U.S. Department of Labor

Office of Inspector General—Office of Audit

REPORT TO THE MINE SAFETY AND HEALTH ADMINISTRATION

DESPITE PAST SUCCESS, MSHA'S MINE EMERGENCY RESPONSE PREPAREDNESS HAMPERED BY PERSISTENT ISSUES

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BRIEFLY...

DESPITE PAST SUCCESS, MSHA'S MINE EMERGENCY RESPONSE PREPAREDNESS HAMPERED BY PERSISTENT ISSUES

Why We Did the Audit

When a mine experiences an emergency, a well-executed response can save lives. Federal law requires mine operators to notify the Mine Safety and Health Administration (MSHA) within 15 minutes of finding out about an accident. MSHA then decides which, if any, resources to deploy. Insufficient planning, personnel, equipment, or training on the part of MSHA could hamper its mine emergency response and jeopardize the rescue of miners in need.

In response to the deaths of miners during three mine accidents in 2006, Congress required that operators develop mine emergency response plans. However, a prior OIG audit found MSHA had not provided adequate oversight of the development of these plans. Given this concern, as well as the inherent risk associated with mine rescue activities, we performed an audit to determine:

> To what extent did MSHA respond to mine emergencies and prepare for future emergencies?

To answer this question, we interviewed MSHA personnel and stakeholders and analyzed MSHA data for fiscal years 2018 through 2023.

Read the Full Report

For more information, go to: https://www.oig.dol.gov/public/reports/oa/2026/05-26-001-06-001.pdf.

What We Found

While stakeholders generally reported positive feedback on MSHA's response to past mine emergencies, we found MSHA needs to improve its preparedness, including correcting issues identified from prior emergencies. First, we found MSHA may have wasted up to $9.5 million on a contract to move mine emergency personnel, equipment, and vehicles—moves that never fully happened due to poor planning. Second, MSHA's data for mine emergency operations was unreliable, affecting MSHA's ability to report accurate spending data and potentially resulting in four Antideficiency Act violations (see Table).

Table: Potential Antideficiency Act Violations

Fiscal Year	MSHA Revised Totals Provided to the OIG	OIG-Identified Estimated Costs	Potential Violation?
2019	$1,317,600	$2,500,000	Yes
2020	$1,017,600	$3,000,000	Yes
2021	$1,704,523	$2,800,000	Yes
2023	$1,152,600	$2,100,000	Yes

Source: MSHA-provided costs and MSHA contracts

Third, we found MSHA can improve communication with the mining industry, including for issues with equipment interoperability. Fourth, MSHA could not provide accident investigation documentation required by its guidance. Finally, fifth, MSHA remains vulnerable to issues identified from previous mine disasters, specifically: (1) keeping guidance up to date; (2) appropriately issuing withdrawal orders; (3) ensuring equipment availability at mine rescue stations during emergencies; (4) sufficiently training all staff involved with emergencies; and (5) conducting after-action reviews.

These issues occurred because MSHA did not effectively design or execute aspects of its internal control system, such as providing supervisory oversight and developing or following guidance. As a result, MSHA's mine emergency response preparedness—including oversight of the program and planning for future emergencies—was hampered. Insufficient emergency preparedness could lead to unnecessary delays or confusion in MSHA's response. Further, we are concerned that MSHA may be insufficiently prepared to handle multiple simultaneous mine emergencies, or a larger mine emergency, such as a mine disaster.

What We Recommended

We made 1 recommendation to the Secretary of Labor to investigate the potential Antideficiency Act violations and 11 to MSHA to improve its mine emergency response program. The latter included developing cost tracking, guidance, training, and new system controls, among others. MSHA agreed with all but two of our recommendations.

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This report presents the results of the U.S. Department of Labor (Department or DOL) Office of Inspector General's (OIG) audit of the Mine Safety and Health Administration's (MSHA) mine emergency operations. When a mine experiences an emergency, a well-executed response can save lives. Federal law[1] requires mine operators to notify MSHA within 15 minutes of knowledge of an accident. Based on the information MSHA receives about mine emergencies, MSHA decides which, if any, of its resources to deploy to the mine emergency. Insufficient planning, personnel, equipment, or training could hamper MSHA's ability to respond quickly and effectively to mine emergencies.

In response to the loss of miners during three mine accidents in 2006, Congress updated the Federal Mine Safety and Health Act of 1977 (Mine Act) to require operators to develop mine emergency response plans. A 2017 OIG audit[2] found MSHA had not conducted adequate oversight of these plans. Further, as of August 2025, MSHA had not implemented corrective actions for six of nine of the recommendations issued in the prior report. The inherent risk with mine emergencies would increase if MSHA was not properly conducting its response activities. Given these concerns, we conducted a performance audit to answer the following question:

[1] Title 30 C.F.R. § 50.10
[2] MSHA Needs to Provide Better Oversight of Emergency Response Plans, Report No. 05-17-002-06-001 (March 31, 2017), available at: https://www.oig.dol.gov/public/reports/oa/2017/05-17-002-06-001.pdf

To what extent did MSHA respond to mine emergencies and prepare for future emergencies?

To answer this question, we interviewed MSHA personnel and key stakeholders involved in mine emergency response, reviewed MSHA guidance and processes, and analyzed MSHA data for Fiscal Year (FY) 2018 through FY 2023 (audit period). See Appendix A for more information on scope and methodology.

RESULTS

While stakeholders reported generally positive feedback on MSHA's response to past mine emergencies, we found MSHA needs to improve its preparedness, including correcting issues identified from prior emergencies.

During our audit, stakeholders from state mining agencies and unions reported MSHA's mine emergency personnel were well-trained and equipped and shared mostly positive experiences of past MSHA responses. In addition, stakeholders generally relayed they had positive working relationships with MSHA. We were informed that MSHA's response capabilities were the best in the mining industry and the knowledge MSHA provides is critical to effective mine emergency response. However, we found five key areas for MSHA's improvement as it relates to preparedness for future mine emergencies.

First, we found MSHA may have wasted an estimated $9.5 million on a contract to move mine emergency personnel, equipment, and vehicles—moves that never fully happened due to poor planning. As such, we identified this amount as funds put to better use. Second, MSHA data for mine emergency operations was unreliable, affecting MSHA's ability to accurately report its fiscal performance and potentially resulting in Antideficiency Act violations for 4 of the 6 years of our audit period.

Third, we found MSHA can improve its communication with the mining industry, specifically regarding mine rescue contests and issues with underground communications caused by equipment interoperability. Fourth, MSHA could not provide accident investigation documentation required by its guidance when opening an accident investigation event. Finally, fifth, MSHA remains vulnerable to issues identified from prior mine disasters. Specifically, those uncorrected issues fall under five categories: (1) keeping guidance up to date, (2) appropriately issuing withdrawal orders, (3) ensuring equipment and vehicle availability at mine rescue stations during emergencies, (4) sufficiently training all staff involved with mine emergencies, and (5) conducting emergency response after-action reviews.

These issues occurred because MSHA did not effectively design or execute aspects of its internal control system, such as providing supervisory oversight and developing or following guidance. As a result, MSHA's mine emergency response preparedness—including oversight of the program and planning for future emergencies—was hampered. Insufficient emergency preparedness could lead to unnecessary delays or confusion in MSHA's response. Further, we are concerned that MSHA may be insufficiently prepared to handle multiple simultaneous mine emergencies or a larger mine emergency, such as a mine disaster.[3] In interviews, some MSHA personnel cited MSHA's staffing challenges and expressed similar concerns about the agency's preparedness.

MSHA Potentially Wasted up to an Estimated $9.5 Million to Move Mine Emergency Personnel, Equipment, and Vehicles—Moves that Never Fully Happened

We found MSHA spent[4] an estimated $9.5 million that supported mine rescue and recovery activities on a contract for planned moves that never fully happened. Contract costs included facilities construction and renovation for mine emergency personnel, equipment, and vehicles. We identified this amount as funds put to better use (see Exhibit 1).

Specifically, in 2020, MSHA issued a contract valued at over $10 million to construct two new buildings and renovate five existing buildings in West Virginia. The contract was part of a plan to

WHAT IS WASTE?

- **Waste occurs when** government resources are expended carelessly, extravagantly, or without adequate purpose;
- **Waste involves** unnecessary costs due to inefficient or ineffective practices, systems, or controls; and
- **Waste can result in** substantial losses as well as diverting availability of funds.

Regarding waste, program officials are responsible for: considering the potential for waste that may impact objectives and responding to effectively mitigate any risks.

