect the health and safety of miners and provides valuable information that can be used in developing prevention and control methods for subsequent radiation exposures.

### **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.**

No improved information technology has been identified that would reduce the existing burden. However, in order to comply with the Government Paperwork Elimination Act, mine operators may store records in whatever method they choose, which may include utilizing computer technology to store the records electronically.

### **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 A.2 above.**

No similar or duplicate information is available or submitted to MSHA.

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

The information collection provisions apply to all mine operations, both large and small. Congress intended that the Secretary enforce the law at all mining operations within the Agency's jurisdiction, regardless of size, and that information collection and recordkeeping requirements be consistent with efficient and effective enforcement of the Mine Act. [S. Rep. No. 95-181, 28 (1977)]. Section 103(e) of the Mine Act, 30 U.S.C. 813(e), directs the Secretary not to impose an unreasonable burden on small businesses when obtaining any information under the Mine Act. MSHA considered the burden on small mines when developing the collection and believes that the information collection requirements do not have a significant impact on a substantial number of 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.**

MSHA believes that the monitoring of miners' exposure to gamma radiation is essential to the protection of their health. A reduction in the collection would increase the likelihood that unsafe radiation levels would go undetected and would put miners at risk.

**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.**

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.**

In accordance with 5 CFR 1320.8(d), MSHA will publish the proposed information collection requirements in the *Federal Register*, notifying the public that these information collection requirements are being reviewed in accordance with the Paperwork Reduction Act of 1995, and provided 60 days for the public to submit comments. MSHA published a 60-day Federal Register notice on May 29, 2025 (90 FR 22772). MSHA received no comments.

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

MSHA does not provide payment or gifts to respondents.

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

There is no assurance of confidentiality provided to respondents.

**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.**
- **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 under ‘Annual Cost to Federal Government’.**

## **Respondents**

All information related to quantities and inspection rates are estimated by MSHA’s Headquarters Enforcement Division based on field experience with different types of mining operations, sizes of mines, and the frequency of inspections dictated by statute. Mine operators provide MSHA Headquarters Enforcement Division the number of mines and employment, and from this information MSHA tracks the number of active and inactive mines and mine types throughout the United States.

Based on MSHA’s Headquarters Enforcement Division, there were 4 radioactive ore mines in the United States in 2023 affected by this information collection request: one active facility, one non-producing underground mine and two active underground mines.

## Wage Rates Determinations<sup>1</sup>

MSHA used data from the May 2023 Occupational Employment and Wage Statistics (OEWS) published by the Bureau of Labor Statistics (BLS) for hourly wage rates<sup>2</sup> and adjusted the rates for benefits,<sup>3</sup> wage inflation,<sup>4</sup> and overhead costs.<sup>5</sup> The occupations listed below in Table 12-1 are those that were determined to be relevant for the cost calculations.

Table 12-1. Hourly Wage Rates

Occupation	NAICS Code	Mean Wage Rate	Benefit Multiplier	Inflation Multiplier	Overhead Cost Multiplier	Loaded Hourly Wage Rate
		A	B	C	D	A x B x C x D
Mining Supervisor [a]	212200 212300	\$41.81	1.465	1.027	1.01	\$63.53

Notes: MSHA used the latest 4-quarter moving average 2023Q2-2024Q1 to determine that 31.8 percent of total loaded wages are benefits for private industry workers in construction, extraction, farming, fishing, and forestry occupations. The benefit multiplier is  $1.465 = 1 + (0.318 / (1 - 0.318))$ . The inflation multiplier was determined by using the employment price index from the most current quarter data is available, 2024Q1, divided by the base year and quarter of the OEWS employment and wage statistics, 2023Q2, for private industry workers in construction, extraction, farming, fishing, and forestry occupations, current dollar index. The inflation multiplier is  $1.027 = 161.6 / 157.3$ . MSHA used the overhead multiplier of 1.01.

[a] The Standard Occupation Codes (SOC) used for this occupation are (47-1011), (49-1011), (51-1011), and (53-1047).

## Hour Burden

<sup>1</sup> For all wage rates, including Federal 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.

<sup>2</sup> To obtain OEWS data, follow BLS's directions in its Frequently Asked Questions: "E. How to get OEWS data. 4. What are the different ways to obtain OEWS estimates from this website?" at [https://www.bls.gov/oes/oes\\_ques.htm](https://www.bls.gov/oes/oes_ques.htm). The average wage rate is calculated as the employment-weighted average of hourly mean wages for the occupation.

