

SUPPORTING STATEMENT

Records of Examinations and Tests of Electrical Equipment
(pertain to underground coal mines, surface coal mines and surface work areas of underground coal mines) (30 CFR 75.512; 75.703-3(d)(11); 77.502; 75.800-1 thru 4; 75.900; and 75.1001-1(b))

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.

It has long been known that inadequate maintenance of electric equipment is a major cause of serious electrical accidents in the coal mining industry. Improperly maintained electric equipment has also been responsible for many disastrous mine fires and explosions. The most recent example is the mine fire that occurred at the Wilberg Mine, resulting in the death of 27 miners. MSHA'S investigation of this tragedy revealed that inadequate maintenance of an electrical component of a mining machine contributed to the cause of the fire.

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 if electrocutions, mine fires, and mine explosions are to be prevented. The subject 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 which may in some instances help operators in implementing an effective maintenance program.

(a) Examinations of Electric Equipment

(1) 30 CFR Part 75, Section 75.512, requires that all electric equipment be frequently examined, tested and maintained to assure safe operating conditions and that a record of such examinations be kept. 30 CFR Part 75, Section 75.512-2, specifies that the required examinations and tests be conducted at least weekly.

(2) 30 CFR Part 75, Section 75.703-3(d)(11), specifies that grounding diodes be tested, examined and maintained as electric equipment in accordance with the provisions of 30 CFR Section 75.512.

(3) 30 CFR Part 77, Section 77.502, requires that

electric equipment be frequently examined, tested and maintained to assure safe operating conditions and that a record of such examinations be kept. 30 CFR Part 75 Section 77.502, specifies that the required examinations and tests be conducted at least monthly.

(b) Examinations of High-Voltage Circuit Breakers

(1) 30 CFR Part 75, Section 75.800-4, 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. 30 CFR Part 75, Section 75.800-3, requires that such circuit breakers be tested and examined at least once each month. 30 CFR Part 75, Section 75.800-4, specifies that a record of the required examinations and tests be kept.

(2) 30 CFR Part 75, Section 77.800, requires that circuit breakers protecting high-voltage circuits which supply power to portable or mobile equipment be properly tested and maintained. 30 CFR Part 75, Section 77.800-1, requires that such circuit breakers be tested and examined at least once each month. 30 CFR Part 75, Section 77.800-2, specifies that a record of the required examinations and tests be kept.

(c) Examinations of Low- and Medium-Voltage Circuit Breakers

(1) 30 CFR Part 75, 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. 30 CFR Part 75, Section 75.900-3, requires that such circuit breakers be tested and examined at least once each month. 30 CFR Part 75, Section 75.900-4, specifies that a record of the required examinations and tests be kept.

(2) 30 CFR Part 77, 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. 30 CFR Part 77, Section 77.900-1, requires that such circuit breakers be tested and examined at least once each month. 30 CFR Part 75, Section 77.900-2, specifies that a record of the required examinations and tests be kept.

(d) Tests and Calibrations of Automatic Circuit Interrupting Devices

30 CFR, Part 75, Section 75.1001-1(b), requires that automatic circuit interrupting devices which protect trolley

wires and trolley feeder wires be tested and calibrated at intervals not to exceed six months. 30 CFR Part 75, Section 75.1001-1(c), specifies that a record of the required tests and calibrations be kept.

(g) Test and Calibration of Atmospheric Monitoring Systems

30 CFR Part 75, Sections 75.351 (f) (1), (2), (3), and (4), require the testing and calibration of sensors every 31 days. 30 CFR Part 75, Section 75.351 (h), specifies that a record must be made of signal device or alarm activations showing date, time, type of sensor, the maximum concentration detected at the sensor producing the signal and the reason for activation.