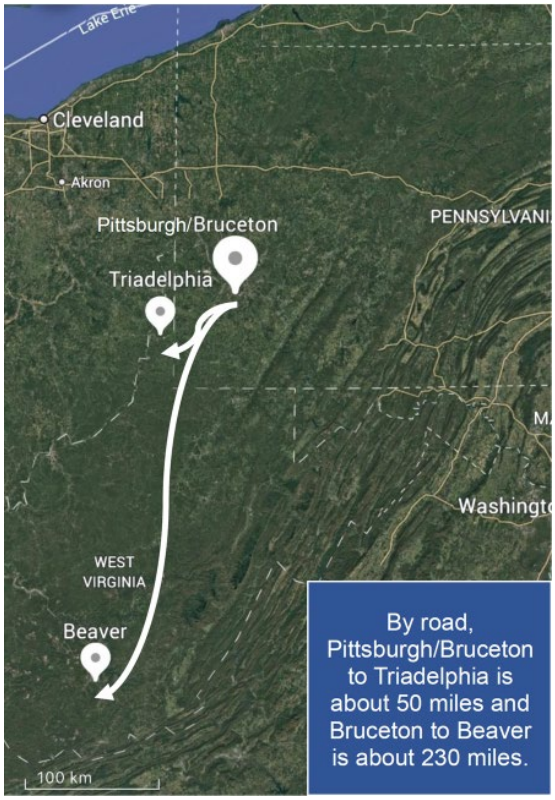
[3] Historically, the term "mine disaster" has applied to mine accidents claiming five or more lives.
[4] See sidebar for description of waste in government programs, summarized from the U.S. Government Accountability Office, "Understanding Waste in Federal Programs," GAO-24-107198 (May 2024), available at: https://www.gao.gov/assets/gao-24-107198.pdf.

move some emergency operations from space provided[5] by another federal agency to MSHA facilities in Triadelphia and Beaver, West Virginia.

MSHA planned to move:

1. an existing office from Bruceton, Pennsylvania (a suburb of Pittsburgh) into buildings at the two West Virginia locations; and

2. emergency vehicles and equipment from the Pittsburgh mine rescue station to a new building in Triadelphia.



The sidebar graphic depicts the direction of MSHA's planned moves from Pennsylvania to the two West Virginia locations. The contract also covered approximately $0.7 million not related to mine rescue and recovery activities that was associated with upgrading the Mine Academy complex in Beaver.

The work identified in MSHA's construction and renovation contract was completed in November 2023. However, MSHA chose not to transfer personnel, mine emergency vehicles, and equipment into the facilities. In the contracting file we found that, in September 2020, MSHA awarded a separate contract valued at approximately $302,800 to move office furniture, equipment, boxed materials, and supplies to Triadelphia and Beaver by March 2021. Then, MSHA later canceled the moves. The contracting file stated the moving contract expired on July 2021 and MSHA advised that the services were no longer required. By August 2022, MSHA had de-obligated most of the funds for the moving contract, resulting in approximately $2,700 remaining obligated on the contract. The de-obligation of the moving contract indicated to us that the moves did not occur.

Additionally, we found corroborating evidence in the contracting file documents we examined. The documents stated the original plan was to close the Bruceton office and move the existing lab casework and equipment from that office to Beaver, West Virginia. However, the documents stated that because the

[5] The acquisition plan and market research documents for the contract stated MSHA was making payments to lease this space at one point.

Bruceton office remained open, additional lab casework and equipment is needed for the laboratory in Beaver to make it fully functional.

During a site visit to Pittsburgh in summer 2024, the audit team interviewed personnel. These interviews further supported that the moves had not taken place. According to MSHA personnel, the moves did not occur due to poor planning. As a result of canceling the moves, MSHA is still paying costs related to space provided by another federal agency while new and renovated space remains unused. Therefore, we identified the estimated $9.5 million for the construction and renovation of facilities as funds put to better use.

The government needs to be good stewards of taxpayer funds. The U.S. Government Accountability Office has previously reported that potential causes of waste may include personnel not following policies and statutes or program officials not establishing adequate oversight procedures. Any potential waste of MSHA funds is especially concerning given MSHA leadership has previously told the OIG it had not performed critical mission requirements—such as conducting mandatory inspections at operational mines in the Pacific Territories—due to funding constraints.[6] Additionally, MSHA leadership indicated a lack of funding for mine emergency operations, including routine maintenance costs, was impacting other mission functions. Specifically, resources had to be reallocated from other functions to the mine rescue stations to slowly add functionality and maintain the specialized equipment. The functions impacted included conducting mandatory inspections, investigations of fatal and serious accidents, and responding to hazardous condition complaints.

During our exit conference, MSHA personnel told us they had identified alternative uses for some of the new and renovated spaces and would find alternative uses for the others. However, they did not provide any documentation to support this claim. MSHA's need to find alternative uses for these spaces supports our position that the associated funds must be put to better use.

Unreliable MSHA Data May Have Resulted in Four Antideficiency Act Violations

We found MSHA was not sufficiently tracking its costs for mine rescue and recovery activities to ensure compliance with the corresponding threshold in its appropriations acts. As a result, MSHA potentially violated the Antideficiency Act

[6] Alert Memorandum: Urgent Concerns for Miner Safety and Health in At Least Three U.S. Territories: MSHA Has Never Conducted Mandatory Inspections and Conducted Inappropriate Oversight of Mines in the Pacific Territories, Report No. 05-25-002-06-001 (November 12, 2024), available at: https://www.oig.dol.gov/public/reports/oa/2025/05-25-002-06-001.pdf

during four fiscal years within our audit scope. We also found MSHA personnel were not properly using activity codes for mine emergency operations. The improper use of activity codes negatively impacted MSHA's ability to provide oversight of its mine emergency operations program and identify these fiscal reporting issues. Further, the improper use of activity codes hampered MSHA's ability to effectively use the codes to identify Mine Safety and Health Enforcement (Enforcement) costs related to potential Antideficiency Act violations. Ultimately, these issues occurred because MSHA lacked financial and system controls and provided insufficient guidance and training to its staff.

MSHA Was Not Sufficiently Tracking its Costs for Mine Rescue and Recovery Activities to Ensure Compliance with Appropriations Acts

MSHA appropriations acts[7] for FY 2018 through FY 2023 provided up to $2 million for "mine rescue and recovery activities"[8] each fiscal year. However, MSHA had not implemented financial controls to effectively track its compliance with the $2 million threshold. The Government Accountability Office's Principles of Federal Appropriations Law[9] states that, if the appropriation includes a specific amount for a particular object, then the appropriation establishes a maximum that may not be exceeded. If an agency exceeds the maximum established by the appropriation, they violate the Antideficiency Act.[10]

When we requested MSHA's mine rescue and recovery activities costs for FY 2018 through FY 2023, MSHA only provided costs within the Technical Support cost category and did not include other program area costs such as those for Enforcement. Despite MSHA only providing costs for Technical Support, the costs provided for each fiscal year exceeded the $2 million threshold. After we requested supporting details for the cost information

[7] Public Law 115-141 "Consolidated Appropriations Act, 2018," March 23, 2018; Public Law 115-245 "Department of Defense and Labor, Health and Human Services, and Education Appropriations Act, 2019 and Continuing Appropriations Act, 2019," September 28, 2018; Public Law 116-94 "Further Consolidated Appropriations Act, 2020," December 20, 2019; Public Law 116-260 "Consolidated Appropriations Act, 2021," December 27, 2020; Public Law 117-103 "Consolidated Appropriations Act, 2022," March 15, 2022; and Public Law 117-328 "Consolidated Appropriations Act, 2023," December 29, 2022

[8] The appropriations acts did not define "mine rescue and recovery activities." For our analysis, we included costs associated with responding to specific events as well as fixed costs related to mine emergency response such as purchase, storage, and maintenance costs for vehicles and equipment.

[9] Government Accountability Office, Principles of Federal Appropriations Law, 3rd edition, Volume II, GAO-06-382SP (February 2006), available at: https://www.gao.gov/assets/2019-11/202819.pdf

[10] 31 U.S.C. §1341

provided, a Technical Support official stated they could not find the supporting documentation for costs because MSHA had used historical spend plans[11] to identify the costs—instead of actual financial obligation data—and could no longer find the notes. After reanalyzing the historical spend plans, Technical Support officials provided revised, significantly lower costs for their program area (see Table 1). MSHA did not provide an explanation for why the revised costs were significantly lower.

Table 1: MSHA-Reported Mine Rescue and Recovery Activities Costs for Technical Support Only (by Fiscal Year), FY 2018 through FY 2023

Fiscal Year	Initially Reported Costs	Revised Reported Costs	Differences
2018	$2,662,996	$805,600	-$1,857,396
2019	$3,112,236	$1,317,600	-$1,794,636
2020	$2,803,741	$1,017,600	-$1,786,141
2021	$3,803,416	$1,704,523	-$2,098,893
2022	$2,590,949	$988,600	-$1,602,349
2023	$2,387,335	$1,152,600	-$1,234,735

Source: MSHA Technical Support

MSHA was unable to provide accurate costs for mine rescue and recovery activities because it had not developed sufficient financial controls to track costs for compliance within the $2 million threshold. While MSHA had established financial categories (e.g., cost centers[12]) to identify specific “mine emergency operations” costs for Technical Support, it had not sufficiently established cost centers to capture those costs for other related MSHA program areas (e.g., Enforcement, Program Evaluation and Information Resources). While MSHA established a cost center specifically for the Mine Emergency Operations division within Technical Support, a Technical Support official indicated that the Technical Support personnel were not properly assigning costs to cost centers. This meant costs relevant to mine rescue and recovery activities were also included in general Technical Support cost centers rather than in the cost center

[11] Government organizations can use spend plans to identify how they will obligate or expend appropriations.

