

7-2014

SUPPORTING STATEMENT

Examinations and Testing of Electrical Equipment, Including Examination, Testing, and Maintenance of High Voltage Longwalls: 30 CFR 75.512, 75.703-3, 75.800, 75.800-3, 75.800-4, 75.820, 75.821, 75.900, 75.900-3, 75.900-4, 75.1001-1, 77.502, 77.800, 77.800-1, 77.800-2, 77.900, 77.900-1, and 77.900-2

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 of each regulation mandating or authorizing the collection of information.

The Federal Mine Safety and Health Act of 1977 (Mine Act) and 30 CFR Parts 75 and 77, mandatory safety standards for coal mines, make this collection of information necessary. Section 103(h) of the Mine Act, 30 U.S.C. 813, authorizes MSHA to collect information necessary to carry out its duty in protecting the safety and health of miners.

Inadequate maintenance of electric equipment is a major cause of serious electrical accidents in the coal mining industry. It is imperative that mine operators adopt and follow an effective maintenance program to ensure that electric equipment is maintained in a safe operating condition to prevent electrocutions, mine fires and mine explosions. MSHA regulations require the mine operator to establish an electrical maintenance program by specifying minimum requirements for the examination, testing, and maintenance of electric equipment. The regulations also contain recordkeeping requirements that help operators in implementing an effective maintenance program.

(a) Examinations of Electric Equipment

- (1) Section 75.512 requires that all electric equipment be frequently examined, tested, and maintained by a qualified person to assure safe operating conditions

and that a record of such examinations be kept. Section 75.512-2 specifies required examinations and at least weekly tests.

- (2) Section 75.703-3(d)(11) requires that all grounding diodes be tested, examined, and maintained as electric equipment and records of these activities be kept in accordance with the provisions of section 75.512.
- (3) Section 77.502 requires that electric equipment be frequently examined, tested, and maintained by a qualified person to ensure safe operating conditions and that a record of such examinations be kept. Section 77.502-2 requires examinations and tests at least monthly.

(b) Examinations of High-Voltage Circuit Breakers

- (1) Section 75.800 requires that circuit breakers protecting high-voltage circuits, which enter the underground area of a coal mine, be properly tested and maintained as prescribed by the Secretary. Section 75.800-3 requires that such circuit breakers be tested and examined at least once each month. Section 75.800-4 requires that a record of the examinations and tests be made.
- (2) Section 75.820 requires persons to lock-out and tag disconnecting devices when working on circuits and equipment associated with high-voltage longwalls.
- (3) Section 75.821(a) requires testing and examination of each unit of high-voltage longwall equipment and circuits to determine that electrical protection, equipment grounding, permissibility, cable insulation, and control devices are being properly maintained to prevent fire, electrical shock, ignition, or operational hazards. These tests and examinations, including the activation of the ground-fault test circuit, are required once every seven days. Section 75.821(b) requires that each ground-wire monitor and associated circuits be examined and tested at least once every 30 days. Section 75.821(d) requires that, at the completion of examinations and tests, the person making the examinations and tests must certify that they have been conducted. In addition, a record must be made of any unsafe condition found and any corrective action taken.
- (4) Section 77.800 requires that circuit breakers protecting high-voltage portable or mobile equipment be properly tested and maintained. Section 77.800-1 requires that such circuit breakers be tested and examined at least once each month. Section 77.800-2 requires a record of each test, examination, repair, or adjustment of all circuit breakers protecting high-voltage circuits.

(c) Examinations of Low- and Medium-Voltage Circuits

- (1) Section 75.900 requires that circuit breakers protecting low- and medium-voltage power circuits serving three-phase alternating-current equipment be properly tested and maintained. Section 75.900-3 requires that such circuit breakers be tested and examined at least once each month. Section 75.900-4 requires that a record of the required examinations and tests be made.
- (2) Section 77.900 requires that circuit breakers protecting low- and medium-voltage circuits which supply power to portable or mobile three-phase alternating-current equipment be properly tested and maintained. Section 77.900-1 requires that such circuit breakers be tested and examined at least once each month. Section 77.900-2 requires that a record of the examinations and tests be made.

