

## SUPPORTING STATEMENT

### Final Rule: Refuge Alternatives for Underground Coal Mines

#### Testing by Applicant or Third Party, 30 CFR Part 7

Final § 7.503 – Application requirements.

#### Mandatory Safety Standards—Underground Coal Mines, 30 CFR Part 75

Final § 75.221(a)(12) – Roof control plan information.

Final § 75.360(d) – Preshift examination at fixed intervals.

Final § 75.372(b)(11) – Mine ventilation map.

Final § 75.1200-1(n) – Additional information on mine map.

Final § 75.1202-1(b)(4) – Temporary notations, revisions, and supplements.

Final § 75.1502(c) – Mine emergency evacuation and firefighting program of instruction.

Final § 75.1505(a) and (b) – Escapeway maps.

Final § 75.1507 – Emergency Response Plan; refuge alternatives.

Final § 75.1508(a) and (b) – Training and records for examination, maintenance, and repair of refuge alternatives.

### 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.**

The Mine Safety and Health Administration (MSHA) is issuing a final rule on Refuge Alternatives for Underground Coal Mines. Under the final rule, a refuge alternative will provide a protected, secure space with an isolated atmosphere that creates a life-sustaining environment to protect miners when escape from the mine is not possible.

Section 13 of the Mine Improvement and New Emergency Response (MINER) Act (Public Law 109-236) requires that, not later than 180 days after receipt of the National Institute for Occupational Safety and Health (NIOSH) report,

... the Secretary of Labor (Secretary) provide to the Committee on Health, Education, Labor and Pensions of the Senate and the Committee on Education and the Workforce of the House of Representatives a description of the actions, if any, that the Secretary intends to take based on the [NIOSH] report, including proposing regulatory changes, and the reasons for such actions.

Section 112 (b) of the Consolidated Appropriations Act of 2008 (Public Law 110-161, December 26, 2007) requires that—

... not later than June 15, 2008, the Secretary shall propose regulations pursuant to section 315 of the Federal Coal Mine Health and Safety Act of 1969, consistent with the recommendations of the National Institute for Occupational Safety and Health pursuant to section 13 of the MINER Act, requiring rescue chambers, or facilities that afford at least the same measure of protection, in underground coal mines.

MSHA's final rule on Refuge Alternatives for Underground Coal Mines will implement these statutory requirements.

Under section 101(a) of the Federal Mine Safety and Health Act of 1977 (Mine Act), the Secretary must 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 or other mines. In addition, section 103(h) of the Mine Act authorizes MSHA to collect information necessary to carry out its duty in protecting the safety and health of miners. MSHA has determined that refuge alternatives are practical, as a general matter, and will increase the chance for survival for persons trapped in underground coal mines, when integrated into the mine's comprehensive escape and rescue plans. In developing this final rule, the Agency used its own data and experience, recommendations from NIOSH, research on available and developing technology, and regulations of several states.

Under section 2 of the MINER Act, underground coal mine operators are required to develop and adopt a written Emergency Response Plan (ERP), which must be approved by MSHA. The ERP must provide for the evacuation of all individuals endangered by an emergency and the maintenance of individuals trapped underground. Consistent with the objectives of the Mine Act and MINER Act, § 75.1507 requires that mine operators' ERPs include refuge alternatives.

Final § 75.1507. The final rule requires that the ERP provide detailed information about the refuge alternatives used in the mine. This information will assist miners, supervisors, emergency responders, and MSHA in assuring that all essential preparations are made and required materials are readily available and in working order.

Final § 75.1508(a). This provision requires the mine operator to certify that persons assigned to examine, maintain, and repair refuge alternatives and components are trained for those tasks. Training certifications assist MSHA in determining that persons received the required training. The training certification for persons assigned to examine refuge alternatives will be integrated into existing requirements for preshift examinations of the mine under § 75.360. The training certification for persons assigned to maintain and repair refuge alternatives is included in this package under final § 75.1508(a).

Final § 75.1508(b). This provision requires a record of any maintenance and repair performed on a refuge alternative. This record will assist MSHA in identifying design flaws or other weaknesses in the refuge alternative or its components that could adversely impact the safety of miners.

■ *The following provision will affect information collection package, **OMB 1219-0066** – Testing, evaluation, and approval of mining products.*

Final § 7.503. This provision requires certain information in an application for MSHA approval of refuge alternatives or components, including specifications, information, and drawings sufficient to satisfy the design and technical requirements for the structural, breathable air, air monitoring, and harmful gas removal components. The information required by final § 7.503 is crucial for MSHA to evaluate and approve refuge alternatives and components to assure that they are capable

of sustaining persons trapped in a mine for a specified duration. Like the existing requirements in 30 CFR 18.6, 19.3, and other approval regulations, MSHA also needs the information to assure that refuge alternatives and components will not pose a fire or explosion risk.

■ *The following provision will affect information collection package, **OMB 1219-0004** – Roof Control Plans.*

Final § 75.221(a)(12). This provision requires that the roof control plan include a description of the roof and rib support necessary for the areas where refuge alternatives are to be located. This revision of the roof control plan is a one-page addendum. This provision is necessary to assure that all requirements for roof and rib support are addressed in the same plan.

■ *The following provision will affect information collection package, **OMB 1219-0088** – Ventilation Plans, Tests, and Examinations in Underground Coal Mines.*

Final § 75.360(d). This provision requires that persons conducting the preshift examination check the refuge alternative for damage, the integrity of the tamper-evident seal and the mechanisms required to activate the refuge alternative, and the ready availability of compressed oxygen and air. Because underground coal mines usually present harsh and hostile working environments, preshift examinations as set out in final § 75.360(d) are necessary to assure that changes have not occurred that could adversely affect the integrity of the refuge alternative and its components.

■ *The following provisions will affect information collection packages, **OMB 1219-0073** – Record of Mine Closures, Opening and Reopening of Mines and **OMB 1219-0141** – Emergency Mine Evacuation.*

Final § 75.372(b)(11). This provision requires that the mine ventilation map include the location of all refuge alternatives.

Final § 75.1200-1(n). This provision requires that the mine map include the locations of all refuge alternatives.

Final § 75.1202-1(b)(4). This provision requires that temporary notations on the mine map include refuge alternatives designated by means of symbols.

Final § 75.1505 (a) and (b). This provision requires that the escapeway map include the location of all refuge alternatives and be kept current as refuge alternatives are moved.

Miners, mine operators, and MSHA need to have up-to-date maps to respond effectively in an emergency. If a mine has a refuge alternative, the addition of the location of the refuge alternative on maps is necessary for the proper functioning of a mine's Emergency Response Plan (ERP). For the purpose of estimating the paperwork burden of keeping maps up-to-date, MSHA assumes that all maps at a mine will be revised at the same time.

■ *The following provision will affect information collection package, **OMB 1219-0054** – Roof, firefighting, emergency evacuation and training and **OMB 1219-0141** – Emergency Mine Evacuation.*

Final § 75.1502(c). This provision requires that the mine emergency evacuation and firefighting program of instruction be revised to include a summary of the procedures related to deploying refuge alternatives; a summary of the construction methods for 15 psi stoppings; a summary of the procedures related to constructing refuge alternatives consisting of materials pre-positioned for persons to use to construct a secure space with an isolated atmosphere; and a summary of

procedures for using refuge alternatives. Inclusion of this information in the mine emergency evacuation and firefighting program of instruction will assure that all critical steps of locating and using refuge alternatives are reviewed in training. Reviewing such information in training helps to keep miners aware of the steps to take to use a refuge alternative in case of a mine emergency.

**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.**

Under 30 CFR part 7, manufacturers will need to prepare and submit an application for MSHA approval of a refuge alternative or a component to be used in underground coal mines. MSHA will evaluate the refuge alternative and component applications, including the test results, the prescribed drawings, and product specifications. MSHA's engineers and scientists will use this information to evaluate the design, construction, manufacture, quality control, and other requirements to protect the safety and health of miners prior to approval for use in mines.

The records required in 30 CFR part 75 give notice to mine management and miners that refuge alternatives are provided and being maintained properly. MSHA inspectors use the records to determine that examinations and training required by the standards are conducted.