[12] MSHA developed cost centers to represent MSHA program areas and components of each area. For example, Technical Support had a cost center, in addition to cost centers for its four components: (1) Approval and Certification Center, (2) Safety & Health Technology Center, (3) Mine Emergency Operations within the Safety & Health Technology Center, and (4) Technical Support overhead and a reimbursables account.

established specifically for the Mine Emergency Operations division within Technical Support. This created challenges for Technical Support personnel when tasked with quickly and accurately identifying the relevant costs associated with mine rescue and recovery activities.

In addition, we identified contracts with mine rescue and recovery activity costs assigned to cost centers for other MSHA program areas such as Enforcement. Because MSHA had not established appropriate cost centers for all its program areas, the program areas were unable to easily identify and track the applicable costs without manually reviewing individual records. For example, MSHA had assigned the costs for mine emergency vehicle and equipment storage in a 2020 contract to cost centers for two program areas not normally involved in mine emergency operations: (1) Assessments and (2) Administration and Management.

Our analysis of MSHA contracts identified mine rescue and recovery activity costs associated with other Technical Support cost centers, and other program areas, including:

- In 2019 and 2020, costs to provide satellite phone services where cell phone signals and other communications are extremely limited or non-existent. MSHA staff charged these costs to a cost center for Program Evaluation and Information Resources;

- In 2020, 2021, and 2023, costs to construct and renovate buildings to move mine emergency vehicles and equipment and transfer mine emergency unit (MEU) and mine emergency technology team (METT) personnel. MSHA staff charged these costs to cost centers for various program areas, including Administration and Management, Enforcement, Assessments, and Program Evaluation and Information Resources;

- In 2021, costs for a seismic truck to haul equipment and personnel that is capable of rescuing trapped miners. MSHA staff charged these costs to a cost center for the Pittsburgh Safety & Health Technology Center within Technical Support;

- In 2023, costs to build a communications trailer to transport mine emergency communications equipment to mine sites and provide workspace for information technology staff supporting mine emergency response efforts. MSHA staff charged these costs to a cost center for Program Evaluation and Information Resources; and

- Yearly, costs for space that Technical Support staff on the MEU and METT occupied at another federal agency. MSHA staff charged these

costs to a cost center for the Pittsburgh Safety & Health Technology Center within Technical Support.

After adding relevant mine rescue and recovery activity costs we identified to the revised costs MSHA reported, we estimated[13] total mine rescue and recovery costs for each fiscal year. We found MSHA may have spent more than $2 million during four separate fiscal years for costs related to mine rescue and recovery activities (see Table 2). Therefore, MSHA potentially violated the Antideficiency Act four times.

Table 2: OIG-Calculated Mine Rescue and Recovery Activities Costs by Fiscal Year, FY 2018 through FY 2023

Fiscal Year	MSHA Revised Totals Provided to OIG	OIG-Calculated Estimated Costs	Potential Violation of Antideficiency Act?
2018	$805,600	$1,500,000	No
2019	$1,317,600	$2,500,000	Yes
2020	$1,017,600	$3,000,000	Yes
2021	$1,704,523	$2,800,000	Yes
2022	$988,600	$1,300,000	No
2023	$1,152,600	$2,100,000	Yes

Source: MSHA provided costs and MSHA contracts

Additionally, we found MSHA excluded some personnel costs it had assigned to the Mine Emergency Operations cost center. While we did not include these costs in our estimates because it would have required additional analysis, including them would have resulted in MSHA potentially violating the Antideficiency Act every fiscal year within our audit scope.

The Antideficiency Act prohibits federal employees from making or authorizing an expenditure from, or creating or authorizing an obligation under, any appropriation or fund in excess of the amount available in the appropriation or fund unless authorized by law.[14] In this situation, the language in MSHA's

[13] Due to insufficient data provided by MSHA, our estimates do not include costs for other program areas (e.g., Enforcement) to train or be on-site at the mine emergency. We only included contract costs identified for other program areas. In addition, our estimates may be understated due to not including a portion of costs for equipment (e.g., sampling and laboratory supplies such as gasses, tubing, and bags) used by METT personnel for both mine emergencies and normal job duties.

[14] 31 U.S.C. § 1341(a)(1)(A)

appropriations acts limited its "mine rescue and recovery activities" costs to a maximum of $2 million each fiscal year.

DOL will need to determine if MSHA violated the Antideficiency Act. If our concerns are validated, federal law requires the Department to: (1) report immediately to the President and Congress all relevant facts and a statement of actions taken and (2) provide a copy of each report to the Comptroller General on the same date the report is transmitted to the President and Congress.[15]

In response to this issue, MSHA leadership stated they disagreed with the need for an investigation because they felt the OIG had used a flawed interpretation of the appropriations language. Specifically, they indicated that MSHA had a long-standing policy that the appropriations language only applied to costs incurred when responding to a specific mine accident or disaster where "rescue and recovery activities" are needed and MSHA's investment in maintaining its capacity to respond to a mine accident was covered under the agency's regular appropriation.

While the appropriations language is unclear, MSHA's actions, or lack thereof, indicate the agency had no long-standing policy that the appropriations language only applied to costs incurred when responding to a specific mine accident or disaster. First, MSHA was not tracking the total costs related to the appropriation limits. This meant MSHA was budgeting for the costs as part of its normal operating budget for each of its program areas. Second, MSHA personnel were confused on what costs qualified as "mine rescue and recovery activities," which contributed to the large discrepancies in costs in the data MSHA provided in response to the OIG's inquiries. Third, MSHA did not define "mine rescue and recovery activities" in any of its guidance.

During the audit, Technical Support leadership indicated they had started taking corrective action during the audit. Specifically, they stated MSHA provided refresher training to the purchasing points of contact within Technical Support regarding the application of correct accounting codes. Further, Technical Support's leadership said they had established additional touchpoints between headquarters' budget staff and the divisions to allow for earlier identification and correction of any accounting errors.

While Technical Support has taken some corrective actions, additional potential violations could occur if MSHA does not ensure: (1) each program area has sufficient financial controls to track costs for limitations (e.g., "mine rescue and recovery activities") identified in MSHA's appropriations language and (2) that

[15] 31 U.S.C. § 1351

MSHA personnel fully understand what qualifies as “mine rescue and recovery activities” costs.

After the exit conference, MSHA officials informed us they had taken additional corrective actions to create accounting codes related to mine emergency operations for fiscal years 2025 and 2026.

Enforcement Personnel Were Not Properly Using System Codes Relevant to Mine Emergency Operations

We found Enforcement personnel were not properly using activity codes for reporting mine emergency operations activity (see Exhibit 2 for a list of relevant codes). Activity codes allow Enforcement personnel to charge their time against a specific event, which allows MSHA to analyze the data for program oversight purposes and to identify issues. For example, according to MSHA, activity code E09 includes all rescue and recovery operations during a mine emergency and the time spent monitoring the mine environment during mine fires that are determined to be mine emergencies. We identified three issues related to MSHA’s use of these activity codes.

First, MSHA issued withdrawal orders against 18 mine emergency operations events despite the MSHA guidance explicitly stating not to do so. MSHA’s Citation and Order Writing Handbook instructs the workforce not to issue citations or orders against the E09 mine emergency operations activity code. Therefore, if MSHA personnel needed to issue a citation or order during a mine emergency, they would need to open two events simultaneously: (1) an E09 event for mine emergency operations activities and (2) an accident investigation event such as E06 for any citations or orders.

Second, we found only one MSHA district used the E09 activity code for mine emergency operations during the audit period. This district used the E09 activity code for 18 events. However, during our audit, MSHA modified the activity code for all 18 events from the E09 to the E08 activity code for non-injury accident investigations. These modifications occurred after we requested to interview management from this district.

This change resulted in MSHA’s system showing no E09 mine emergency operations events during our audit period even though MSHA personnel told us the MEU had deployed 12 times to mine emergencies during the period. Logically, we would expect certain Enforcement personnel—such as inspectors, district managers, and MEU team members—to charge time against the E09 activity code due to their roles in responding to a mine emergency. For example,

district managers are typically at the mine site approving operator plans, directing MSHA personnel, and providing oversight of the emergency operations.

Instead of using the E09 activity code for mine emergency response efforts, Enforcement personnel were only using the four activity codes related to accident investigations.[16] Because Enforcement personnel were not properly using the E09 activity code, we could not rely on MSHA's enforcement data to identify or verify mine emergencies to which its MEU personnel responded.

Third, we found Enforcement personnel did not consistently populate a key field in MSHA's time reporting system that would have shown personnel worked on mine emergencies. The system has a "task code" field that Enforcement personnel populate to identify the type of work they were doing. Our review of this field found it was often blank and, when used, personnel were using a task code for mine emergency operations—task code "O"—on non-emergency events such as mandatory inspections, spot inspections, or idle mine visits. We would normally expect MSHA personnel to charge this task code on an emergency event only, such as an E06, E07, E08, or E09.

These issues occurred because MSHA guidance did not sufficiently describe when to use activity codes and task codes related to mine emergency operations. In addition, MSHA's system lacked effective controls preventing personnel from issuing violations[17] against the E09 activity code and requiring personnel to populate the task code field when entering time charges.