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 subject records of tests and examinations are examined by coal miners, coal mine officials, and MSHA inspectors. 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 inspectors examine the records to determine if the required tests and examinations have been conducted and to identify units of electric equipment that may be creating excessive safety problems, and to evaluate the effectiveness of the coal mine operator's electrical maintenance programs. By comparing the records with the actual condition of electric equipment, MSHA inspectors may in some cases be able to identify weaknesses in the coal mine operator's electrical maintenance programs and require that the 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.

No improved information technology has been identified that would reduce the burden, however mine operators may retain the records in whatever method they chose, 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 purposes described in Item 2 above.

The subject records are made and kept based on the results of

specific examinations and tests conducted on electric equipment located at surface and underground coal mines. There are no similar or duplicate records that could be used.

5. If the collection of information impacts small businesses or other small entities (Item 5 of OMB Form 83-I), describe any methods used to minimize burden.

The provisions of the Federal Mine Safety and Health Act of 1977 (Mine Act) and MSHA regulations and standards apply to all operations because accidents, injuries, and illnesses can occur at any mine regardless of size. Congress intended that the law be enforced at all mining operations within its jurisdiction regardless of size and that information collection and recordkeeping requirements be consistent with efficient and effective enforcement of the Act. S. Rep. 181, 95th Cong., 1st Sess. 28 (1977). However, Congress did recognize that small operations may face problems in complying with some of the provisions of the Mine Act. Section 103(e) of the Mine Act directs the Secretary of Labor not to impose an unreasonable burden on small businesses in obtaining any information under the Act. Accordingly, MSHA takes this into consideration when developing regulatory requirements, and when appropriate and consistent with assuring the health and safety of this nation's miners, different requirements for small and large mines exist. See, for example, 30 CFR 49.3 and 50.11(b). To provide distinct information collection requirements for small mines in the regulation at hand, however, would not in our opinion, promote the Act's objectives.

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.

The sections require that (a) electric equipment at underground coal mines be tested and examined weekly; (b) electric equipment at surface coal mines, high-, medium-, and low-voltage circuit breakers be examined and tested monthly; and (c) automatic circuit interrupting devices which protect trolley wires and trolley feeder wires be tested and calibrated at intervals not to exceed six months. To conduct these tests and examinations less frequently could allow unsafe conditions to develop, thereby jeopardizing the safety of the 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 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 C.F.R. Section 1320.5 except for the explanation provided in paragraph number 6 above.

8. If applicable, provide a copy and identify the data 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 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 giving interested persons 60 days to submit comments.

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

MSHA has decided not to provide payments 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 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 14.

The number of recordkeepers, frequency of response and recordkeeping burden are shown on the attached chart. The burden was determined as follows using the average salary of \$54.53 per hour for a mine supervisor based on data from U.S. Industrial Mineral Mine Salaries, Wages, & Benefits - 1999 Survey Results.

Examinations of Electric Equipment

30 CFR Part 75, Section 75.512. The number of underground coal mining sections utilizing electric equipment is approximately 995 and averages 11.7 pieces of electrical equipment per mining section. The number of other pieces of underground electrical installations is approximately 5,100. This equipment is required to be examined weekly and the results of each examination are required to be recorded. It is estimated that each examination will take 30 minutes (0.50 hours) to conduct and 30 minutes (0.50

hours) to record. (NOTE: There is only one record made for each section of the mine or 11.7 pieces of equipment.)

Recordkeeping:

995 sections + 5,100 other elec. installations
x 52 weeks x 0.50 hour x 1 record/section of
mine = 158,470 hours

Examination time:

11,642 units of equip. + 5,100 other elec.
installations x 52 weeks x 0.50 hour = 435,292 hours
Total Burden: 593,762 hours

BURDEN COSTS: 593,762 hours x \$54.53 = \$32,377,841

Section 75.703-3 (d)(10). Diode testing calculations are included as part of 30 CFR Part 75.512

Section 77.502. The number of electrical installations at surface coal mines and surface facilities is approximately 25,485; these installations are required to be examined monthly and the results of each examination are required to be recorded. It is estimated that each examination will take 1 hour to complete and 15 minutes (0.25 hour) to record.