**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 utilizing 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 purposes described in Item 2 above.**

The applications, consisting of design specifications and drawings and related correspondence, are usually unique for each piece of equipment or product and any change in circuitry or parts may result in an unsafe condition. Therefore, any similar information already available cannot be used to evaluate and approve another piece of equipment or product for use in underground coal mines.

When MSHA permits third parties or manufacturers to test the equipment or products, MSHA retains the responsibility for evaluating the test results. MSHA issues the approval for all products tested under 30 CFR parts 6 and 7.

MSHA has modified existing standards in 30 CFR part 75 to include refuge alternatives. By adding refuge alternatives to existing requirements for roof control plans; preshift examinations; mine ventilation, escapeway, and mine maps; mine emergency evacuation and firefighting program of instruction; and emergency response plans, MSHA will minimize the information collection burden of the final rule on mine operators.

**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 Mine Act and MSHA regulations apply to all operations, both large and small, because accidents, injuries, and illnesses can occur at any mine regardless of size. Congress intended that the Secretary enforce the law 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 Mine Act. [See Rep. No. 181, 95th Cong., 1st Sess. 28 (1977)]. Section 103(e) of the Mine Act, however, directs the Secretary of Labor not to impose an unreasonable burden on small businesses when obtaining any information under the Act. Accordingly, MSHA takes this into consideration when developing regulatory requirements. Different requirements for small and large mines exist when appropriate and consistent with ensuring the health and safety of miners. Similarly, MSHA approval regulations apply equally to all manufacturers to ensure that miners are protected from products that could cause a fire or explosion or other safety hazard related to use.

MSHA needs the same information from all manufacturers, regardless of size, to determine if the refuge alternative or component meets the requirements in the approval regulations in 30 CFR part 7. The final rule will have no negative impact on manufacturers and may provide an incentive by providing a market for refuge alternatives and components. The information collection requirements will also apply to mine operators who choose to design and construct a refuge alternative.

The safety standards in 30 CFR part 75 will apply to 613 underground coal mines (212 mines with 1-19 employees, 391 mines with 20-500 employees, and 10 mines with 501+ employees). Of the 613 mines, 603 mines are considered small entities by the Small Business Administration (212 mines with 1-19 employees and 391 mines with 20-500 employees). The final rule minimizes the information collection burden on these small mines by: (1) requiring refuge alternatives for outby areas to be within 1 hour of a refuge alternative or safe exit; and (2) providing an alternative method that allows mine operators to determine the location or need for outby refuge alternatives by evaluating the risk to outby miners.

MSHA estimates that 507 mines will need refuge alternatives in working sections (inby). The 507 mines consist of: 106 mines with 1-19 employees; 391 mines with 20-500 employees; and 10 mines with 501+ employees. Based on SBA's definition of a small mine, the number of small mines that will need refuge alternatives in working sections (inby) are 497 mines (507 mines minus 10 mines with 501+ employees).

MSHA estimates that 137 mines will need refuge alternatives in outby areas of mines. The 137 mines consist of: 0 mines with 1-19 employees; 127 mines with 20-500 employees; and 10 mines with 501+ employees. Based on SBA's definition of a small mine, the number of small mines that will need refuge alternatives in outby areas of the mine are 127 mines (137 mines minus 10 mines with 501+ employees).

**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 nature of underground coal mining is such that a mine emergency, such as a fire or explosion, can have disastrous consequences. The final rule will improve the mine operator's preparation for

mine emergencies by providing a means to sustain miners trapped by an event that makes escape impossible. If the information collection is not conducted or is conducted less frequently, the Agency could not adequately implement the requirements of the MINER Act.

**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 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.**

The proposed rule requested comments, suggestions, data, and information that would minimize the information collection burden and the impact on small entities. (73 FR 34140 and 34166) One commenter objected to MSHA's assertion that the proposal minimizes the information collection burden. This commenter stated that a myriad of administrative requirements throughout the proposal and the variety of information required in the Emergency Response Plan would do the exact opposite. The collection of information requirements under the final rule are necessary to ensure that refuge alternatives will meet the purpose for which they are intended. The collection of information requirements were developed with the consideration of not making them overly burdensome.

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

MSHA has provided no payments or gifts to the respondents identified in this collection.

**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 beyond that required by the Freedom of Information Act (5 U.S.C. 522). Collection of information under this final rule is consistent with the guidelines in 5 CFR 1320.5.

**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.**

Final § 7.503 requires that an application for MSHA approval of a refuge alternative or component contain information and drawings sufficient to satisfy the general requirements under final § 7.504, and the design and technical requirements for the structural components under final § 7.505, breathable air components under final § 7.506, air monitoring components under final § 7.507, and harmful gas removal components under final § 7.508.

MSHA estimates that, on average, there will be three applications annually for a prefabricated self-contained refuge alternative, and 10 applications annually for a component of a refuge alternative. MSHA assumes that, upon request from the Agency for additional information, each applicant will make changes to the overall application. MSHA estimates that an applicant takes an average of 400 hours to prepare an application for a prefabricated self-contained refuge alternative (300 hours for the original application and 100 hours to make changes). MSHA estimates that an applicant takes an average of 150 hours to prepare an application for a component (100 hours for the original application and 50 hours to make changes).

Of the total time to prepare the application and to make changes, MSHA assumes that: 50 percent would be spent by a supervisor; 40 percent would be spent by a chief engineer; and 10 percent would be spent by a clerical employee. MSHA estimated a weighted average hourly wage rate of \$74.94 [(50% x \$85.14 supervisor hourly wage) + (40% x \$74.32 chief engineer hourly wage) + (10% x \$26.37 clerical employee hourly wage)] to calculate the cost of preparing and submitting the application.

Table 1 shows 2,700 burden hours under OMB control number 1219-0066, and an annual cost of \$202,325 for approval of refuge alternatives and components of refuge alternatives.

**Table 1: Annual Burden Hours and Cost to Prepare Refuge Alternative Applications under Final § 7.503**

(a)	(b)	(c)	(d)	(e)	(f)
Type of Application	No. of Annual Applications	Time to Prepare Data for Original and Revised Applications (in hrs.)	Annual Burden Hours <sup>a</sup>	Weighted Average Hourly Wage Rate	Annual Burden Cost <sup>b</sup>
Applications for Prefabricated Refuge Alternatives	3	400	1,200	\$74.94	\$89,922
Applications for Components of Refuge Alternatives	10	150	1,500	\$74.94	\$112,403
<b>Total</b>			<b>2,700</b>		<b>\$202,325</b>

<sup>a</sup> Annual Burden Hours = col. b x col. c.

<sup>b</sup> Annual Burden Cost = col. d x col. e.

The final rule will apply to an estimated 507 underground coal mines that will be required to install refuge alternatives.

Final § 75.221(a)(12) requires that the roof control plan include a description of the roof and rib support necessary for the location of the refuge alternatives. MSHA estimates that the revision of the roof control plan is a one-page addendum that will be filed with MSHA once, with no additional revisions needed. MSHA assumes that the roof control plan will be revised by a supervisor at an hourly wage of \$85.14 and will take 30 minutes (0.5 hours), on average, for all mines. In addition, MSHA estimates that a clerical employee takes a total of three minutes (0.05 hours) to copy and submit the addendum to MSHA.



Table 2 shows a total of 280 burden hours under OMB control number 1219-0004, and an annualized cost of \$3,168 for mine operators to revise their roof control plans.

**Table 2: First-Year Burden Hours and Cost to Revise Roof Control Plan under Final § 75.221(a)(12)**

(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
Mine Size	No. of Mines with Refuge Alternatives	Supervisor Time to Revise (in hrs.)	Clerical Employee Time to Submit (in hrs.)	Supervisor First-Year Burden Hours <sup>a</sup>	Clerical Employee First-Year Burden Hours <sup>b</sup>	Supervisor Hourly Wage Rate	Clerical Employee Hourly Wage Rate	First-Year Burden Cost <sup>c</sup>	Annualized Burden Cost
1-19	106	0.50	0.05	53	5	\$85.14	\$26.37	\$4,644	\$659
20-500	391	0.50	0.05	196	20	\$85.14	\$26.37	\$17,215	\$2,445
501+	10	0.50	0.05	5	1	\$85.14	\$26.37	\$452	\$64
Total	507			254	26			\$22,311	\$3,168

<sup>a</sup> Supervisor Annual Burden Hours = col. b x col. c.