Because of these issues, MSHA does not have reliable data for its mine emergency response efforts. Without reliable data, MSHA's ability to sufficiently plan for future mine emergencies and its reporting of historical mine emergency data needed for budget justification purposes was hampered. Further, the improper use of activity codes impeded MSHA's ability to effectively use the codes to identify Enforcement costs related to mine rescue and recovery activities. In our 2023 audit report,[18] the OIG identified an issue with improper activity code use in MSHA's mandatory inspections program, which indicates that the improper use of activity codes has been an ongoing and systemic issue for MSHA.

[16] E06, E07, E08, and E33
[17] The Mine Act gives MSHA the authority to issue citations and orders ("violations" is the blanket term used by MSHA) to mine operators who do not comply with health and safety standards or the Mine Act.
[18] COVID-19: MSHA Did Not Complete or Accurately Report Mandatory Inspections, Report No. 19-24-001-06-001 (October 17, 2023), available at: https://www.oig.dol.gov/public/reports/oa/2024/19-24-001-06-001.pdf

MSHA Can Improve its Communication with the Mining Industry to Enhance Mine Emergency Operations

We found two areas where MSHA can improve its communication with the mining industry: (1) mine rescue contests and (2) interoperability issues with underground communications equipment between MSHA and stakeholders. When a mine emergency occurs, various parties can be involved in response efforts, such as MSHA, the state, and the operator's mine rescue teams. Therefore, it is critical that MSHA and those stakeholders effectively work together.

MSHA Communication with the Mining Industry Regarding Mine Rescue Contests

Federal regulations require that underground coal mine operators have their mine rescue teams participate in at least two local mine rescue contests annually.[19] These contests are designed to sharpen skills and test knowledge while members are timed and observed by judges. Contest preparers rely on MSHA to provide personnel to perform required roles, including as judges and scorekeepers. The number of people working a mine rescue contest can impact the number of teams that can participate. When we spoke with stakeholders, some expressed concern with MSHA's decreased involvement and untimely communication with contest preparers regarding agency participation.

Stakeholders from 8 of the 10 states[20] we interviewed told us MSHA's contest involvement had declined or was nonexistent since the start of the COVID-19 pandemic in March 2020. MSHA's declining contest involvement was concerning to states given MSHA personnel are viewed as impartial and thus serve as judges in the effort. In addition, they noted MSHA's involvement in contests allows mining industry personnel to have informal discussions with them. Contest preparers also mentioned MSHA's lack of participation gave the impression the agency only focuses on enforcement instead of collaboration to support the industry in meeting regulatory requirements.

Further, stakeholders expressed concern that MSHA had not been providing timely information to contest preparers when they requested MSHA's assistance with events. Stakeholders informed us MSHA is often quick to acknowledge

[19] 30 C.F.R. Part 49
[20] The 10 states were Alabama, Alaska, Colorado, Illinois, Kentucky, Pennsylvania, Tennessee, Utah, Virginia, and West Virginia.

receipt of requests but does not confirm its involvement nor how many people it can send until shortly before the contest, sometimes even up to the morning of an event.

Because of these communication delays, contest preparers are either: (1) relying more on other parties to provide support or (2) limiting contest participation because they do not know how many MSHA support staff will be present. Since MSHA personnel are seen as impartial judges, stakeholders related that the use of more non-MSHA personnel as judges has led to some perceptions of bias.

Additionally, MSHA's decreased, or lack of, involvement in contests has created concerns among some within the mining industry since MSHA is not helping to ensure these required contests occur. Stakeholders also expressed that working relationships between MSHA and the mining industry has worsened due to MSHA's declining involvement.

The former Assistant Secretary of Labor for Mine Safety and Health provided the following statement:

> Currently, all resources that MSHA expends to support mine rescue training competitions and other mine emergency response operations are absorbed from existing appropriations/resources. This diminishes MSHA's ability to effectively implement its other responsibilities under the Mine Act, including sampling analysis, approval of mine equipment, necessary participation in accident investigations, and providing other required technical assistance to MSHA programs and all mines. It also creates situations where MSHA must choose between supporting mine rescue contests and its required enforcement responsibilities, including conducting mandatory inspections, investigations of fatal and serious accidents, responding to hazard condition complaints, and investigating miners' discrimination complaints.

Further, MSHA officials and stakeholders noted MSHA had been closely monitoring each district's ability to complete its mandatory inspections and requiring districts to obtain headquarters' approval to participate in mine rescue contests. While monitoring MSHA involvement due to staffing concerns is understandable, MSHA's untimely or lack of communication to stakeholders regarding contest participation is causing challenges and can be improved. The stakeholders would benefit if MSHA was timely and transparent about its expectations for personnel to assist with mine rescue contests.

To help support its mine rescue activities, MSHA's former Assistant Secretary informed us MSHA included a request for $1 million in its FY 2026 budget

request. This additional funding would support staffing and participation in mine rescue contests. In addition, the former Assistant Secretary stated MSHA included a proposal to amend the Mine Act to allow MSHA to retain $5 million in civil penalties annually to support mine emergency operations and mine rescue training contest support. However, these two items were not included in the Department's FY 2026 budget request.

MSHA Communication with the Mining Industry Regarding Compatibility Gaps in Wireless Communications Systems

Seven of the 10 states interviewed indicated they would need to borrow MSHA equipment during a mine emergency because their communications equipment would not be compatible with MSHA's secure wireless underground communications system. Specifically, states did not have the same type of equipment as MSHA or their equipment lacked encryption capability. Encryption capability allows teams to communicate freely with personnel at the surface without fear of media, families, or others hearing information shared during emergency response efforts.

Information communicated on this equipment during the course of an emergency may not be complete or accurate, and the interception of such information has caused issues in the past. For example, MSHA's internal review for the mine disaster at Sago Mine identified that, due to a lack of secure communications, many people overheard an erroneous message that all 12 miners were alive. Unfortunately, this was not true as only one miner survived and the misinformation had reached the families.

State personnel listed funding challenges as a reason they had not upgraded to equipment with encryption capability similar to MSHA's. Until stakeholders upgrade their equipment, they will need to use MSHA's equipment during a mine emergency. While MSHA said it has been able to accommodate this need during past emergencies, we are concerned whether MSHA will have enough equipment to accommodate all parties requiring an encrypted device during future mine disasters. Specifically, we are concerned that, if multiple emergencies occur simultaneously—such as in 2006 at the Sago[21] and Aracoma[22] mines—MSHA would be unable to accommodate all parties' equipment needs.

[21] On January 2, 2006, an explosion occurred at Sago Mine in West Virginia resulting in 12 miner fatalities and serious injury to another miner.
[22] On January 19, 2006, an underground coal mine fire occurred at Aracoma Alma Mine #1 in West Virginia resulting in two miner fatalities.

MSHA Could Not Prove It Was Conducting Certain Accident Investigations

To identify mine emergencies MSHA responded to during the audit period, we analyzed activity codes for accident investigations.[23] We found MSHA's database was incomplete and the agency could not provide evidence to support it performed accident investigations for many missing database entries. In addition, we identified concerns with how inspectors were issuing withdrawal orders related to accident investigations. These issues affect the reliability of MSHA's investigations data and MSHA's ability to accurately report this data. In addition, not performing accident investigations hampers MSHA's ability to identify root causes of accidents and potentially issue violations to mine personnel or issue alerts to the mining industry that could save miners' lives.

The Mine Act requires authorized representatives of the Secretary of Labor to make frequent inspections and investigations to obtain, use, and disseminate information relating to the causes of accidents, among other things.[24] One method MSHA used to complete this requirement was through accident investigations. MSHA's Accident Investigation Procedures Handbook allows the District Manager to choose whether to investigate an accident. If a decision is made to investigate, the guidance requires enforcement personnel to complete accident investigation documentation (e.g., MSHA Form 7000-50) for events reported under the three chargeable accident investigation activity codes (E06/07/08).[25]

We found approximately 1,930 of more than 3,650 accident events occurring during FY 2018 through FY 2023 lacked accident investigation information in the database. Further, MSHA could not provide accident investigation documentation for more than 75 of the approximately 120 fatal accidents lacking database information,[26] which indicates MSHA may not have been performing accident

[23] It was necessary to analyze accident investigation data because MSHA personnel were not properly using the activity code for reporting mine emergency operations activity (E09).
[24] Section 103(a)
[25] MSHA's Accident Investigation Procedures, December 2020, states, "completion of the appropriate Form 7000-50 and entry into the database is required for all investigation events coded E06, E07, or E08. Non-chargeable accidents investigated under an E33 code should not be entered into the database." A non-chargeable accident is one that is not chargeable to the mining industry, such as those involving trespassers, suicides, homicides, natural causes (e.g., heart attack) not brought about by an occupational hazard or exposure, or where the incident resulting in death did not occur on mine property or did not result from activity on mine property.
[26] We limited our request due to the large quantity of missing database entries. Of the three activity codes we analyzed, E06 was the highest risk (i.e., fatalities).

investigations. This issue shows MSHA personnel were not aware of, or simply did not follow, MSHA guidance.