<sup>3</sup> The benefit multiplier comes from BLS Employer Costs for Employee Compensation accessed by menu at <http://data.bls.gov/cgi-bin/srgate> or directly at <http://download.bls.gov/pub/time.series/cm/cm.data.0.Current>. Insert the data series CMU2030000405000D and CMU2030000405000P, Private Industry Total benefits for Construction, extraction, farming, fishing, and forestry occupations, which is divided by 100 to convert to a decimal value. MSHA used the latest 4-quarter moving average to determine what percent of total loaded wages are benefits. MSHA computes the benefit multiplier with a number of detailed calculations, but it may be approximated with the formula  $1 + (\text{benefit percentage} / (1 - \text{benefit percentage}))$ .

<sup>4</sup> Wage inflation is the change in Series ID: CIS2020000405000I; Seasonally adjusted; Series Title: Wages and salaries for Private industry workers in Construction, extraction, farming, fishing, and forestry occupations, Index. (<https://data.bls.gov/cgi-bin/srgate>; Inflation Multiplier = (Current Quarter Cost Index Value / OEWS Wage Base Quarter Index Value).

<sup>5</sup> MSHA uses an overhead rate of 1 percent. The mining environment generally involves very little overhead, especially costs associated with workers engaged in administrative or clerical tasks.

## I. Conducting Gamma Radiation Surveys

The annual gamma radiation survey required by 30 CFR 57.5047(a) is typically completed by taking instant radiation readings with a Geiger-Müller counter at all active workplaces. Surveys, required by 30 CFR 57.5047(b), must be in accordance with ANSI Standard N13.8-1973. Although the MSHA standard does not specify how the recordkeeping is to be conducted, it is an information collection activity, and the gamma radiation reading results are recorded when taken and can be used to demonstrate compliance.

MSHA estimates that it would take a mining supervisor, earning \$63.53 per hour, approximately 2 hours at each mine to take and record the measurements.

Table 12-2. Estimated Annual Respondent Hour and Cost Burden, Gamma Radiation Surveys (30 CFR 57.5047(a))

Activity (Occupation)	Respondents (Mines)	Responses per Respondent	Total Responses (Surveys)	Burden per Response (Hours)	Annual Burden (Hours)	Hourly Wage Rate	Burden Cost
Gamma Radiation Survey (Mining Supervisor)	4	1	4	2	8.00	\$63.53	\$508.24
Subtotal (Rounded)	4		4		8		\$508

## II. Recording Cumulative Gamma Radiation Exposure

Under 30 CFR 57.5047(c), action is only required if the average gamma radiation measurements are in excess of 2.0 milliroentgens per hour. There have been no exposure monitoring records for these mines and consequently average gamma radiation measurements are not known in excess of 2.0 milliroentgens per hour in the working place, and none were or are expected. Therefore, because no gamma radiation dosimeters have to be provided and no records are required to be maintained for cumulative individual gamma radiation exposures, MSHA estimates no burden for this activity.

### Hour Burden Summary

The annual respondent hour and cost burden is summarized in Table 12-3.

Table 12-3. Estimated Annual Respondent Hour and Cost Burden, Summary

Activity	Number of Respondents	Number of Responses per Respondent	Total Responses	Average Burden (Hours)	Total Burden (Hours)	Hourly Wage Rate	Total Burden Cost
Gamma Radiation Survey	4	1	4	2	8.00	\$63.53	\$508.24

<i>Total (Rounded)</i>	4		4		8.00		\$508
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**13. Provide an estimate of 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 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 are no capital or maintenance costs to respondents or recordkeepers resulting from the collection of this 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.**

There are no Federal costs associated with this information collection request.

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

Number of Respondents: The estimated number of respondents increased from 3 to 4 due to an increase in radioactive ore mines.

Number of Responses: The estimated number of responses increased from 3 to 4 due to an increase in the number of respondents.

Annual Time Burden: The estimated annual time burden increased from 6 to 8 hours due to an increase in the number of respondents.

Annual Burden Costs: The estimated annual burden costs increased from \$344 to \$508 due to an increase in the number of respondents and an increase in wages.

Annual Other Burden Costs: The estimated annual other burden cost remained unchanged at \$0.

Table 15-1. Summary of Changes

	Currently Approved ICR	Revised ICR	Difference
Number of Respondents	3	4	1
Number of Responses	3	4	1
Annual Time Burden	6	8	2
Annual Burden Costs	\$344	\$508	\$165
Annual Other Burden Costs	\$0	\$0	\$0

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

MSHA does not intend to publish the results of this information collection.

**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 is not seeking approval to not display the expiration date for OMB approval of this information collection and there is no form associated with this collection.

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

There are no certification exceptions identified with this information collection.

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**B. Collections of information employing statistical methods**

As statistical analysis is not required by the regulation, questions 1 through 5 do not apply.