<sup>b</sup> Clerical Employee Annual Burden Hours = col. b x col. d.

<sup>c</sup> First-Year Burden Cost = (col. e x col. g) + (col. f x col. h).

Final § 75.360(d) requires that persons conducting a preshift examination check the refuge alternatives for damage, the integrity of the tamper-evident seal and the mechanism required to activate the refuge alternative, and the ready availability of compressed air and oxygen. MSHA estimates that there will be: 106 refuge alternatives in mines with 1-19 employees, 937 refuge alternatives in mines with 20-500 employees, and 99 refuge alternatives in mines with 501+ employees.

MSHA estimates the number of shifts per mine to be one shift for mines with 1-19 employees, two shifts for mines with 20-500 employees, and three shifts for mines with 501+ employees. MSHA estimates the number of work days per year to be 260 days (5 days per week) for mines with 1-19 employees, 312 days (6 days per week) for mines with 20-500 employees, and 365 days (7 days per week) for mines with 501+ employees. MSHA estimates that a supervisor will perform the preshift examination and take 6 minutes (0.1 hours), at an hourly wage of \$85.14, to examine each refuge alternative.

Table 3 shows 72,066 burden hours under OMB control number 1219-0088, and an annual cost of approximately \$6.14 million for mine operators to examine refuge alternatives during preshift examinations.

**Table 3: Annual Burden Hours and Cost to Examine Refuge Alternatives during Preshift Examinations under Final § 75.360(d)**

(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
Mine Size	No. of Refuge Alternatives	Time to Examine a Refuge Alternative (in hrs.)	Average No. of Shifts per Mine	No. of Work Days per Year	Annual Burden Hours <sup>a</sup>	Preshift Examiner Hourly Wage Rate	Annual Burden Cost <sup>b</sup>
1-19	106	0.1	1	260	2,756	\$85.14	\$234,646
20-500	937	0.1	2	312	58,469	\$85.14	\$4,978,051
501+	99	0.1	3	365	10,841	\$85.14	\$923,003
Total	1,142				72,066		\$6,135,700

<sup>a</sup> Annual Burden Hours = col. b x col. c x col. d x col. e.

<sup>b</sup> Annual Burden Cost = col. f x col. g.

Final § 75.372(b)(11) requires that the mine ventilation map include the locations of all refuge alternatives. Final § 75.1200-1(n) requires that the mine map include the locations of all refuge alternatives. Final § 75.1505(a) and (b) requires that the escapeway map include the locations of all refuge alternatives and be kept current as refuge alternatives are moved. Final § 75.1202-1(b)(4) requires temporary notations on the mine map to include refuge alternatives designated by means of symbols.

MSHA assumes that all maps at a mine will be revised at the same time. Because mines require maps under the existing standard, MSHA includes no filing burden in this estimate. MSHA assumes that the initial revisions to the maps will be performed by a supervisor at an hourly wage of \$85.14 and, on average, will take 30 minutes (0.5 hours) for mines with 1-19 employees, 45 minutes (0.75 hours) for mines with 20-500 employees, and one hour for mines with 501+ employees.

Table 4 shows 356 burden hours under OMB control numbers 1219-0073 and 1219-0141, and an annualized cost of \$4,304 for the initial revision of the maps.

**Table 4: First-Year Burden Hours and Cost for Revising Mine Ventilation Map, Mine Map, and Escapeway Map under Final §§ 75.372(b)(11), 75.1200-1(n), 75.1505(a)&(b), and 75.1202-1(b)(4)**

(a)	(b)	(c)	(d)	(e)	(f)	(g)
Mine Size	No. of Mines with Refuge Alternatives	Supervisor Time to Revise (in hrs.)	First-Year Burden Hours <sup>a</sup>	Supervisor Hourly Wage Rate	First-Year Burden Cost <sup>b</sup>	Annualized Burden Cost
1-19	106	0.50	53	\$85.14	\$4,512	\$641
20-500	391	0.75	293	\$85.14	\$24,946	\$3,542
501+	10	1.00	10	\$85.14	\$851	\$121
Total	507		356		\$30,309	\$4,304

<sup>a</sup> Annual Burden Hours = col. b x col. c.

<sup>b</sup> First-Year Burden Cost = col. d x col. e.

To estimate the costs of revising maps when refuge alternatives are relocated, MSHA assumes that a supervisor will take 90 seconds (0.025 hours) at an hourly wage of \$85.14 to revise all maps to reflect relocation because the revisions would be computerized and would occur quickly. MSHA

assumes that outby refuge alternatives will not be relocated. MSHA estimates that each refuge alternative near a working section (inby) will be relocated an average of 38 times per year. MSHA estimates that there will be a total of 106 inby refuge alternatives in mines with 1-19 employees, 783 inby refuge alternatives in mines with 20-500 employees, and 71 inby refuge alternatives in mines with 500+ employees. Table 5 shows 912 burden hours under OMB control numbers 1219-0073 and 1219-0141, and an annual cost of \$77,647 to revise maps when refuge alternatives are relocated.

**Table 5: Annual Burden Hours and Costs to Revise Mine Ventilation Map, Mine Map, and Escapeway Map under Final §§ 75.372(b)(11), 75.1200-1(n), 75.1505(a)&(b), and 75.1202-1(b)(4)**

(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)
Mine Size	No. of Inby Refuge Alternatives	No. of Times Each Refuge Alternative is Relocated per Year	No. of Revisions per Year Due to Refuge Alternative Being Relocated	Supervisor Time to Revise Map to Show Each Move (in hrs.)	Annual Burden Hours <sup>a</sup>	Supervisor Hourly Wage Rate	Annual Burden Cost <sup>b</sup>
1-19	106	38	4,028	0.025	101	\$85.14	\$8,599
20-500	783	38	29,754	0.025	744	\$85.14	\$63,344
501+	71	38	2,698	0.025	67	\$85.14	\$5,704
Total	960		36,480		912		\$77,647

<sup>a</sup> Annual Burden Hours = col. d x col. e.

<sup>b</sup> Annual Burden Cost = col. f x col. g.

Final § 75.1502(c) requires that the mine emergency evacuation and firefighting program of instruction be revised to include information in the program for instructing miners in the deployment, use, and maintenance of refuge alternatives; the locations of refuge alternatives; a summary of procedures for deploying refuge alternatives; construction methods for 15 psi stoppings constructed prior to an event; and a summary of procedures related to refuge alternative use.

MSHA estimates that revising the program of instruction consists of a two-page addendum that will be submitted to MSHA once, with no additional revisions needed. MSHA assumes that this program of instruction will be revised by a supervisor at an hourly wage of \$85.14 and will take 30 minutes (0.5 hours), on average, for all mines. In addition, MSHA estimates that a clerical employee takes a total of three minutes (0.05 hours) to copy and submit the addendum to MSHA.

Table 6 shows a total of 280 burden hours under OMB control numbers 1219-0054 and 1219-0141, and an annualized cost of \$3,168.

**Table 6: First-Year Burden Hours and Costs to Revise Mine Emergency Evacuation and Firefighting Program of Instruction under Final § 75.1502(c)**

(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
Mine Size	No. of Mines with Refuge Alternatives	Supervisor Time to Revise Program of Instruction (in hrs.)	Clerical Employee Time to Submit Revised Program of Instruction (in hrs.)	Supervisor First-Year Burden Hours <sup>a</sup>	Clerical Employee First-Year Burden Hours <sup>b</sup>	Supervisor Hourly Wage Rate	Clerical Employee Hourly Wage Rate	First-Year Burden Cost <sup>c</sup>	Annualized Burden Cost
1-19	106	0.5	0.05	53	5	\$85.14	\$26.37	\$4,644	\$659

20-500	391	0.5	0.05	196	20	\$85.14	\$26.37	\$17,215	\$2,445
501+	10	0.5	0.05	5	1	\$85.14	\$26.37	\$452	\$64
Total	507			254	26			\$22,311	\$3,168

<sup>a</sup> Supervisor Annual Burden Hours = col. b x col. c.