We also identified 147 withdrawal orders specifically used for accident events that were issued against non-emergency events, such as mandatory inspections, spot inspections, and technical investigations for roof control or ventilation purposes. Our review of the orders identified situations that MSHA should have investigated. However, MSHA was only able to provide accident investigation documentation for five of the events (3 percent). This issue reflects that MSHA supervisors were not performing sufficient oversight of what activity codes the inspectors were issuing orders against. For any emergencies that required an investigation, inspectors should have issued the orders on events with an accident investigation activity code. For emergencies where the district manager decides not to investigate the accident, MSHA needs to clarify for which activity code(s) it wants inspectors to issue the orders while allowing it to fully and accurately capture mine emergency data.

These issues generally occurred for two reasons. First, MSHA personnel were not aware of, or simply did not follow, MSHA guidance while supervisors did not perform sufficient oversight of the orders. Second, districts chose to issue withdrawal orders on already opened events (e.g., mandatory inspections, spot inspections) rather than creating an additional event with an accident investigation activity code.[27] For example, the inspector may already have an ongoing mandatory inspection event (E01) open at a mine when an accident takes place. Instead of creating an additional event (e.g., E06) for the accident and issuing the withdrawal order using that activity code, the inspector issues the withdrawal order on the existing mandatory inspection event (E01).

MSHA guidance does not require accident investigation documentation to be completed for events with mandatory inspection activity codes (i.e., E01) like it does for events with an accident investigation activity code (e.g., E06/07/08). Failure to perform or document accident investigations impairs MSHA's ability to identify the root cause of accidents, inform corrective actions for the operator, and potentially issue violations to mine personnel.

MSHA also uses accident investigation information to determine whether to issue alerts to the mining industry, which can save lives. For example, in March 2025, MSHA issued two safety alerts referencing fatalities. The first alert related to fall protection and referenced seven miners who died during 2022 to 2024 after falling from heights. The second alert focused on the alarming number of fatalities that had occurred to date within the mining industry. This alert referenced 10 miner fatalities that occurred between January 3, 2025, and

[27] E06, E07, and E08

March 5, 2025, more than triple the number for the same period in 2024, and identified the causes of the fatalities. Having an incomplete accident investigation database due to missing entries impacts MSHA's ability to identify and issue helpful alerts like these.

In addition, data accuracy issues impact the reliability of MSHA's data for mine emergencies, the accuracy of MSHA's reporting to Congress and the public, and the reliability of supporting data for calculating and justifying mine emergency costs in MSHA's budget requests.

MSHA Remains Vulnerable to Issues Identified During Previous Mine Disasters

We found MSHA remains vulnerable to issues identified during prior mine disasters in five key areas:

1. issuing withdrawal orders appropriately,
2. conducting and documenting after-action reviews after emergency response efforts,
3. keeping guidance up to date,
4. sufficiently training all staff involved with mine emergencies, and
5. ensuring equipment availability during emergencies.

These issues occurred because of inadequate guidance and processes, insufficient training, lack of management emphasis, and failure to clearly define requirements for training, vehicles, and equipment needed to ensure an effective MSHA response to mine emergencies. These issues can hamper MSHA's planning for future mine emergencies, which could result in unnecessary delays or confusion in MSHA's response to a mine emergency. In addition, MSHA may not be prepared to effectively handle a larger mine emergency, such as a mine disaster, or multiple simultaneous emergencies if it does not address these vulnerabilities.

During our audit, one stakeholder shared similar concerns regarding MSHA's preparedness. After a mine emergency took place, the stakeholder had communicated with MSHA's Enforcement leadership about concerns with response efforts. Due to these concerns, the stakeholder told MSHA the event highlighted one of their greatest fears—the mining industry is not properly prepared or equipped for a major catastrophic event requiring mine rescue. While the event the stakeholder discussed was not a mine disaster itself, we found it was the longest lasting event and probably the closest emergency to a major mine emergency that MSHA experienced during our audit scope.

MSHA Inappropriately Issued Withdrawal Orders During Mine Emergencies

After MSHA is notified[28] of an emergency, the agency can issue a withdrawal order to ensure miners are removed from an area where unsafe conditions exist. Types of withdrawal orders issued for mine emergencies include:

- 103(k) orders that require MSHA to be present at the mine at the time of issuance and operators to obtain MSHA approval for plans to recover a person in the mine or return the affected areas of a mine to normal conditions, and

- 103(j) orders that do not require MSHA to be present at the mine at the time of issuance but can only be issued when rescue and recovery activities are necessary and MSHA is allowed to supervise and direct rescue and recovery activities.

We found MSHA personnel inappropriately issued ten 103(k) withdrawal orders by phone, thus violating the Mine Act due to the inspectors not being present at the mine at issuance. Also, MSHA issued more than 200 withdrawal orders verbally or orally; however, the orders lacked clarity about whether the inspector was present at the mine at issuance.

Improperly issuing 103(k) orders by phone has been previously identified as a concern. MSHA's independent review report for the Crandall Canyon[29] mine disaster in 2007 identified the issue of an inspector inappropriately issuing 103(k) withdrawal orders by phone. The report stated:

> …there may be times [during a mine emergency], before MSHA arrives [at the mine], that the operator's actions after the occurrence of a mine emergency could be a matter of life or death. If MSHA has issued a verbal §103(k) order but is not on-site to evaluate and approve such actions, the operator may be forced to withdraw from the mine and cease the rescue effort in order to comply with the §103(k) order. Valuable time in reaching trapped or missing miners or progress toward fighting a fire could be lost.

In other words, MSHA's presence at the mine when issuing the 103(k) order is critical to ensure MSHA is making the best decision applicable to the mine emergency.

[28] See Exhibit 3 for notification requirements.
[29] The Crandall Canyon mine disaster in Utah had two accidents occur in August 2007, resulting in nine fatalities.

We also found MSHA personnel incorrectly populated the violation form[30] when issuing, modifying, or terminating both types of withdrawal orders. We analyzed 136 violations issued during the audit period involving 103(j) orders (or 103(j) order language) and found 37 instances (27 percent) where the issued order had conflicting language or entries on what type of order it was. For example, in the narrative section of the violation form, one inspector stated an unplanned roof fall accident occurred and, "as rescue and recovery work is necessary, this order is being issued, under 103(j)…" of the Mine Act. However, the inspector chose the 103(k) order entry from the violation form choices. Conflicts such as these can cause confusion for the operator about which section of the Mine Act to comply with.

These issues occurred generally because of a lack of sufficient training and a guidance deficiency. Specifically, MSHA had no requirement in its Citation and Order Writing Handbook for inspectors to document on the violation form that they were present at the mine when verbally or orally issuing 103(k) orders.

Issuing 103(k) orders before arrival at the emergency not only violates the Mine Act but also has the potential to hinder response efforts if the inspector is not on the scene to properly evaluate the situation before issuing the order. In addition, orders with conflicting language can create confusion and make them vulnerable to unnecessary legal challenges from mine operators.

Operators have previously challenged these two types of withdrawal orders on aspects such as: (1) whether rescue and recovery work needed to be involved when issuing 103(j) orders, (2) whether inspectors needed to be present at the mine when issuing 103(k) orders, and (3) whether an accident needed to be involved to issue either type of order. Therefore, it is crucial that inspectors are accurately populating violations to avoid future challenges.

During the audit, MSHA started taking corrective action on the 103(k) orders issued by phone. Enforcement leadership sent an email to the workforce reiterating the Mine Act language and providing them with the two court decisions relevant to when it is appropriate to issue 103(j) and 103(k) orders. The email directed staff not to issue either type of order by phone. This corrective action should help address this aspect of the finding.

[30] MSHA Form 7000-3 (Mine Citation/Order) and MSHA Form 7000-3a (Mine Citation/Order Continuation)

MSHA Inconsistently Documented After-Action Reviews for Its Mine Emergency Response Efforts

We found MSHA did not consistently conduct and document after-action reviews for its mine emergency response efforts. Such a review is performed after an event or emergency to address what happened and why. Although MSHA provided us with the results of such reviews from the METT, it did not provide us with any such review results for the MEU or other Enforcement personnel (e.g., District Manager) involved in mine emergency response efforts during our audit period. The lack of consistent after-action review documentation hampered MSHA's ability to effectively conduct trend analyses to identify recurring issues.

The Government Accountability Office's Standards for Internal Control in the Federal Government states "management should establish and operate monitoring activities to monitor the internal control system and evaluate the results." It further explains organizations can do this by evaluating and documenting the results of ongoing monitoring and separate evaluations to identify internal control issues.[31]

An after-action review is one way to accomplish this. The United States Army developed the concept in the 1970s to help its soldiers learn from both their mistakes and achievements. Since then, many companies have used such reviews to assess performance. Benefits of after-action reviews include strengthening teams and improving performance, inspiring innovation and better decision making, and identifying past mistakes and pain points. Further, trend analysis of multiple after-action reviews allows an organization to identify recurring issues that might require immediate attention.

