

Supporting Statement
Notification of Methane Detected in Underground Metal and Nonmetal Mine Atmospheres

<u>OMB</u>	<u>30 CFR</u>	<u>Title</u>
<u>CONTROL</u>	<u>Provision</u>	
1219-0103	57.22004(c)	Category placement or change in placement.
	57.22229(c) & (d)	Weekly testing (I-A, III, and V-A mines)
	57.22230(b) & (c)	Weekly testing (II-A mines)
	57.22231	Actions at 0.25 percent methane (I-B, II-B, V-B, and VI mines)
	57.22239	Actions at 2.0 percent methane (IV mines).

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 of each regulation mandating or authorizing the collection of information.

Methane is a flammable gas found in underground mines in the United States. Although methane is often associated with underground coal mines, it also occurs in some metal and nonmetal mines (M/NM). Underground metal and Nonmetal mines are categorized according to the potential to liberate methane (30 CFR 57.22003 – Mine category or subcategory). Methane is a colorless, odorless, tasteless gas, and it tends to rise to the roof of a mine because it is lighter than air. Although methane itself is nontoxic, its presence reduces the oxygen content by dilution when mixed with air and, consequently, can act as an asphyxiant when present in large quantities.

Methane may enter the mining environment from a variety of sources including fractures, faults, or shear zones overlying or underlying the strata that surround the ore body, or from the ore body itself. It may occur as an occluded gas within the ore body. Methane mixed with air is explosive in the range of 5 to 15 percent, provided that 12 percent or more oxygen is present. The presence of dust containing volatile matter in the mine atmosphere may further enhance the explosion potential of methane in a mine. Section 103(i) of the Federal Mine Safety and Health Act of 1977 (Mine Act), as amended, requires additional inspections be conducted at mines depending on the amount of methane liberated from a mine.

Title 30 CFR 57.22004(c) requires operators of underground M/NM mines to notify the Mine Safety and Health Administration (MSHA) as soon as possible if any of the following events occur: (a) there is an outburst that results in 0.25 percent or more methane in the mine atmosphere, (b) there is a blowout that results in 0.25 percent or more methane in the mine atmosphere, (c) there is an ignition of methane, or (d) air sample results indicate 0.25 percent or more methane in the mine atmosphere of a I-B, I-C, II-B, V-B, or Category VI

mine. Under §§ 57.22239 and 57.22231, if methane reaches 2.0 percent in a Category IV mine or if methane reaches 0.25 percent in the mine atmosphere of a Subcategory I-B, II-B, V-B, or VI mine, MSHA shall be notified immediately. Although the standards do not specify how MSHA is to be notified, MSHA anticipates that the notifications would be made by telephone.

Title 30 CFR 57.22229 and 57.22230 require that the mine atmosphere be tested for methane and/or carbon dioxide at least once every seven days by a competent person or atmospheric monitoring system or a combination of both. Section 57.2229 applies to underground M/NM mines categorized as I-A, III, and V-A mines where the atmosphere is tested for both methane and carbon dioxide. Section 57.22230 applies to underground M/NM mines categorized as II-A mines where the atmosphere is tested for methane. Where examinations disclose hazardous conditions, affected miners must be informed. Title 30 CFR 57.22229(d) and 57.22230(c) require that the person performing the tests certify by signature and date that the tests have been conducted. Certifications of examinations shall be kept for at least one year and made available to authorized representatives of the Secretary of Labor.

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.

MSHA estimates that a methane event will occur once every five years that would require notification under 30 CFR 57.22004(c), 57.22231, and 57.22239. If a methane event occurs that requires notification pursuant to standard § 57.22004(c), the Administrator for Metal and Nonmetal Mine Safety and Health is required to appoint a MSHA committee to investigate the occurrence. Based on the written findings of that investigation, the Administrator decides if the mine is classified in the appropriate category as specified in §§ 57.22003 and 57.22004.

If notification is made pursuant to § 57.22231 or § 57.22239, the MSHA District Manager of the district in which the mine is located decides whether the event requires any action by the Agency.

Certifications made under §§ 57.22229(d) and 57.22230(c) are reviewed by MSHA inspectors during on-site inspections to verify that fan inspections and weekly tests are being conducted. Certification records are reviewed at least once each calendar quarter.

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 burden. However, in order to comply with the Government Paperwork Elimination Act, mine

operators may retain the 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 2 above.

There is no similar or duplicate information that could be used. The information reported pertains to a particular methane occurrence at the mine.

5. If the collection of information has a significant impact on a substantial number of small businesses or other small entities (item 15 of the Paperwork Reduction Act Submission form), describe the methods used to minimize burden.

This collection of information 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.