<sup>b</sup> Clerical Employee Annual Burden Hours = col. b x col. d.

<sup>c</sup> First-Year Burden Cost = (col. e x col. g) + (col. f x col. h).

Final § 75.1507 requires that the mine emergency response plan (ERP) include information about the refuge alternatives used in the mine, including a description of the types of refuge alternatives; procedures for transporting, maintaining, and using them; the rated capacity and expected number of occupants; the duration of breathable air per person; and suitable locations.

MSHA estimates that revising the emergency response plan will involve submitting an initial revision and making changes in response to MSHA's evaluation of those revisions. MSHA assumes that these changes will be performed by a supervisor at an hourly wage of \$85.14 and, on average, will take: 12 hours for mines with 1-19 employees; 24 hours for mines with 20-500 employees, and 36 hours for mines with 501+ employees.

In addition, MSHA estimates that a clerical employee, working at a wage rate of \$26.37, will take a total of six minutes (0.10 hours) to copy and submit the emergency response plan information for mines with 1-19 employees, 12 minutes (0.20 hours) for mines with 20-500 employees, and 15 minutes (0.25 hours) for mines with 501+ employees.

Table 7 shows a total of 11,108 burden hours and an annualized cost of \$133,527 to revise the emergency response plan.

**Table 7: First-Year Burden Hours and Cost to Revise Emergency Response Plan under Final § 75.1507**

(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)
Mine Size	No. of Mines with Refuge Alternatives	Supervisor Time to Revise Emergency Response Plan (in hrs.)	Clerical Employee Time to File Revised Emergency Response Plan (in hrs.)	Supervisor First-Year Burden Hours <sup>a</sup>	Clerical Employee First-Year Burden Hours <sup>b</sup>	Supervisor Hourly Wage Rate	Clerical Employee Hourly Wage Rate	First-Year Burden Cost <sup>c</sup>	Annualized Burden Cost
1-19	106	12	0.1	1,272	11	\$85.14	\$26.37	\$108,588	\$15,419
20-500	391	24	0.2	9,384	78	\$85.14	\$26.37	\$801,011	\$113,744
501+	10	36	0.3	360	3	\$85.14	\$26.37	\$30,730	\$4,364
Total	507			11,016	92			\$940,329	\$133,527

<sup>a</sup> Supervisor First-Year Burden Hours = col. b x col. c.

<sup>b</sup> Clerical Employee First-Year Burden Hours = col. b x col. d.

<sup>c</sup> First-Year Burden Cost = (col. e x col. g) + (col. f x col. h).

Final § 75.1508 (a)(2) requires the mine operator to certify that persons assigned to examine, maintain, and repair refuge alternatives and components are trained.

MSHA estimates that training to examine refuge alternatives and components, and the certification of that training, will be integrated into the existing requirements that govern training for certified

persons. Therefore, MSHA estimates no burden associated with this final certification requirement.

For persons assigned to maintain and repair refuge alternatives and components, MSHA estimates that two miners per mine will receive training from the manufacturer as part of the purchase agreement. MSHA estimates that a record of the training will be made by a supervisor at an hourly wage of \$85.14 and will take about three minutes (0.05 hours).

Table 8 shows 27 burden hours and an annual cost of \$2,299 for certification of training for the maintenance and repair of refuge alternatives and components.

**Table 8: First-Year Burden Hours and Cost to Certify Persons Trained in the Maintenance and Repair of Refuge Alternatives and Components under Final § 75.1508(a)(2)**

(a)	(b)	(c)	(d)	(e)	(f)
Mine Size	No. of Mines with Refuge Alternatives	Supervisor Time to Certify Maintenance and Repair Training (in hrs.)	First-Year Burden Hours <sup>a</sup>	Supervisor Hourly Wage Rate	First-Year Burden Cost <sup>b</sup>
1-19	106	0.05	6	\$85.14	\$511
20-500	391	0.05	20	\$85.14	\$1,703
501+	10	0.05	1	\$85.14	\$85
Total	507		27		\$2,299

<sup>a</sup> Annual Burden Hours = col. b x col. c.

<sup>b</sup> Annual Burden Cost = col. d x col. e.

Final § 75.1508(b) requires a record of each repair, including corrective action taken. MSHA estimates that the total number of repair and maintenance cases per year on all refuge alternatives will be: two in mines with 1-19 employees; 13 in mines with 20-500 employees; and two in mines with 501+ employees. MSHA estimates that recording of the maintenance and repair will be performed by a supervisor at an hourly wage of \$85.14 and will take about one minute (0.017 hours) for each event.

Table 9 shows three burden hours and an annual cost of \$255 for recording maintenance and repair of refuge alternatives.

**Table 9: Annual Burden Hours and Cost to Make a Record of Maintenance and Repair of Refuge Alternatives and Components under Final § 75.1508(b)**

(a)	(b)	(c)	(d)	(e)	(f)
Mine Size	Total Refuge Alternative and Component Maintenance and Repairs per Year	Supervisor Time to Certify Maintenance and Repair Training (in hrs.)	Annual Burden Hours <sup>a</sup>	Supervisor Hourly Wage Rate	Annual Burden Cost <sup>b</sup>
1-19	2	0.017	1	\$85.14	\$85
20-500	13	0.017	1	\$85.14	\$85
501+	2	0.017	1	\$85.14	\$85
Total	17		3		\$255

<sup>a</sup> Annual Burden Hours = col. b x col. c.

<sup>b</sup> Annual Burden Cost = col. d x col. e.

## SUMMARY OF BURDEN HOURS AND RELATED COSTS FOR ITEM 12

Table 10 provides a summary of the 90,189 burden hours for the first year that the rule will be effective, and the 78,138 burden hours for the second year and all subsequent years that the rule will be in effect. Table 11 provides a summary of the 309,309 responses for the first year that the rule will be in effect, and the 307,268 responses for the second year and all subsequent years that the rule will be in effect.

**Table 10: Burden Hours in the First Year and Subsequent Years**

Detail	Section	Table	Burden Hours in First Year	Burden Hours in Subsequent Years
Refuge Alternative & Component Applications for Approval	7.503	1	2,700	2,700
Revise Roof Control Plan	75.221(a)(12)	2	280	0
Preshift Examination	75.360 (d)	3	72,066	72,066
Initially Revise Mine Map, Ventilation Map, Escapeway Map, & Temporary Notations	75.372(b)(11); 75.1200-1(n); 75.1505(a)&(b) and 75.1202-1(b)(4)	4	356	0
Annual Revisions for Maps to Reflect Refuge Alternative Relocations	75.372(b)(11); 75.1200-1(n); 75.1505(a)&(b) and 75.1202-1(b)(4)	5	912	912
Revise & Submit Mine Emergency Evacuation and Firefighting Program of Instruction	75.1502(c)	6	280	0
Revise & File Emergency Response Plan	75.1507	7	11,108	0
Certify Training to Transport, Maintain, and Repair Refuge Alternatives	75.1508(a)(2)	8	27	0
Record Repairs of Refuge Alternatives & Components	75.1508(b)	9	3	3
<b>Total</b>			<b>87,732</b>	<b>75,681</b>

**Table 11: Summary of Responses in the First Year and Subsequent Years**

Detail	Section	Table	Units	Average No. of Responses per Year	Responses in First Year	Responses in Subsequent Years
Refuge Alternative & Component Applications for Approval	7.503	1	13	1	13	13
Revise Roof Control Plan	75.221(a)(12)	2	507	1	507	0
Preshift Examination *	75.360(d)	3	1,142	631.0447	720,653	720,653
Initially Revise Mine Map, Ventilation Map, Escapeway Map, & Temporary Notations	75.372(b)(11); 75.1200-1(n); 75.1505(a)&(b) and 75.1202-1(b)(4)	4	507	1	507	0
Annual Revision for Maps to Reflect Refuge Alternative Relocations *	75.372(b)(11); 75.1200-1(n); 75.1505(a)&(b) and 75.1202-1(b)(4)	5	960	38	36,480	36,480

Revise & Submit Mine Emergency Evacuation and Firefighting Program of Instruction	75.1502(c)	6	507	1	507	0
Revise & File Emergency Response Plan	75.1507	7	507	1	507	0
Certify Training to Transport, Maintain, & Repair Refuge Alternatives	75.1508(a)(2)	8	507	1	507	0
Record Repairs of Refuge Alternatives & Components	75.1508(b)	9	17	1	17	17
Total					759,698	757,163

\*  $282,494 / 507 = 557.19$  (rounded to 557) and  $36,480 / 507 = 71.9$  (rounded to 72)

**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 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 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.**

Final § 7.503 specifies the items to be included in an application for MSHA approval of a refuge alternative or component. MSHA estimates that copy and postage costs for the submittal of an application will be \$53 for an application for a prefabricated self-contained refuge alternative and \$27 for an application for a refuge alternative component. The estimated annual filing cost for three prefabricated self-contained refuge alternatives a year is \$162. Similarly, the estimated annual cost for 10 refuge alternative components a year is \$270.