The lack of documented after-action reviews occurred because MSHA did not emphasize or require them. MSHA officials told us the MEU conducts such reviews but does not document them. Further, while MSHA's 2010 version[32] of its Headquarters Mine Emergency Response Guidelines required an ad hoc review committee to evaluate MSHA's response to a "full-scale" [33] mine emergency, there was no requirement for such reviews to be done for emergencies that did not reach the "full-scale" level. None of the emergencies during our audit scope reached the full-scale level and a mine disaster has not occurred since 2010. Accordingly, it seems appropriate to include a requirement for after-action reviews for mine emergencies that did not reach the full-scale

[31] Sections 16.01 and 16.09
[32] Notably, MSHA removed the ad hoc review committee requirement from the 2025 version of its Headquarters Mine Emergency Response Guidelines.
[33] While MSHA's 2010 guidance did not define "full-scale" mine emergency, we interpreted it to be similar to a mine disaster.

level in MSHA's Mine Emergency Operations Standard Operating Procedures, which discusses the MEU and METT.

Inconsistent or non-existent after-action review documentation can lead to missed opportunities to identify areas of improvement. For example, we conducted a trend analysis of the after-action reviews we received and found MSHA had experienced recurring issues with on-site communications, equipment maintenance, on-site power, and documentation. Until MSHA identifies and addresses these issues, it is likely to continue experiencing them.

Further, MSHA's internal review report for the Sago mine disaster in 2006 identified an issue with inconsistent debriefing of MEU members. Additionally, the report for the Darby mine disaster in 2006 identified an issue with not conducting an analysis of mine rescue and recovery operations following the disaster. MSHA can use the lessons learned from these two prior reports to strengthen its after-action review process and apply corrective actions.

MSHA's Headquarters Mine Emergency Guidance Was Inaccurate and District Mine Emergency Response Plans Were Missing Key Information

While MSHA had developed Headquarters Mine Emergency Response Guidelines (headquarters' guidance), we found the guidance was outdated and inaccurate. In addition, each of MSHA's districts had developed a district Mine Emergency Response Plan; however, we found these plans were missing key information. The Government Accountability Office's Standards for Internal Control in the Federal Government states "management should implement control activities through policies."[34] Until MSHA headquarters' guidance and districts' plans are complete and accurate, the agency may not be sufficiently prepared to handle a major mine emergency, such as a mine disaster, or MSHA may experience unnecessary delays or confusion in its mine emergency response.

MSHA Headquarters' Guidance

MSHA issued its Headquarters Mine Emergency Response Guidelines in 2010. The document sets forth guidelines for MSHA headquarters and selected field

[34] Section 12.01

organizations to follow when responding to a full-scale mine emergency. We found this guidance contained inaccurate information, including:

- references to now-eliminated districts when discussing backup district manager duties,
- a listing of only three of five current storage locations for mine rescue equipment,
- a discussion of an outdated process for acquiring logistical support from the U.S. Air Force during mine emergencies, and
- references to MSHA having one designated MEU for coal mines and one designated MEU for metal and nonmetal mines, although MSHA currently only has one MEU that handles both types of mines.

Accuracy of this information is important because MSHA personnel, such as the backup district manager, need to rely on this information when responding to a mine emergency.

The guidance contained inaccurate information because MSHA had not updated the document since 2010, following the last mine disaster (Upper Big Branch).[35] In addition, MSHA did not have a sufficient process established to periodically review its guidance for necessary updates. Outdated headquarters' guidance was an issue discussed in MSHA's independent review report for the Crandall Canyon mine disaster in 2007.[36]

During the audit, MSHA started taking corrective action and provided the OIG with revised Headquarters Mine Emergency Response Guidelines in January 2025. Our review of this document found the revised headquarters' guidance corrected the issues we had identified. However, MSHA still needs to improve its process so updates to the guidance occur on a regular basis and ensure its districts' Mine Emergency Response Plans include all key information.

MSHA officials informed us they have already taken corrective actions to establish an internal process for reviewing agency guidance. The new process involves adding periodic reviews to its already existing annual revalidation process. During the reviews, each of MSHA's program areas will assess the

[35] The Upper Big Branch mine disaster occurred in April 2010 and resulted in 29 fatalities.
[36] The independent review report stated that the guidance posted on MSHA's website in 2007 was last updated in 1999. The guidance included emergency contacts at headquarters and district offices who were no longer employed by MSHA or who were in different positions within the agency.

accuracy, efficacy, and completeness of the guidance content to determine whether it needs to be updated.

MSHA District Mine Emergency Response Plans

We reviewed the district Mine Emergency Response Plans—which outline procedures for district personnel to follow when responding to a full-scale mine emergency—from each of MSHA's 15 districts and found the plans were missing key information, such as the following:

- none of the plans discussed a primary communicator role[37] while a few of the plans did not discuss the family liaison role.[38] In addition, none of the plans identified which personnel could perform these key roles, which require specialized training;

- the plans all included a list of suggested equipment, but we found the lists in some of the plans did not include equipment that would likely be common in every district. In addition, the plans did not discuss the ventilation caches strategically located near some districts; and

- none of the plans included a distribution schedule for the plan or a discussion of which district position is responsible for updating the plan when changes are needed.

MSHA policy[39] required district mine emergency response procedures to be reviewed annually and updated as necessary, with significant revisions to be approved by the appropriate administrator. When we requested the plans for our review, MSHA required 4 months to provide them. MSHA personnel told us the delay was due to the plans being updated.

We found leadership for the Enforcement program area had its Accident Investigations Division review the plans, but this review did not identify key missing information. A detailed checklist could have helped the reviewer ensure the inclusion of the missing elements we identified. Specifically, a checklist could contain the minimum elements needed in each district Mine Emergency Response Plan or indicate what needed to be revised annually. Until MSHA headquarters' guidance and districts' plans are complete and accurate, the agency may not be sufficiently prepared to handle a major mine emergency,

[37] The primary communicator role is to brief representatives of miners, the mine operator, media, and state agencies.
[38] The family liaison role is to serve as liaison to address the needs of a miner's family following a mine accident.
[39] MSHA's Administrative Program Policy Manual: Mine Emergency Response Program (January 30, 1992)

such as a mine disaster. In addition, inaccurate and incomplete guidance and plans may cause unnecessary delays or confusion in MSHA's mine emergency response.

Related to the plans, MSHA's independent review report for the Crandall Canyon mine disaster in 2007 discussed challenges with how some roles were handled and identified additional training needed for family liaisons. For example, the report noted MSHA's primary communicators failed to consistently or timely correct erroneous or unsubstantiated information or statements given by the operator during joint press briefings. In addition, MSHA's internal review report for the Upper Big Branch mine disaster in 2010 identified an issue with the family liaison role that involved not keeping a log of significant events as required by MSHA's guidance. MSHA can use the lessons learned identified in these two prior reports to strengthen its training for the family liaison role.

MSHA Has Not Defined Mine Emergency Training Requirements for Key Headquarters' Personnel

We found MSHA had not identified and documented individual member or team training requirements for its headquarters' Emergency Management Team. Per MSHA headquarters' guidance, this team provides headquarters oversight over MSHA's emergency response activities occurring at the mine for full-scale mine emergencies.

The Government Accountability Office's Standards for Internal Control in the Federal Government states: "Management should demonstrate a commitment to recruit, develop, and retain competent individuals." The standards explain one way organizations do this is by enabling "individuals to develop competencies appropriate for key roles, reinforce standards of conduct, and tailor training based on the needs of the role."[40]

Our interviews confirmed some team personnel had not participated in any training exercises to prepare them for operating during a response to a full-scale mine emergency. If all team personnel had participated in training exercises, it likely would have resulted in MSHA identifying the inaccuracies we found in its guidance document sooner. Further, such training would have likely identified updates needed to agreements supporting MSHA's mine emergency operations. For instance, during our review, we found MSHA had a memorandum of understanding with another federal agency to provide logistical support during an emergency; however, the memorandum was outdated and was no longer the correct type of agreement used by the federal agency. As a result, during the

[40] Sections 4.01 and 4.05

audit, MSHA worked with the federal agency to develop a replacement agreement.

The training gap for team personnel occurred because MSHA had focused its training mostly on MEU members and Enforcement supervisors, with METT personnel already having received training during their normal job duties. However, since 2010 when the headquarters' guidance in use during the audit's scope was published, there has been significant turnover in key MSHA headquarters' personnel. Additionally, MSHA showed confusion about who was on the headquarters team. As a result, MSHA headquarters' personnel may not be sufficiently prepared to handle a mine disaster.

Further, MSHA's independent review report for the Crandall Canyon mine disaster in 2007 had identified inadequately trained personnel. The report recommended MSHA develop a periodic training program covering a wide audience of personnel involved in a mine emergency operation. MSHA can use this previously identified recommendation to strengthen its training program and ensure all appropriate staff, including headquarters' Emergency Management Team, are sufficiently prepared to respond during a future mine emergency.

MSHA's Mine Rescue Stations Are Not Equipped with the Same Capabilities

MSHA maintains four mine rescue stations[41] throughout the United States where its mine emergency response teams[42] draw their vehicles and equipment from when responding to a mine emergency. Based on MSHA-provided information, we analyzed MSHA vehicles and equipment and found not all mine rescue stations maintained the same capabilities. Having the correct type and number of vehicles and equipment at MSHA's mine rescue stations is critical to ensure timely emergency responses and specific response capabilities.