(d) Tests and Calibrations of Automatic Circuit interrupting Devices

Section 75.1001-1(b) requires that automatic circuit interrupting devices that protect trolley wires and trolley feeder wires be tested and calibrated at intervals not to exceed six months. Section 75.1001-1(c) requires that a record of the tests and calibrations be kept.

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 respondents are coal mine operators. The records of tests and examinations are reviewed by coal miners, coal mine officials, and MSHA and State inspectors. The records are intended to verify that examinations and tests were conducted and give insight into the actual and potentially hazardous conditions at the mine. These records greatly assist those who use them in making decisions during accident investigations to establish root causes and to prevent similar occurrences. These decisions will ultimately affect the safety and health of miners.

Miners examine the records to determine if electric equipment is safe to operate and to determine if reported safety defects have been corrected. Mine officials examine the records to evaluate the effectiveness of their electrical maintenance programs, to determine that the required tests and examinations have been conducted, and to determine if reported safety defects have been corrected. MSHA and State inspectors review the records to determine if the required tests and examinations have been conducted and to identify units of electric equipment that may pose a potential safety hazard, and to evaluate the effectiveness of the coal mine operator's electrical maintenance programs. By comparing the records with the actual condition of the electric equipment, MSHA inspectors may be able to identify weaknesses in the coal mine operator's electrical maintenance programs and require that these weaknesses be corrected.

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.

Mine operators may retain the records in whatever method they choose, which may include using computer technology. The subject regulations do not specify how the required records must be kept. They could be kept in the traditional manner or stored electronically, provided the records are secure and not susceptible to loss or alteration. No improved information technology has been identified that would reduce the burden.

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.

MSHA knows of no other Federal or State reporting requirements that would duplicate the reporting requirements contained in these standards. The information collected is unique to each mine operation.

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 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.

Reduction of these requirements could result in increased hazards to miners. A reduction in the frequency of examinations and tests could allow unsafe conditions to develop, jeopardizing the safety of miners.

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 April 8, 2014 (79 FR 19386). 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 payments or gifts to the respondents.

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

MSHA has made no assurance of confidentiality.

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 in Item 13.

Respondents: There are currently 311 underground coal mines, 549 surface coal mines and 335 surface facilities covered by the requirements to examine and test electrical equipment, totaling 1,195 respondents.

Examinations of High-Voltage Longwall Equipment: The burden was determined using the average compensation (wages + benefits) of \$35.30/hour for an electrician (*U.S. Coal Mine Salaries, Wages and Benefits – 2012 Survey Results, Western Mine Eng, Inc.*). In underground coal mines, there are currently 40 longwall units affected by Sections 75.820 and 75.821.

Section 75.820: MSHA estimates that it will take an electrician an average of 5 minutes (0.0833 hours) to lock out and tag a disconnecting device as specified in Section 75.820(b) and (e) and that an average of one lock and tag will occur each day at each longwall unit. Longwall mines operate an average of 350 workdays/year (7 days/week x 50 weeks/year).

350 days/year x 40 longwall units =	14,000 responses
0.0833 hour x 350 days/year x 40 longwall units =	1,166 burden hours
1,166 hours x \$40.56 per hour =	\$47,293 burden-hour cost

Section 75.821: Section 75.821(d) requires that each unit of high-voltage longwall equipment and circuits must be examined every seven days, (50 responses). Section 75.821(b) requires that ground-wire monitors and circuits be tested every 30 days, (12 responses). Section 75.821(d) requires the electrician to certify by signature and date that the examinations required by Section 75.821 have been conducted and to make a record of any unsafe conditions found and any corrective action taken. MSHA estimates that an electrician would find and correct an unsafe condition, on average, once every 2 weeks, (26 responses). It takes an electrician about 6 minutes (0.1 hours) to produce each record and certify that the examinations were conducted.