Table 12 shows estimated annual filing cost of \$432 to submit prefabricated self-contained refuge alternative and component applications.

**Table 12: Annual Copy and Postage Cost for Refuge Alternative Applications under Final § 7.503**

(a)	(b)	(c)	(d)
Type of Application	No. of Annual Applications	Copy Cost & Postage for Original & Subsequent Fillings	Annual Cost <sup>a</sup>
Applications for Prefabricated Refuge Alternatives	3	\$53	\$159
Applications for Components of Refuge Alternatives	10	\$27	\$270
<b>Total</b>			<b>\$429</b>

<sup>a</sup> Annual Cost = col. b x col. c.

MSHA charges a fee to applicants to cover direct and indirect costs for evaluation and approval services performed by the Agency. As of January 1, 2008, the MSHA fee is \$84 per hour for services rendered.<sup>1</sup> In addition, MSHA applies a support factor to this fee to cover the administrative, clerical and technical support services involved in evaluating an application. MSHA has applied the support factor of 1.617 to the Agency fee of \$84 per hour, which results in a total hourly charge of \$136 for MSHA evaluation services. MSHA estimates that the hours spent by the Agency on evaluating an application and any changes will average 3,000 hours for a prefabricated self-contained refuge alternative and 150 hours for a component.

MSHA's charge for evaluating a prefabricated self-contained refuge alternative application is equal to the \$136 hourly MSHA fee multiplied by 3,000 hours, or \$408,000. The estimated annual cost for MSHA to evaluate three prefabricated self-contained refuge alternative applications a year is \$1,224,000. Similarly, MSHA's charge for evaluating a component application is equal to the \$136 hourly MSHA fee multiplied by 150 hours, or \$20,400. The estimated annual cost for MSHA to evaluate 10 component applications a year is \$204,000.

Table 13 shows estimated annual cost of \$1,428,000 for MSHA to evaluate prefabricated self-contained refuge alternatives and component applications.

**Table 13: Annual Cost for MSHA Approval Services for Refuge Alternative Applications under Final § 7.503**

(a)	(b)	(c)	(d)	(e)
Type of Application	No. of Annual Applications	Hours Spent by MSHA on Evaluation of Original and Subsequent Applications	MSHA Hourly Fee	Annual Cost <sup>a</sup>
Applications for Prefabricated Refuge Alternatives	3	3,000	\$136	\$1,224,000
Applications for Components for Refuge Alternatives	10	150	\$136	\$204,000
<b>Total</b>				<b>\$1,428,000</b>

<sup>a</sup> Annual Cost = col. b x (col. c x col. d).

<sup>1</sup> "Fee Adjustments for Testing, Evaluation, and Approval of Mining Products," Federal Register, December 27, 2007, vol. 72, no. 247, pp. 73380-81.



MSHA assumes that, in order to comply with the final rule, the applicant or third party will conduct the following tests to verify the breathable air performance of the refuge alternative for 96 consecutive hours: apparent temperature (under final § 7.504(b)(2)); carbon dioxide scrubbing (under final § 7.508(a)(2)); oxygen delivery system (under final § 7.506(b), (c), and (d)); positive pressure (under final §§ 7.503(b)(3) and 7.506(c)(1)(iii)); atmospheric monitoring (under final § 7.507(c)); noise measurements (under final § 7.504(a)(2)); and light measurements (under final § 7.504(c)(2)). In addition, MSHA assumes the following tests will be conducted: airlock purging (under final § 7.508(a)(1)); demonstrating that trained persons without tools can fully deploy the structure within 10 minutes (under final § 7.505(b)(1)); NFPA 2112 flash fire (under final § 7.505(b)(3) and (5)); gas analytical accuracy, both preconditioning and long term stability (under final § 7.507(d)); pounds per square inch (psi) overpressure (under final § 7.505(b)(2) and (4)); carbon monoxide dilution (under final § 7.508(c)(1), (2), and (4)); and carbon dioxide scrubbing (under final § 7.508(a)(2)). Under final § 7.504, tests must demonstrate that electrical components located inside the refuge alternatives are intrinsically safe for use or permissible. Intrinsic safety testing falls under existing § 18.68, and permissibility testing falls under existing §§ 7.306 and 18.62. Under § 7.505(a)(5), tests must be conducted for flame resistance. Testing for flame resistance falls under existing § 7.27.

Based on information from Agency Staff, MSHA estimates that the total cost (including setup and tear-down costs) of these tests for a prefabricated self-contained refuge alternative application is \$255,800. The estimated cost of tests for 3 prefabricated self-contained refuge alternative applications a year is \$767,400. Tests for a component application could involve any one or a combination of the tests for the prefabricated self-contained refuge alternative. MSHA averaged the costs of tests for a prefabricated self-contained refuge alternative to derive an estimate of \$21,300 for the testing cost of a component application. The estimated annual cost of tests for 10 component applications a year is \$213,000.

Table 14 shows an estimated annual cost of \$980,400 for applicant or third-party testing for prefabricated, self-contained, refuge alternatives and component applications.

**Table 14: Annual Cost for Applicant or Third-party Testing under Final § 7.503**

(a)	(b)	(c)	(d)
Type of Application	No. of Annual Applications	Cost for Tests per Application	Annual Cost <sup>a</sup>
Applications for Prefabricated Refuge Alternatives	3	\$255,800	\$767,400
Applications for Components for Refuge Alternatives	10	\$21,300	\$213,000
<b>Total</b>			<b>\$980,400</b>

<sup>a</sup> Annual Cost = col. b x col. c.

Final § 75.221 requires that the roof control plan include a description of the roof and rib support necessary for the location of the refuge alternatives. This requirement applies to all mines that install one or more refuge alternatives, which will include 106 mines with 1-19 employees, 391 mines with 20-500 employees, and 10 mines with 501+ employees. MSHA estimates that the revision of the roof control plan is a one-page addendum that will be filed with MSHA once with no additional revisions needed. MSHA assumes copy costs of \$0.15 per page and \$1.00 postage.

Table 15 shows estimated a first-year cost of \$583 for mines to copy and submit a revised roof control plan.

**Table 15: First-Year Copy and Postage Cost To Submit Revised Roof Control Plan under Final § 75.221(a)(12)**

(a)	(b)	(c)	(d)	(e)
Mine Size	No. of Mines with Refuge Alternatives	Cost per Mine to Submit Revised Roof Control Plan	First-Year Cost <sup>a</sup>	Annualized Cost
1-19	106	\$1.15	\$122	\$17
20-500	391	\$1.15	\$450	\$64
501+	10	\$1.15	\$12	\$2
Total	507		\$583	\$83

<sup>a</sup> First-Year Cost = col. b x col. c .

Final § 75.1502(c) requires that the mine emergency evacuation and firefighting program of instruction be revised to include information in the program for instructing miners in the deployment, use, and maintenance of refuge alternatives; the locations of refuge alternatives; a summary of procedures for deploying refuge alternatives; construction methods for 15 psi stoppings constructed prior to an event; and a summary of procedures related to refuge alternative use. This requirement applies only to those mines that install refuge alternatives.