We found the following three significant gaps:

1. The Beckley, West Virginia station did not have a mine atmosphere monitoring analysis truck;

2. The Madisonville, Kentucky station did not have a mobile gas laboratory; and

[41] The fourth mine rescue location is in Price, Utah. Due to storage limitations, some of the Price, Utah equipment is stored in Denver, Colorado.
[42] MEU and METT

3. The Pittsburgh, Pennsylvania station did not have a satellite communications trailer.

MSHA's leadership did not provide information about its expectations regarding the capabilities at each of MSHA's mine rescue stations. However, we noted an MSHA briefing from January 2017 stated, "each of the four stations [has] standardized equipment." This indicated an expectation at one point that each of MSHA's mine rescue stations did or would have the same capabilities; we do not know whether that expectation still applies.

A lack of standardized capabilities means, in an emergency, MSHA may have to deploy a capability from a mine rescue station other than the closest, potentially leading to delays in response and recovery efforts. In addition, MSHA may not be able to effectively respond to multiple simultaneous emergencies if they have competing requirements for a specific vehicle or equipment. During the Sago mine disaster, MSHA experienced a situation where the gas analysis and ventilation trucks were already in use at another mine emergency. Therefore, MSHA had to transport laboratory equipment to Sago Mine and set up the equipment for use in the command center. The report stated this equipment was not originally intended to be portable; therefore, its use was delayed by an estimated 6 hours due to the need to set up and calibrate the equipment.

MSHA personnel stated the mine emergency operations program is an expensive program and funding challenges impact its ability to sufficiently fund it. The former Assistant Secretary of Labor for Mine Safety and Health provided the following information:

> MSHA has been utilizing scarce base funding, averaging close to $2 million per year, to maintain existing equipment and for slowly adding functionality to the [four] Mine Emergency Operation stations…, and for responding to mine emergency events. This funding is re-allocated from other important day-to-day operational needs, such as funding employee levels within the Technical Support directorate.

The former Assistant Secretary of Labor for Mine Safety and Health also indicated the agency had started taking corrective actions by including a proposal in the FY 2026 budget to amend the Mine Act to allow MSHA to retain $5 million in civil penalties annually to support mine emergency operations and related activities. However, this was not included in the Department's FY 2026 budget request. MSHA also noted in its FY 2025 Impact Statement that flat funding will adversely affect its ability to support mine emergency response activities.

It is critically important that MSHA makes Congress aware of any potential effects from gaps in its response capabilities for mine emergencies. To better inform future budget requests, MSHA will need to develop expectations for its mine rescue stations. Once MSHA develops these expectations, the agency will be able to specifically identify requirements in future budget requests.

CONCLUSION

Given the dangers inherent in mine emergencies, MSHA must be prepared to respond quickly and effectively. A prior OIG audit found MSHA had not provided adequate oversight of mine operators' plans. MSHA had not implemented corrective actions for many of the prior report's recommendations, and the inherent risk of mine emergencies is further increased given the issues found in this audit.

Although stakeholder feedback for MSHA's emergency response efforts was generally positive, we identified: (1) an estimated $9.5 million in funds for better use caused by poor planning for moves that never fully occurred, (2) unreliable data resulting in four potential Antideficiency Act violations, (3) key areas where MSHA's communication with the mining industry was causing challenges, and (4) a lack of evidence that the agency was conducting certain investigations. Further, we found five areas where MSHA remains vulnerable to issues identified during previous mine disasters.

These issues occurred because MSHA did not effectively design or execute aspects of its internal control system, such as providing supervisory oversight and developing or following guidance. As a result, MSHA's mine emergency response preparedness—including oversight of the program and planning for future emergencies—was hampered. Insufficient emergency preparedness could lead to unnecessary delays or confusion in MSHA's response. Further, we are concerned that MSHA may be insufficiently prepared to handle multiple simultaneous mine emergencies or a larger mine emergency, such as a mine disaster.

OIG'S RECOMMENDATIONS

We recommend the Secretary of Labor:

1. Determine whether MSHA violated the Antideficiency Act. If validated: (1) report immediately to the President and Congress all relevant facts and a statement of actions taken and (2) provide a copy of each report to the Comptroller General.

We recommend the Assistant Secretary of Labor for Mine Safety and Health:

2. Identify alternate uses for new and renovated spaces for which it expended $9,589,592 so that the funds are put to better use.

3. Develop a mechanism(s) to track costs and ensure adherence to limitations identified in appropriations language (e.g., "mine rescue and recovery activities"). This should include: (a) establishing a clear and consistent definition of "rescue and recovery activities," and (b) tracking applicable costs for all MSHA program areas, such as Technical Support and Enforcement.

4. Develop guidance and training for district personnel on: (1) the use of enforcement activity codes E06, E07, E08, E09, and E33 for mine emergencies, (2) the use of task code "O" on time charges during mine emergency operations, and (3) the minimum elements required in MSHA district Mine Emergency Response Plans and in annual revisions to the plans.

5. Provide refresher training on: (1) what qualifies as "mine rescue and recovery activities" costs, (2) requirements in MSHA's guidance regarding MSHA district Mine Emergency Response Plans, (3) requirements to complete accident investigation documentation, and (4) when it is appropriate and how to write or modify Section 103(j) and Section 103(k) of the Federal Mine Safety and Health Act of 1977 withdrawal orders, including how to determine which activity code to use to issue withdrawal orders.

6. Implement system controls to: (1) require completion of the "task code" field in the time reporting system for Enforcement personnel, (2) require accident investigation documentation to be completed before closing a chargeable accident investigation event, and (3) ensure proper activity code use when issuing violations during mine emergencies.

7. Conduct a trend analysis of repeated challenges encountered in historical after-action reviews and verify corrective actions were implemented to improve future MSHA emergency response efforts.

8. Update MSHA's Mine Emergency Operations Standard Operating Procedures to require documentation of after-action reviews incorporating actions of: (1) the Mine Emergency Unit, (2) the Mine Emergency Technology Team, (3) any district personnel supporting the emergency response efforts, and (4) the headquarters' Emergency Management Team.

9. Develop or update the process to ensure periodic reviews of MSHA guidance for required updates.

10. Develop MSHA guidance that sets expectations for: (1) training requirements for MSHA personnel responsible to respond (whether on-site or remotely) during a mine emergency and (2) vehicle and equipment requirements for each MSHA mine rescue station.

11. Develop MSHA guidance that sets expectations for MSHA's: (1) support of mine rescue contests and (2) timely response to contest preparers' requests. Then, notify the mining industry about these identified expectations.

12. Conduct a gap analysis between what MSHA uses for a wireless underground communications system and the systems used by the mining industry and develop a mitigation plan for any identified gaps. Communicate the results of the gap analysis and mitigation plan to the mining industry and, if appropriate, to Congress.

Analysis of Agency's Comments

In response to a draft of this report, MSHA generally agreed with 10 of our 11 recommendations addressed to the agency and provided the corrective actions it intends to take to improve its mine emergency response program. However, MSHA did not agree with Recommendation 12. We reviewed the response; yet the agency's concerns did not result in any changes to our reported results or conclusions. We look forward to working with MSHA personnel to ensure the intent of the recommendations is addressed. Synopses of MSHA's comments related to its disagreement with Recommendation 12 and additional concerns, as well as our corresponding responses, are detailed as follows:

- MSHA disagreed with Recommendation 12. The agency stated it was aware that neither state agencies nor mine operators have invested in equipment compatible with MSHA's underground communication system—with the exception of small complements of equipment acquired by two state agencies and a limited number of underground coal mines. MSHA stated its system is intended to support MSHA personnel and there was never any intent to outfit industry or state mine rescue teams working alongside MSHA. MSHA will seek an alternative course of resolution to resolve this recommendation.

    - While MSHA's response addressed the gap analysis portion of our recommendation, the response did not address the mitigation plan aspect of the recommendation. The OIG will work with MSHA to ensure its corrective action plan allows the mining industry to perform emergency operations without unintended recipients intercepting information prior to public release.

While MSHA agreed with Recommendation 2, it noted that the new and renovated buildings have been in continuous use since their construction in June 2022 and April 2024, respectively, except for a limited number of laboratory rooms. As noted in our report, MSHA previously notified us during the exit conference that it had identified alternative uses for some of the new and renovated spaces and would find alternative uses for the others. The OIG requested additional details and support for the alternative uses; however, as of the date of this report, MSHA has not provided any documentation to support its claims.