Recordkeeping:

25,485 exams. x 12 months x 0.25 hours = 76,455 hours

Examination time:

25,485 elec. exams. x 12 months x 1 hour = 305,820 hours
Total burden: 382,275 hours

HOWEVER as a result of a survey conducted by MSHA inspectors, it was found that due to the infrequent movement of many of the surface electrical installations and the less severe environmental conditions (as compared to underground equipment), that approximately 20 percent of the time that this equipment has been examined and tested, it was found to be totally functional. In these instances, the record consisted of a signature and date verifying that the examinations and tests had been conducted. Therefore, the total number of annual responses and total number of burden hours attributed to the examination of 20 percent of the units can be considered a certification process. Thus, reducing the examination burden hours by 77,729 (305,820 hours - 20%) hours.

Total burden:	305,820 hours
Minus 20 percent certification:	<u>77,729 hours</u>
Adjusted burden:	228,091 hours

BURDEN COSTS: 228,091 x \$54.53 = \$12,437,802

Examinations of High-Voltage Circuit Breakers

Sections 75.800-4 and 77.800-2. The number of circuit breakers protecting high-voltage circuits extending underground is approximately 1,125. The number of circuit breakers protecting high-voltage circuits extending to portable and mobile surface equipment is approximately 1,990. Each circuit breaker is required to be examined and tested once a month and the results of each examination/test recorded. It is estimated that each examination will take 30 minutes (0.50 hours), and require 15 minutes (0.25 hour) to record the results.

Surface:

Recordkeeping:

1,990 circuit breaker x 12 months x 0.25 hour = 5,970 hours

Examination time:

1,990 circuit breakers x 12 months x 0.50 hour = 11,940 hours

Underground:

Recordkeeping:

1,125 circuit breakers x 12 months x 0.25 hour = 3,375 hours

Examination time:

1,125 circuit breakers x 12 months x 0.50 hour = 6,750 hours

Total burden: 28,035 hours

BURDEN COSTS: 28,035 x \$54.53 = \$1,528,749

Examinations of Low- and Medium-Voltage Circuit Breakers

Section 75.900-4. The number of power centers containing circuit breakers protecting low- and medium-voltage power circuits serving three-phase underground equipment is approximately 5,970. The circuit breakers in each such power center are required to be examined and tested once a month and the results of such examination/tests recorded. It is estimated that each examination/test will take 1 hour and require 30 minutes (0.50 hours) to record the results.

Recordkeeping:

5,970 power centers x 12 months x 0.50 hour = 35,820 hours

Examination time:
 5,970 power centers x 12 months x 1 hour = 71,640 hours
Total burden: 107,460 hours

BURDEN COSTS: 107,460 hours x \$54.53 = \$5,859,794

Section 77.900-2. The number of installations containing circuit breakers protecting low- and medium voltage alternating-current equipment located on the surface is approximately 1,699. The circuit breakers in each such installation are required to be examined and tested once a month. It is estimated that each examination will take an average of 30 minutes (0.50 hours) to complete and 15 minutes (0.25 hours) to record the results.

Recordkeeping:

1,699 installations x 12 months x 0.25 hours = 5,097 hours

Examination time:

1,699 installations x 12 months x 0.50 hour = 10,194 hours
Total burden: 15,291 hours

BURDEN COSTS: 15,291 hours X \$54.53 = \$833,818

Tests and Calibrations of Automatic Circuit Interrupting Devices

Section 75.1001-1(c). The number of trolley circuit breakers in underground coal mines is approximately 1,000. Each such circuit breaker is required to be tested and calibrated once every six months and the results of such tests and calibrations recorded. It is estimated that each test will take approximately 1 hour to complete and 30 minutes (0.50 hour) to record the results.