MSHA estimates that the revision of this program of instruction is a two-page addendum that will be submitted to MSHA once, with no additional revisions needed. MSHA assumes copy costs of \$0.15 per page and \$1.00 postage. MSHA calculates the total copy and postage cost per mine to submit the program of instruction to be \$1.30.

Table 16 shows estimated first-year cost of \$659 for all mines to submit revisions to the mine emergency evacuation and firefighting program of instruction.

**Table 16. Annualized Cost for Revisions to Mine Emergency Evacuation and Firefighting Program of Instruction under Final § 75.1502(c)**

(a)	(b)	(c)	(d)	(e)
Mine Size	No. of Mines with Refuge Alternatives	Cost per Mine to Submit Revised Program of Instruction	First-Year Cost to Revise Program of Instruction <sup>a</sup>	Annualized Cost to Revise Program of Instruction
1-19	106	\$1.30	\$138	\$20
20-500	391	\$1.30	\$508	\$72
501+	10	\$1.30	\$13	\$2
Total	507		\$659	\$94

<sup>a</sup> First-Year Cost = col. b x col. c .

Final § 75.1507, requires that the emergency response plan (ERP) include the following for each refuge alternative and component: types and suitable locations of the units in use; procedures for transporting, maintaining, and using the unit; the unit's rated capacity; and duration of breathable air for each person. In addition the ERP will specify the methods for providing: breathable air; removal of carbon dioxide; backup oxygen controls and regulators; an airlock and breathable air in

the airlock; sanitation facilities; harmful gas removal; monitoring of gas concentrations; and lighting.

For refuge alternatives, the ERP specifies that the breathable air components are MSHA approved, and the unit can withstand exposure to a flash fire of 300° Fahrenheit for three seconds. For refuge alternatives that sustain persons for only 48 hours, the ERP must describe advance arrangements that have been made to assure that persons who cannot be rescued within 48 hours will receive additional supplies to sustain them until rescued. The ERP also must specify that the refuge alternative is stocked with a specified amount of food and water per person, refuge alternative and component manuals, materials and tools sufficient to make repairs on the unit, and first-aid supplies.

MSHA estimates that, for the 507 mines with refuge alternatives, the revision process will include an initial revision of the plan plus any necessary changes that must be submitted to MSHA for approval. MSHA estimates that the information on refuge alternatives will include 12 pages of the emergency response plan for mines with 1-19 employees, 24 pages for mines with 20-500 employees, and 36 pages for mines with 501+ employees.

MSHA estimates copy costs of \$0.15 per page. Postage costs are estimated to be \$1.00 for mines with 1-19 employees, \$2.00 for mines with 20-500 employees, and \$3 for mines with 501+ employees. MSHA calculates copy and postage costs per mine of about \$2.80 for mines with 1-19 employees, \$5.60 for mines with 20-500 employees, and \$8.40 for mines with 501+ employees.

Table 17 shows estimated first-year cost of \$2,571 for all mines to submit revised emergency response plans.

**Table 17. First-Year Copy and Postage Cost to Submit Revised Emergency Response Plan under Final § 75.1507**

(a)	(b)	(c)	(d)	(e)
Mine Size	No. of Mines with Refuge Alternatives	Copy and Postage Cost per Mine to Submit Revised Emergency Response Plan	First-Year Cost <sup>a</sup>	Annualized Cost
1-19	106	\$2.80	\$297	\$42
20-500	391	\$5.60	\$2,190	\$311
501+	10	\$8.40	\$84	\$12
Total	507		\$2,571	\$365

<sup>a</sup> First-Year Cost = col. b x col. c.

Table 18 shows a summary of the total Item 13 costs. The estimated total cost for Item 13 is \$1,866,643 for the first year that the rule will be in effect, and \$1,862,829 for the second year and subsequent years that the rule will be in effect.

**Table 18: Summary of Item 13 Costs**

Description	Section	Table	Total	
			Cost in First Year	Subsequent Years Cost
Applications for MSHA Approval	7.503	12	\$429	\$429
MSHA Approval Services	7.503	13	\$1,428,000	\$1,428,000
Testing	7.503	14	\$980,400	\$980,400
Submission of Roof Control Plan	75.221(a)(12)	15	\$584	\$0
Submission of Mine Emergency Evacuation and Firefighting Program of Instruction	75.1502(c)	16	\$659	\$0
Submission of Emergency Response Plan	75.1507	17	\$2,571	\$0
<b>Total</b>			<b>\$2,412,643</b>	<b>\$2,408,829</b>

**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 collection of information package.

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

The burden hours apply to an estimated 507 underground coal mines. MSHA estimates that in the first year that the final rule will be in effect there will be 87,732 burden hours, \$2.4 million of burden costs, and 759,698 responses.

Of the 87,732 burden hours:

- 280 burden hours from final § 75.221(a)(12) should be accounted for under OMB information collection package 1219-0004;
- 2,700 burden hours from final § 7.503 should be accounted for under OMB information collection package 1219-0066.
- 72,066 burden hours from final § 75.360(d) should be accounted for under OMB information collection package 1219-0088;
- 280 burden hours from final § 75.1502(c) should be accounted for under OMB information collection packages 1219-0054 and 1219-0141;
- 1,268 burden hours from final §§ 75.1200-1(n), 75.372(b)(11), and 75.1505(a) & (b) should be accounted for under OMB information-collection packages 1219-0073 and 1219-0141;
- The remaining 11,138 burden hours from final §§ 7.503, 75.1507, 75.1508(a)(2) & (b) should be accounted for in this new information collection package.

- 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 additional 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.

- 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 certification exceptions identified with this information collection.

## **B. COLLECTION OF INFORMATION EMPLOYING STATISTICAL METHODS**

The agency should be prepared to justify its decision not to use statistical methods in any case where such methods might reduce burden or improve accuracy of results. When Item 17 on the Form OMB 83-I is checked "Yes", the following documentation should be included in the Supporting Statement to the extent that it applies to the methods proposed:

- 1. Describe (including a numerical estimate) the potential respondent universe and any sampling or other respondent selection methods to be used. Data on the number of entities (e.g., establishments, State and local government units, households, or persons) in the universe covered by the collection and in the corresponding sample are to be provided in tabular form for the universe as a whole and for each of the strata in the proposed sample. Indicate expected response rates for the collection as a whole. If the collection had been conducted previously, include the actual response rate achieved during the last collection.**
- 2. Describe the procedures for the collection of information including:**
  - Statistical methodology for stratification and sample selection,
  - Estimation procedure,
  - Degree of accuracy needed for the purpose described in the justification,
  - Unusual problems requiring specialized sampling procedures, and
  - Any use of periodic (less frequently than annual) data collection cycles to reduce burden.
- 3. Describe methods to maximize response rates and to deal with issues of non-response. The accuracy and reliability of information collected must be shown to be adequate for**

intended uses. For collections based on sampling, a special justification must be provided for any collection that will not yield "reliable" data that can be generalized to the universe studied.

4. Describe any tests of procedures or methods to be undertaken. Testing is encouraged as an effective means of refining collections of information to minimize burden and improve utility. Tests must be approved if they call for answers to identical questions from 10 or more respondents. A proposed test or set of tests may be submitted for approval separately or in combination with the main collection of information.
5. Provide the name and telephone number of individuals consulted on statistical aspects of the design and the name of the agency unit, contractor(s), grantee(s), or other person(s) who will actually collect and/or analyze the information for the agency.

The collection of this information does not employ statistical methods.

### **RELEVANT STATUTORY AND REGULATORY PROVISIONS:**

#### **Consolidated Appropriations Act of 2008**

SEC. 112. (a) \* \* \*

(b) Not later than June 15, 2008, the Secretary of Labor shall propose regulations pursuant to section 315 of the Federal Coal Mine Health and Safety Act of 1969, consistent with the recommendations of the National Institute for Occupational Safety and Health pursuant to section 13 of the MINER Act (Public Law 109-236), requiring rescue chambers, or facilities that afford at least the same measure of protection, in underground coal mines. The Secretary shall finalize the regulations not later than December 31, 2008.