(50 + 12 + 26 = 88) responses/longwall x 40 longwalls =	3,520 responses
0.10 hour x 3,520 responses/year =	352 burden hours
352 hours x \$40.56 =	\$14,277 burden-hour cost

Examinations of Electric Equipment: The burden was determined using the average compensation (wages + benefits) of \$97.60 per hour for an underground mine supervisor and \$79.20 per hour for a surface coal mine supervisor (*U.S. Coal Mine Salaries, Wages and Benefits – 2012 Survey Results, Western Mine Eng, Inc.*).

Section 75.512: Approximately 755 underground coal mining sections utilizing electric equipment and each mining section has on average 6 pieces of electrical equipment. The number of other pieces of underground electrical installations is approximately 4,228. This equipment is required to be examined weekly and the results of each examination are required to be recorded. MSHA estimates that only one record is made for each section of the mine (6 pieces of equipment) and each electrical installation and that it will take 6 minutes (0.10 hours) to create each record.

$$\begin{aligned} (755 + 4,228 = 4,983) \text{ exams/week} \times 1 \text{ record/exam} \times 50 \text{ weeks} &= 249,150 \text{ responses} \\ 249,150 \text{ responses} \times 0.10 \text{ hour/response} &= 24,915 \text{ burden hours} \\ 24,915 \text{ hours} \times \$97.60/\text{hour} &= \$2,431,704 \text{ burden-hour cost} \end{aligned}$$

Section 75.703-3(d)(11): All grounding diodes must be tested, examined, and maintained as electrical equipment in accordance with the provisions of Section 75.512; therefore, recordkeeping in connection with diode testing calculations are included as part of the recordkeeping burden under Section 75.512 above.

Sections 77.502 and 77.502-2: The number of electrical installations at surface coal mines and surface facilities is approximately 15,028. Section 77.502-2 requires these installations to be examined monthly and Section 77.502 requires the results of each examination to be recorded. MSHA estimates that the results of each examination will take 15 minutes (0.25 hour) to record.

$$\begin{aligned} 15,028 \text{ exams/month} \times 1 \text{ response/exam} \times 12 \text{ months} &= 180,336 \text{ responses} \\ 180,336 \text{ responses} \times 0.25 \text{ hour} &= 45,084 \text{ burden hours} \\ 45,084 \text{ burden hours} \times \$79.20 &= \$3,570,653 \text{ burden-hour cost} \end{aligned}$$

Examinations of High-Voltage Circuit Breakers:

Section 75.800-3 and -4: The number of circuit breakers protecting high-voltage circuits extending underground is approximately 795. Each circuit breaker is required to be examined and tested once a month and the results of each examination and test must be recorded. It is estimated that the results of each examination will take 15 minutes (0.25 hour) to record.

$$\begin{aligned} 795 \text{ exams/month} \times 1 \text{ response/exam} \times 12 \text{ months} &= 9,540 \text{ responses} \\ 9,540 \text{ responses} \times 0.25 \text{ hour/response} &= 2,385 \text{ burden hours} \\ 2,385 \text{ hours} \times \$97.60 &= \$232,776 \text{ burden-hour cost} \end{aligned}$$

Sections 77.800-1 and -2: The number of circuit breakers protecting high-voltage circuits extending to portable and mobile surface equipment is approximately 1,427. Each circuit breaker is required to be examined and tested once a month and the results of each examination and test must be recorded. It is estimated that the results of each examination will take 15 minutes (0.25 hour) to record.

$$\begin{aligned} 1,427 \text{ exams/month} \times 1 \text{ response/exam} \times 12 \text{ months} &= 17,124 \text{ responses} \\ 17,124 \text{ responses} \times 0.25 \text{ hour/response} &= 4,281 \text{ burden hours} \\ 4,281 \text{ hours} \times \$79.20 &= \$339,055 \text{ burden-hour cost} \end{aligned}$$

Examinations of Low- and Medium-Voltage Circuit Breakers:

Section 75.900-3 and -4: The number of power centers containing circuit breakers protecting low- and medium-voltage power circuits serving three-phase underground equipment is approximately 5,167. The circuit breakers in each power center are required to be examined and tested once a month and the results of the examination and tests recorded. It is estimated that the results of each examination and test will take 15 minutes (0.25 hour) to record.

$$\begin{aligned}
 &5,167 \text{ power centers} \times 1 \text{ exam and test/month} \times 12 \text{ months} = 62,004 \text{ responses} \\
 &62,004 \text{ responses} \times 0.25 \text{ hours/response} = 15,501 \text{ burden hours} \\
 &15,501 \text{ hours} \times \$97.60/\text{hour} = \$1,512,898 \text{ burden-hour cost}
 \end{aligned}$$

Section 77.900-1 and -2: The number of installations containing circuit breakers protecting low- and medium voltage alternating-current equipment located on the surface is approximately 1,098. The circuit breakers in each installation are required to be examined and tested once a month and the results of the examination and test recorded. It is estimated that the results of each examination and test will take an average of 15 minutes (0.25 hour) to record.

$$\begin{aligned}
 &1,098 \text{ installations} \times 1 \text{ exam and test/month} \times 12 \text{ months} = 13,176 \text{ responses} \\
 &13,176 \text{ responses} \times 0.25 \text{ hours/response} = 3,294 \text{ burden hours} \\
 &3,294 \times \$79.20/\text{hour} = \$260,885 \text{ burden-hour cost}
 \end{aligned}$$

Tests and Calibrations of Automatic Circuit Interrupting Devices:

Section 75.1001-1(b) and (c). The number of trolley circuit breakers in underground coal mines is approximately 715. Each circuit breaker is required to be tested and calibrated once every six months and the results of the tests and calibrations recorded. It is estimated that the results of each test will take approximately 15 minutes (0.25 hour) to record.

$$\begin{aligned}
 &715 \text{ trolley circuit breakers} \times 2 \text{ tests/year} \times 1 \text{ response/test} = 1,430 \text{ responses} \\
 &1,430 \text{ responses} \times 0.25 \text{ hours/response} = 358 \text{ burden hours} \\
 &358 \text{ hours} \times \$97.60/\text{hour} = \$34,941 \text{ burden-hour cost}
 \end{aligned}$$

**ITEM 12 SUMMARY TABLE:
Annual Responses, Burden Hours, and Burden-Hour Costs**

Cite/Reference	Responses	Burden Hours	Burden-Hour Costs
30 CFR 75.820	14,000	1,166	\$47,293
30 CFR 75.821	3,520	352	\$14,277
30 CFR 75.512	249,150	24,915	\$2,431,704
30 CFR 77.502 and 77.502-2	180,336	45,084	\$3,570,653
30 CFR 75.800-3 and 75.800-4	9,540	2,385	\$232,776
30 CFR 77.800-1 and 77.800-2	17,124	4,281	\$339,055

30 CFR 75.900-3 and 75.900-4	62,004	15,501	\$1,512,898
30 CFR 77.900-1 and 77.900-2	13,176	3,294	\$260,885
30 CFR 77.1001-1(b) and (c)	1,430	358	\$34,941
TOTAL	550,280	97,336	\$8,444,482

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.

MSHA does not anticipate that there will be any costs associated with this information collection other than those indicated in Item 12 above.

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 is no significant cost to the Federal Government. The review and inspection of records is just one aspect of the mine inspection. Complete inspections are required under Section 103(a) of the Mine Act four times per year for underground mines and twice a year for surface operations.

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

There is a decrease of 156,016 responses (from 706,296 to 550,280) and a decrease of 30,765 burden hours (from 128,101 to 97,336) due to fewer mining operations over the last 3-year period.

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 has no plans to publish the information obtained through this information collection.

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

There are no forms associated with this request, therefore MSHA is not seeking approval to not display the expiration date for OMB approval of this information 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.

B. COLLECTION OF INFORMATION EMPLOYING STATISTICAL METHODS

This collection of information does not employ statistical methods.