Recordkeeping:

1,000 trolley circuit breakers x 2 records per
 year x 0.50 hours = 1,000 hours

Examination time:

1,000 trolley circuit breakers x 2 examinations
 per year x 1 hour = 2,000 hours
Total burden: 3,000 hours

BURDEN COSTS: 3,000 hours x \$54.53 = \$ 163,590

Test and Calibration of Atmospheric Monitoring Systems

Sections 75.351 (e) (1), (2), (3), and (4). The number of atmospheric monitoring systems in underground coal mines is approximately 647. Each monitoring system is required to be tested and calibrated once every 31 days and the results of such tests and calibrations are required to be recorded. It is estimated that each test/calibration will take 1 hour to complete and an average of 15 minutes (0.25 hour) to record the results.

Recordkeeping:

647 monitoring systems x 12 records per year x 0.25 hours = 1,941 hours

Examination time:

647 monitor examinations x 12 calibrations per year x 1 hour = 7,764 hours
Total burden: 9,705 hours

BURDEN COSTS: 9,705 hours x \$54.53 = \$529,214

GRAND TOTAL BURDEN HOURS: 994,704
GRAND TOTAL BURDEN COSTS: \$ 53,730,808

Cite/Reference	Total Responses	Frequency	Total Responses	Average Time per Response	Burden Hours
75.512	16,742	Weekly	870,584	42 Minutes	593,762
75.703-3(d)(11)	Included with 75.512 calculation				
77.502	25,485	Monthly	305,820	1 Hour	228,091
75.800-4 and 77.800-2	3,115	Monthly	37,380	45 Minutes	28,035
77.900-2	1,699	Monthly	20,388	45 minutes	15,291
75.900-4	5,970	Monthly	71,640	1.5 hours	107,460
75.1001-1(c)	1,000	6 Months	2,000	1.5 hours	3,000
75.351	647	Monthly	7,764	1.5 Hours	9,705
TOTALS	55,658	////////	1,315,576	////////	985,344

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

- The cost estimate should be split into two components: (a) a total capital and start-up cost component (annualized over its expected useful life); and (b) a total operation and maintenance and purchase of services component. The estimates should take into account costs associated with generating, maintaining, and disclosing or providing the information. Include descriptions of methods used to estimate major cost factors including system and technology acquisition, expected useful life of capital equipment, the discount rate(s), and the time period over which costs will be incurred. Capital and start-up costs include, among other items, preparations for collecting information such as purchasing computers and software; monitoring, sampling, drilling and testing equipment; and record storage facilities.

Atmospheric Monitoring Systems

MSHA regulations allow the operator to either use point type fire detection systems or an Atmospheric Monitoring System (AMS) for protection against various hazards.

The estimated capital and start-up costs associated with AMS systems, which are optional, and acquired after October 1, 1995, include the purchase of a AMS system @ \$30,000 per system. The use of the optional AMS also requires recordkeeping and examination.

Recordkeeping:

1 monitoring system x 12 records per
year x 0.25 hours = 3 hours

Examination time:

1 system examination x 12 calibrations
per year x 1 hour = 12 hours
Total burden: 15 hours

Burden cost: 15 hours x \$27.56 = \$ 413

Note: \$27.56 is normal hourly wage for a miner.

- 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.

N/A

- 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.

N/A

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.

The Federal inspection costs associated with this specific information collection is minimal. The review/inspection of records is just one aspect of the annual inspection. Complete inspections are required under Section 103(a) of the Mine Act and are required 4 times a year for underground mines and twice a year for surface operations.

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

Although there was a decrease of 12,480 in the number of annual responses (from 1,328,056 to 1,315,576), the burden hours remain the same due to an administrative adjustment in the calculations of burden hours.

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.

There are no forms associated with this information collection; therefore, MSHA is not seeking approval to not display the expiration date for OMB approval of this information collection. Collections of Information Employing Statistical Methods

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

There are no exceptions to the certification statement identified in Item 19 of the OMB 83-I.