#### **Mine Improvement and New Emergency Response (MINER) Act of 2006**

##### **SEC. 2. EMERGENCY RESPONSE.**

\* \* \* \* \*

“(a) \* \* \*

“(b) ACCIDENT PREPAREDNESS AND RESPONSE.—

“(1) IN GENERAL.—Each underground coal mine operator shall carry out on a continuing basis a program to improve accident preparedness and response at each mine.

“(2) RESPONSE AND PREPAREDNESS PLAN.—

“(A) IN GENERAL.—Not later than 60 days after the date of enactment of the Mine Improvement and New Emergency Response Act of 2006, each underground coal mine operator shall develop and adopt a written accident response plan that complies with this subsection with respect to each mine of the operator, and periodically update such plans to reflect changes in operations in the mine, advances in technology, or other relevant considerations. Each such operator shall make the accident response plan available to the miners and the miners’ representatives.

“(B) PLAN REQUIREMENTS.—An accident response plan under subparagraph (A) shall—

“(i) provide for the evacuation of all individuals endangered by an emergency; and

“(ii) provide for the maintenance of individuals trapped underground in the event that miners are not able to evacuate the mine.

“(C) PLAN APPROVAL.—The accident response plan under subparagraph (A) shall be subject to review and approval by the Secretary. In determining whether to approve a particular plan the Secretary shall take into consideration all comments submitted by miners or their representatives. Approved plans shall—

“(i) afford miners a level of safety protection at least consistent with the existing standards, including standards mandated by law and regulation;

“(ii) reflect the most recent credible scientific research;

“(iii) be technologically feasible, make use of current commercially available technology, and account for the specific physical characteristics of the mine; and

“(iv) reflect the improvements in mine safety gained from experience under this Act and other worker safety and health laws.

“(D) PLAN REVIEW.—The accident response plan under subparagraph (A) shall be reviewed periodically, but at least every 12 months, by the Secretary. In such periodic reviews, the Secretary shall consider all comments submitted by miners or miners’ representatives and intervening advancements in science and technology that could be implemented to enhance miners’ ability to evacuate or otherwise survive in an emergency.

“(E) PLAN CONTENT – GENERAL REQUIREMENTS.—To be approved under subparagraph (C), an accident response plan shall include the following:

“(i) POST-ACCIDENT COMMUNICATIONS.—The plan shall provide for a redundant means of communication with the surface for persons underground, such as secondary telephone or equivalent two-way communication.

“(ii) POST-ACCIDENT TRACKING.—Consistent with commercially available technology and with the physical constraints, if any, of the mine, the plan shall provide for above ground personnel to determine the current, or immediately pre-accident, location of all underground personnel. Any system so utilized shall be functional, reliable, and calculated to remain serviceable in a post-accident setting.

“(iii) POST-ACCIDENT BREATHABLE AIR.—The plan shall provide for—

“(I) emergency supplies of breathable air for individuals trapped underground sufficient to maintain such individuals for a sustained period of time;

“(II) in addition to the 2 hours of breathable air per miner required by law under the emergency temporary standard as of the day before the date of enactment of the Mine Improvement and New Emergency Response Act of 2006, caches of self-rescuers providing in the aggregate not less than 2 hours per miner to be kept in escapeways from the deepest work area to the surface at a distance of no further than an average miner could walk in 30 minutes;

“(III) a maintenance schedule for checking the reliability of self rescuers, retiring older self-rescuers first, and introducing new self-rescuer technology, such as units with interchangeable air or oxygen cylinders not requiring doffing to replenish airflow and units with supplies of greater than 60 minutes, as they are approved by the Administration and become available on the market; and

“(IV) training for each miner in proper procedures for donning self rescuers, switching from one unit to another, and ensuring a proper fit.

“(iv) POST-ACCIDENT LIFELINES.— \* \* \*.

“(v) TRAINING.— \* \* \*.

“(vi) LOCAL COORDINATION.— \* \* \*.

“(F) PLAN CONTENT – SPECIFIC REQUIREMENTS.—

“(i) IN GENERAL.—In addition to the content requirements contained in subparagraph (E), and subject to the considerations contained in subparagraph (C), the Secretary may make additional plan requirements with respect to any of the content matters.

“(ii) POST ACCIDENT COMMUNICATIONS.—Not later than 3 years after the date of enactment of the Mine Improvement and New Emergency Response Act of 2006, a plan shall, to be approved, provide for post accident communication between underground and surface personnel via a wireless two-way medium, and provide for an electronic tracking system permitting surface personnel to determine the location of any persons trapped underground or set forth within the plan the reasons such provisions can not be adopted. Where such plan sets forth the reasons such provisions can not be adopted, the plan shall also set forth the operator’s alternative means of compliance. Such alternative shall approximate, as closely as possible, the degree of functional utility and safety protection provided by the wireless two-way medium and tracking system referred to in this subpart.

“(G) PLAN DISPUTE RESOLUTION.— \* \* \*

**SEC. 13. RESEARCH CONCERNING REFUGE ALTERNATIVES.**

(a) IN GENERAL.—The National Institute of Occupational Safety and Health shall provide for the conduct of research, including field tests, concerning the utility, practicality, survivability, and cost of various refuge alternatives in an underground coal mine environment, including commercially-available portable refuge chambers.

(b) REPORT.—

(1) IN GENERAL.—Not later than 18 months after the date of enactment of this Act, the National Institute for Occupational Safety and Health shall prepare and submit to the Secretary of Labor, the Secretary of Health and Human Services, the Committee on Health, Education, Labor, and Pensions of the Senate, and the Committee on Education and the Workforce of the House of Representatives a report concerning the results of the research conducted under subsection (a), including any field tests.

(2) RESPONSE BY SECRETARY.—Not later than 180 days after the receipt of the report under paragraph (1), the Secretary of Labor shall provide a response to the Committee on Health, Education, Labor, and Pensions of the Senate and the Committee on Education and the Workforce of the House of Representatives containing a description of the actions, if any, that the Secretary intends to take based upon the report, including proposing regulatory changes, and the reasons for such actions.

**Federal Mine Safety & Health Act of 1977 (Mine Act)**

**MANDATORY SAFETY AND HEALTH STANDARDS**

SEC. 101. (a) The Secretary shall by rule in accordance with procedures set forth in this section and in accordance with section 553 of title 5, United States Code (without regard to any reference in such section to sections 556 and 557 of such title), 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 or other mines.



## **INSPECTIONS, INVESTIGATIONS, AND RECORDKEEPING**

SEC. 103. (h) In addition to such records as are specifically required by this Act, every operator of a coal or other mine shall establish and maintain such records, make such reports, and provide such information, as the Secretary or the Secretary of Health, Education, and Welfare may reasonably require from time to time to enable him to perform his functions under this Act. The Secretary or the Secretary of Health, Education, and Welfare is authorized to compile, analyze, and publish, either in summary or detailed form, such reports or information so obtained. Except to the extent otherwise specifically provided by this Act, all records, information, reports, findings, citations, notices, orders, or decisions required or issued pursuant to or under this Act may be published from time to time, may be released to any interested person, and shall be made available for public inspection.

### **RELEVANT REGULATORY PROVISIONS:**

#### **PART 7—TESTING BY APPLICANT OR THIRD PARTY—[AMENDED]**

##### **§ 7.503 Application requirements.**

- (a) An application for approval of a refuge alternative or component shall include:
  - (1) The refuge alternative's or component's make and model number, if applicable.
  - (2) A list of the refuge alternative's or component's parts that includes—
    - (i) The MSHA approval number for electric-powered equipment;
    - (ii) Each component's or part's in-mine shelf life, service life, and recommended replacement schedule;
    - (iii) Materials that have a potential to ignite used in each component or part with their MSHA approval number; and
    - (iv) A statement that the component or part is compatible with other components and, upon replacement, is equivalent to the original component or part.
  - (3) The capacity and duration (the number of persons it is designed to maintain and for how long) of the refuge alternative or component on a per-person per-hour basis.
  - (4) The length, width, and height of the space required for storage of each component.
- (b) The application for approval of the refuge alternative shall include the following:
  - (1) A description of the breathable air component, including drawings, air-supply sources, piping, regulators, and controls.
  - (2) The maximum volume, excluding the airlock; the dimensions of floor space and volume provided for each person using the refuge alternative; and the floor space and volume of the airlock.
  - (3) The maximum positive pressures in the interior space and the airlock and a description of the means used to limit or control the positive pressure.
  - (4) The maximum allowable apparent temperature of the interior space and the airlock and the means to control the apparent temperature.
  - (5) The maximum mine air temperature under which the refuge alternative is designed to operate when the unit is fully occupied.
  - (6) Drawings that show the features of each component and contain sufficient information to document compliance with the technical requirements.
  - (7) A manual that contains sufficient detail for each refuge alternative or component addressing in-mine transportation, operation, and maintenance of the unit.