MSHA has determined that these requirements are the minimum necessary to ensure safety. Reduction of these requirements could allow unsafe conditions to develop. Section 101(a)(9) of the Mine Act prohibits any regulatory action that would reduce the protection given miners by an existing standard.

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.

Requirements are consistent with the general information collection guidelines in 5 CFR 1320.5. This information collection request does not contain any specific requirements for respondents to report more than quarterly. However, operators must report to MSHA whenever an event occurs as described above.

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 April 18, 2012 (77 FR 23291). No comments were received.

9. Explain any decision to provide any payment or gift 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.

No assurance of confidentiality is 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 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.**

Sections 57.22004(c), 57.22231, and 57.22239: Notice to MSHA. Although 30 CFR 57.22004(c), 57.22231, and 57.22239 do not specify how the mine operator is to notify MSHA, it is anticipated that a metal and nonmetal mine supervisor, with an estimated hourly salary of \$66.98, will notify MSHA by telephone and the telephone call would be about 15 minutes (0.25 hour) in duration. Salaries used in MSHA's calculations were derived from the U.S. Metal and Industrial Mineral Mine Salaries, Wages, and Benefits Results Survey 2010.

Hour Burden:

$$1 \text{ occurrence} \times 0.25 \text{ hours} = 0.25 \text{ hour (rounded up)}$$

Hour Burden cost:

$$0.25 \text{ hour} \times \$66.98 = \$ 17$$

Sections 57.22229(d) and 57.22230(c): Weekly Certification Record. There are six mines affected by standards §§ 57.22229(d) and 57.22230(c). These mines use a combination of atmospheric monitoring systems and competent persons to perform the required tests. The atmospheric monitoring systems measure the mine atmosphere continuously at most testing locations. The weekly certification record is either computer generated or consists of a log containing signature and date entries by competent persons. Each weekly certification takes approximately 5 minutes (0.083 hour) and is completed by a metal and nonmetal mine supervisor with an estimated hourly salary of \$66.98 per hour.

Hour Burden:

$$6 \text{ mines} \times 52 \text{ certifications} \times 0.083 \text{ hours} = 26 \text{ hours}$$

Hour Burden Cost:

$$26 \text{ hours} \times \$66.98/\text{hour} = \$1,741$$

Section 57.22229(c) and 57.22230(b): Inform All Affected Miners. In addition, §§ 57.22229(c) and 57.22230(b) require mine operators to inform all affected miners when such examinations disclose hazardous conditions. Affected persons are informed by means of automatic warning devices triggered by an atmospheric monitoring system or by radio, telephone or word of mouth. Based on past experience, hazardous conditions are rarely found; however for burden calculations MSHA estimates one event per annum at each of the six mines affected by the standards.

Approximate time to inform affected persons is 10 minutes (0.1667 hour) per occurrence. A metal and nonmetal mine supervisor with an estimated hourly salary of \$66.98 per hour would inform affected miners.

Hour Burden:

$$6 \text{ mines} \times 1 \text{ occurrence} \times 0.1667 \text{ hours} = 1 \text{ hour}$$

Hour Burden Cost:

$$1 \text{ hour} \times \$66.98/\text{hour} = \$ 67$$

Summary of Burden Hours and Costs

Section	Annual Respondents*	Annual Responses	Annual Burden Hours	Annual Burden Costs
57.22004(c), 57.22231, and 57.22239: Notice to MSHA	1	1	0.25	\$17
57.22229(d) and 57.22230(c): Weekly Certification Record	6	312	26	\$1,741
57.22229(c) and 57.22230(b): Inform All Affected Miners	6	6	1	\$67
Total	6	319	27.25	\$1,825

*total of 6 affected respondents; column is not additive

TOTAL BURDEN HOURS = 28

TOTAL COST OF BURDEN HOURS = \$1,825

TOTAL RESPONSES = 319

13. Provide an estimate for 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 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.**

There are no costs to respondents or recordkeepers resulting from the collection of this information.

14. Provide estimates of annualized costs to the Federal government. Also, provide a description of the method used to estimate cost, which should include quantification of hours, operational expenses (such as equipment, overhead, printing, and support staff), and any other expense that would not have been incurred without this collection of information. Agencies may also aggregate cost estimates from Items 12, 13, and 14 in a single table.

Federal inspection costs have not been associated specifically for §§ 57.22229(d) and 57.22230(c). The review of weekly certifications is just one aspect of MSHA's statutorily-required inspection. Complete inspections are required under Section 103(a) of the Mine Act and are required four times a year for underground mines. For the six affected mines, MSHA estimates a total of 24 quarterly inspections annually.