(8) A summary of the procedures for deploying refuge alternatives.

(9) A summary of the procedures for using the refuge alternative.

(10) The results of inspections, evaluations, calculations, and tests conducted under this subpart.

(c) The application for approval of the air-monitoring component shall specify the following:

(1) The operating range, type of sensor, gas or gases measured, and environmental limitations, including the cross-sensitivity to other gases, of each detector or device in the air-monitoring component.

(2) The procedure for operation of the individual devices so that they function as necessary to test gas concentrations over a 96-hour period.

(3) The procedures for monitoring and maintaining breathable air in the airlock, before and after purging.

(4) The instructions for determining the quality of the atmosphere in the airlock and refuge alternative interior and a means to maintain breathable air in the airlock.

(d) The application for approval of the harmful gas removal component shall specify the following:

(1) The volume of breathable air available for removing harmful gas both at start-up and while persons enter through the airlock.

(2) The maximum volume of each gas that the component is designed to remove on a per-person per-hour basis.

## **PART 75—MANDATORY SAFETY STANDARDS—UNDERGROUND COAL MINES— [AMENDED]**

### **§ 75.221 Roof control plan information.**

(a) \* \* \*

(12) A description of the roof and rib support necessary for the refuge alternatives.

### **§ 75.360 Preshift examination at fixed intervals.**

(d) The person conducting the preshift examination shall check the refuge alternative for damage, the integrity of the tamper-evident seal and the mechanisms required to deploy the refuge alternative, and the ready availability of compressed oxygen and air.

### **§ 75.372 Mine ventilation map.**

(b) \* \* \*

(11) The location of all escapeways and refuge alternatives.

### **§ 75.1200-1 Additional information on mine map.**

(n) The locations of refuge alternatives.

### **§ 75.1502 Mine emergency evacuation and firefighting program of instruction.**

(c) \* \* \*

(3) The deployment, use, and maintenance of refuge alternatives.

(4)(vi) Using refuge alternatives.

(8) A review of the mine map; the escapeway system; the escape, firefighting, and emergency evacuation plan in effect at the mine; and the locations of refuge alternatives and abandoned areas.

- (10) A summary of the procedures related to deploying refuge alternatives.
- (11) A summary of the construction methods for 15 psi stoppings constructed prior to an event.
- (12) A summary of the procedures related to refuge alternative use.

**§ 75.1505 Escapeway maps.**

(a) *Content and accessibility.* An escapeway map shall show the designated escapeways from the working sections or the miners' work stations to the surface or the exits at the bottom of the shaft or slope, refuge alternatives, and SCSR storage locations. The escapeway map shall be posted or readily accessible for all miners—

- (1) In each working section;
- (2) In each area where mechanized mining equipment is being installed or removed;
- (3) At the refuge alternative; and
- (4) At a surface location of the mine where miners congregate, such as at the mine bulletin board, bathhouse, or waiting room.

(b) *Keeping maps current.* All maps shall be kept up-to-date and any change in route of travel, location of doors, location of refuge alternatives, or direction of airflow shall be shown on the maps by the end of the shift on which the change is made.

**§ 75.1507 Emergency Response Plan; refuge alternatives.**

(a) The Emergency Response Plan (ERP) shall include the following for each refuge alternative and component:

(1) The types of refuge alternatives used in the mine, i.e., a prefabricated self-contained unit or a unit consisting of 15 psi stoppings constructed prior to an event in a secure space and an isolated atmosphere.

(2) Procedures or methods for maintaining approved refuge alternatives and components.

(3) The rated capacity of each refuge alternative, the number of persons expected to use each refuge alternative, and the duration of breathable air provided per person by the approved breathable air component of each refuge alternative.

(4) The methods for providing breathable air with sufficient detail of the component's capability to provide breathable air over the duration stated in the approval.

(5) The methods for providing ready backup oxygen controls and regulators.

(6) The methods for providing an airlock and methods for providing breathable air in the airlock, except where adequate positive pressure is maintained.

(7) The methods for providing sanitation facilities.

(8) The methods for harmful gas removal, if necessary.

(9) The methods for monitoring gas concentrations, including charging and calibration of equipment.

(10) The method for providing lighting sufficient for persons to perform tasks.

(11) Suitable locations of for the refuge alternatives and an affirmative statement that the locations are—

- (i) Not within direct line of sight of the working face; and
- (ii) Where feasible, not placed in areas directly across from, nor closer than 500 feet radially from, belt drives, take-ups, transfer points, air compressors, explosive magazines, seals, entrances to abandoned areas, and fuel, oil, or other flammable or combustible material storage. However, the operator may request and the District Manager may approve an alternative location in the ERP

if mining involves two-entry systems or yield pillars in a longwall that would prohibit locating the refuge alternative out of direct line of sight of the working face.

(12) The maximum mine air temperature at each of the locations where refuge alternatives are to be placed.

(b) For a refuge alternative consisting of 15 psi stoppings constructed prior to an event in a secure space and an isolated atmosphere, the ERP shall specify that—

(1) The breathable air components shall be approved by MSHA; and

(2) The refuge alternative can withstand exposure to a flash fire of 300 degrees Fahrenheit (°F) for 3 seconds and a pressure wave of 15 pounds per square inch (psi) overpressure for 0.2 seconds.

(c) If the refuge alternative sustains persons for only 48 hours, the ERP shall detail advanced arrangements that have been made to assure that persons who cannot be rescued within 48 hours will receive additional supplies to sustain them until rescue. Advance arrangements shall include the following:

(1) Pre-surveyed areas for refuge alternatives with closure errors of less than 20,000:1.

(2) An analysis to indicate demonstrate that the surface terrain, the strata, the capabilities of the drill rig, and all other factors that could affect drilling are such that a hole sufficient to provide required supplies and materials reliably can be promptly drilled within 48 hours of an accident at a mine.

(3) Permissions to cross properties, build roads, and construct drill sites.

(4) Arrangement with a drilling contractor or other supplier of drilling services to provide a suitable drilling rig, personnel and support so that a hole can be completed to the refuge alternative within 48 hours.

(5) Capability to promptly transport a drill rig to a pre-surveyed location such that a drilled hole would be completed and located near a refuge alternative structure within 48 hours of an accident at a mine.

(6) The specifications of pipes, air lines, and approved fans or approved compressors that will be used.

(7) A method for assuring that within 48 hours, breathable air shall be provided.

(8) A method for assuring the immediate availability of a backup source for supplying breathable air and a backup power source for surface installations.

(d) The ERP shall specify that the refuge alternative is stocked with the following:

(1) A minimum of 2,000 calories of food and 2.25 quarts of potable water per person per day in approved containers sufficient to sustain the maximum number of persons reasonably expected to use the refuge alternative for at least 96 hours, or for 48 hours if advance arrangements are made under paragraph (c) of this section;

(2) A manual that contains sufficient detail for each refuge alternative or component addressing in-mine transportation, operation, and maintenance of the unit;

(3) Sufficient quantities of materials and tools to repair components; and

(4) First aid supplies.

### **§ 75.1508 Training and records for examination, maintenance, and repair of refuge alternatives and components.**

(a) Persons examining, maintaining, or repairing refuge alternatives and components shall be instructed in how to perform this work.

(1) The operator shall assure that all persons assigned to examine, maintain, and repair refuge alternatives and components are trained.

(2) The mine operator shall certify, by signature and date, the training of persons who examine, maintain, and repair refuge alternatives and components.

(b) At the completion of each repair, the person conducting the maintenance or repair shall make a record of all corrective action taken.

(c) Training certifications and repair records shall be kept at the mine for one year.