Further, Section 103(i) of the Mine Act requires MSHA to partially inspect mines liberating specified amounts of methane on five, ten, or fifteen day intervals, depending on the amount of methane liberated. The certifications are reviewed by Agency enforcement personnel during those required inspections. For FY 2008, 2009 and 2010 an average of

202 § 103(i) inspections per year were conducted.

MSHA estimates that a typical review of weekly certifications takes five minutes (0.083 hour) per inspection. The average grade and salary of an MSHA inspector is GS 12/5 for 2010, at \$32.73 per hour. MSHA estimates a total of 226 Section 103(a) and 103(i) inspections during which weekly certifications would be reviewed.

$\$32.73/\text{hour} \times 0.083 \text{ hours/inspection} = \$2.72/\text{inspection}$
 $\$2.72/\text{inspection} \times 226 \text{ inspections/year} = \$615/\text{year}$ for reviews of weekly certifications

Annualized cost to the Federal government = \$615

15. Explain the reasons for any program changes or adjustments reported in Items 13 or 14 of the OMB Form 83-I.

There was a decrease in respondents because two of the affected mines have closed. The decrease in responses and burden hours is due to the reduction in number of respondents.

Respondents:	Decrease of 2 (from 8 to 6)
Responses:	Decrease of 106 (from 425 to 319)
Burden Hours:	Decrease of 8.75 (from 36 to 27.25)
Cost of Burden Hours:	No Change (from \$0 to \$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.

18. Explain each exception to the certification statement identified in Item 19, "Certification for Paperwork Reduction Act Submissions," of OMB Form 83-I.

There are no certification exceptions identified with this information collection.

B. Collections of Information Employing Statistical Methods

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

Federal Mine Safety & Health Act of 1977, Public Law 91-173, as amended by Public Law 95-164

INSPECTIONS, INVESTIGATIONS, AND RECORDKEEPING

SEC. 103(i)

Whenever the Secretary finds that a coal or other mine liberates excessive quantities of methane or other explosive gases during its operations, or that a methane or other gas ignition or explosion has occurred in such mine which resulted in death or serious injury at any time during the previous five years, or that there exists in such mine some other especially hazardous condition, he shall provide a minimum of one spot inspection by his authorized representative of all or part of such mine during every five working days at irregular intervals. For purposes of this subsection, "liberation of excessive quantities of methane or other explosive gases" shall mean liberation of more than one million cubic feet of methane or other explosive gases during a 24-hour period. When the Secretary finds that a coal or other mine liberates more than five hundred thousand cubic feet of methane or other explosive gases during a 24-hour period, he shall provide a minimum of one spot inspection by his authorized representative of all or part of such mine every 10 working days at irregular intervals. When the Secretary finds that a coal or other mine liberates more than two hundred thousand cubic feet of methane or other explosive gases during a 24-hour period, he shall provide a minimum of one spot inspection by his authorized representative of all or part of such mine every 15 working days at irregular intervals.

30 CFR Part 57—SAFETY AND HEALTH STANDARDS – UNDERGROUND METAL AND NONMETAL MINES

**Subpart T – Safety Standards for Methane in Metal and Nonmetal Mines
General**

§ 57.22004 Category placement or change in placement.

* * * * *

- (c) MSHA shall be notified as soon as possible if any of the following events occur:
- (1) An outburst that results in 0.25 percent or more methane in the mine atmosphere;
 - (2) A blowout that results in 0.25 percent or more methane in the mine atmosphere;
 - (3) An ignition of methane; or
 - (4) Air sample results that indicate 0.25 percent or more methane in the mine atmosphere of a Subcategory I-B, I-C, II-B, V-B or Category VI mine.

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§ 57.22229 Weekly testing (I-A, III, and V-A mines).

* * * * *

(c) Where such examinations disclose hazardous conditions, affected persons shall be informed and corrective action shall be taken.

(d) Certification of examinations shall be made by signature and date. Certifications shall be retained for at least one year and made available to authorized representatives of the Secretary.

§ 57.22230 Weekly testing (II-A mines).

* * * *

(b) Where such examinations disclose hazardous conditions, affected persons shall be informed and corrective action shall be taken.

(c) Certification of examinations shall be made by signature and date. Certifications shall be kept for at least one year and made available to authorized representatives of the Secretary.

§ 57.22231 Actions at 0.25 percent methane (I-B, II-b, IV, V-B, and VI mines).

If methane reaches 0.25 percent in the mine atmosphere, changes shall be made to improve ventilation, and MSHA shall be notified immediately.

§ 57.22239 Actions at 2.0 percent methane (IV mines).

If methane reaches 2.0 percent in the mine atmosphere, all persons other than competent persons necessary to make ventilation changes shall be withdrawn from the mine until methane is reduced to less than 0.5 percent. MSHA shall be notified immediately.