Also, MSHA expressed concerns with Recommendation 1, which we addressed to the Secretary of Labor. MSHA stated the OIG's recommendation rests on a different interpretation of MSHA's annual appropriations language and a different understanding of the definition of "mine rescue and recovery activities." MSHA stated it has long interpreted the provision to mean that it may only spend up to $2 million of its operating funds to deploy equipment, personnel, and expertise in support of a non-major disaster or mine accident where "rescue and recovery" of trapped or missing miners (i.e., people) is required. Under its interpretation, MSHA stated the maintenance of equipment, training, personnel, and technological investments necessary to build and sustain the capacity to respond to a mine accident involving the rescue or recovery of trapped or missing miners—such as the acquisition of new or updated communications equipment—are not charged against the $2 million ceiling. Instead, MSHA noted these costs are charged against the agency's general funds. MSHA referenced the Mine Act, previous appropriations acts, and the Mine Act's predecessor law (Federal Coal Mine Health and Safety Act of 1969) to justify its position. Based on its interpretation, MSHA indicated it only had one qualifying "mine rescue and

recovery" event during our audit scope with a total cost of $73,991; however, MSHA did not provide any information on how it determined this was the only qualifying event or how it determined the cost.

The OIG acknowledges that we disagreed with MSHA's interpretation of the appropriations language and the definition of "mine rescue and recovery activities." During the audit, MSHA was unable to provide us with accurate costs for its "mine rescue and recovery activities." To establish our cost estimates, we intentionally included costs associated with the purchase, storage, and maintenance of mine rescue vehicles and equipment, because without these costs, MSHA would only be able to send personnel to respond to an event.

Further, we note that MSHA lacks a clear and consistent definition of "mine rescue and recovery activities." During the audit scope, we found MSHA issued 136 withdrawal orders under Section 103(j) of the Mine Act. MSHA is legally precluded from issuing a 103(j) order unless "rescue and recovery work" is necessary.[43] MSHA's response, in which it only identified one event, indicates MSHA's definition of "rescue and recovery" when identifying qualifying events for the appropriations act threshold is not consistent with the use of "rescue and recovery" in the Mine Act.

In its response, MSHA stated it must do a better job tracking its expenditures for "mine rescue and recovery activities." The agency pledged to do so by improving the use of agency accounting codes and enhancing guidance to personnel on the definition of "rescue and recovery activities." The OIG concurs with these proposed corrective actions.

MSHA's response expressed an overall concern that if the $2 million threshold applied to all costs remotely related to "mine rescue and recovery activities," it would not be positioned to respond to major disasters. It stated Congress, miners, and the country expect that MSHA is prepared for, and quickly responds to, major disasters, especially those greater than the mine operator's resources and abilities. The OIG's intent is not to prevent MSHA from being able to respond to mine emergencies, but instead to ensure MSHA is working within any limitations set forth by Congress in law. MSHA could work with Congress to clarify expectations on MSHA's capabilities and the costs required to achieve those expectations.

We will work with MSHA to further evaluate its position on the definition of "mine rescue and recovery activities." We will also work with the Department to assist,

[43] *Secretary of Labor, Mine Safety and Health Administration (MSHA) v. Big Ridge, Inc.*, Docket Nos. LAKE 2011-699-R, LAKE 2011-700-R, and LAKE 2012-475 (September 9, 2015), available at: https://www.fmshrc.gov/sites/default/files/decisions/commission/COMMd_9092015-LAKE%202011-699-R%2C%20et%20al%20Big%20Ridge.pdf

as needed, with its determination of whether any Antideficiency Act violations occurred.

The agency's response to the draft report is included in its entirety in Appendix B. We appreciate the cooperation and courtesies MSHA extended to us during this audit.

Laura B. Nicolosi
Assistant Inspector General for Audit

EXHIBIT 1: FUNDS PUT TO BETTER USE

MSHA potentially wasted an estimated $9.5 million, which it could have put to better use for other mission activities. Our funds put to better use calculation includes contract line items #1, 3, 5-12, 14, and 17-25 from MSHA contract number 1605C4-20-C-0009 (see Table 3). Because the funds have already been spent, MSHA will need to identify alternate uses for the new and renovated spaces.

Table 3: Funds Put to Better Use[44]

Description	Amount
MSHA Contract #1605C4-20-C-0009	$9,589,592.45
Total Funds Put to Better Use	**$9,589,592.45**

Source: OIG analysis of MSHA contract

[44] As defined by the Inspector General Act of 1978, as amended, "…funds be put to better use" means funds that could be used more efficiently or achieve greater program effectiveness if management took certain actions.

EXHIBIT 2: MSHA ENFORCEMENT ACTIVITY CODES RELEVANT TO MINE EMERGENCIES

MSHA's Enforcement personnel use activity codes to identify activity types. Table 4 summarizes the eight codes we identified as relevant to mine emergency response efforts or training from MSHA's Inspectors' Portable Applications for Laptops User Manual.

Table 4: Eight Enforcement Activity Codes Relevant to Mine Emergencies

Activity Code	Activity	Summarized Description
E06	Fatal Accident Investigation	Investigation of a death at the mine
E07	Non-Fatal Accident Investigation	Investigation of a serious non-fatal injury at the mine
E08	Non-Injury Accident Investigation	Investigation of non-injury accidents as defined in 30 C.F.R. § 50.2
E09	Mine Emergency Operations	Includes all rescue and recovery operations during a mine emergency. Do NOT issue any citations or orders against this type of activity. Also, include the time monitoring the mine environment during mine fires that are determined to be mine emergencies.
E33	Non-Chargeable[45] Accident Investigation	Investigation of any death, serious non-fatal injury, or non-injury accident at a mine that is not charged to the mine, contractor, or the mining industry. **NOTE**: If the accident is subsequently deemed chargeable, the activity may be changed to another event type. Issuances can be issued during an E33 event.
T15	Instructing Mine Rescue and First Aid (non-MSHA)	All activities except mine rescue and first aid instructor training related to mine rescue and first aid training, including team training, judges training, and so forth
T23	Mine Rescue / MERD[46] Activities	Time spent training and preparing for or participating in the national or regional contests. Also includes time spent preparing for or participating in MERD exercises.
T40	MEU Training	Time spent in Mine Rescue/MERD training by the MEU members only

[45] A non-chargeable accident investigation is an investigation of any death, serious non-fatal injury, or non-injury accident at a mine that is not charged to the mine, contractor, or the mining industry. An example of this would be a miner's death due to natural causes or suicide.
[46] A MERD (Mine Emergency Response Development) is similar to a training exercise.

EXHIBIT 3: KEY REGULATION EXCERPTS

MSHA relies on four key Code of Federal Regulations (C.F.R.) sections for its accident investigations:

30 C.F.R. § 50.2 (Definitions), paragraph (h) states:

Accident means:

- A death of an individual at a mine;
- An injury to an individual at a mine which has a reasonable potential to cause death;
- An entrapment of an individual for more than 30 minutes or which has a reasonable potential to cause death;
- An unplanned inundation of a mine by a liquid or gas;
- An unplanned ignition or explosion of gas or dust;
- In underground mines, an unplanned fire not extinguished within 10 minutes of discovery; in surface mines and surface areas of underground mines, an unplanned fire not extinguished within 30 minutes of discovery;
- An unplanned ignition or explosion of a blasting agent or an explosive;
- An unplanned roof fall at or above the anchorage zone in active workings where roof bolts are in use; or, an unplanned roof or rib fall in active workings that impairs ventilation or impedes passage;
- A coal or rock outburst that causes withdrawal of miners or which disrupts regular mining activity for more than one hour;
- An unstable condition at an impoundment, refuse pile, or culm bank which requires emergency action in order to prevent failure, or which causes individuals to evacuate an area; or, failure of an impoundment, refuse pile, or culm bank;
- Damage to hoisting equipment in a shaft or slope which endangers an individual or which interferes with use of the equipment for more than thirty minutes; and
- An event at a mine which causes death or bodily injury to an individual not at the mine at the time the event occurs.

30 C.F.R. § 50.10 (Immediate notification) states:

The operator shall immediately contact MSHA at once without delay and within 15 minutes at the toll-free number, 1-800-746-1553, once the operator knows or should know that an accident has occurred involving: (a) A death of an individual at the mine; (b) An injury of an individual at the mine which has a

reasonable potential to cause death; (c) An entrapment of an individual at the mine which has a reasonable potential to cause death; or (d) Any other accident.

30 C.F.R. § 50.11 (Investigation) states:

(a) After notification of an accident by an operator, the MSHA District Manager will promptly decide whether to conduct an accident investigation and will promptly inform the operator of his decision. If MSHA decides to investigate an accident, it will initiate the investigation within 24 hours of notification. (b) Each operator of a mine shall investigate each accident and each occupational injury at the mine. Each operator of a mine shall develop a report of each investigation. No operator may use Form 7000-1 as a report, except that an operator of a mine at which fewer than twenty miners are employed may, with respect to that mine, use Form 7000-1 as an investigation report respecting an occupational injury not related to an accident. No operator may use an investigation or an investigation report conducted or prepared by MSHA to comply with this paragraph. An operator shall submit a copy of any investigation report to MSHA at its request. Each report prepared by the operator shall include, (1) The date and hour of occurrence; (2) The date the investigation began; (3) The names of individuals participating in the investigation; (4) A description of the site; (5) An explanation of the accident or injury, including a description of any equipment involved and relevant events before and after the occurrence, and any explanation of the cause of any injury, the cause of any accident or cause of any other event which caused an injury; (6) The name, occupation, and experience of any miner involved; (7) A sketch, where pertinent, including dimensions depicting the occurrence; (8) A description of steps taken to prevent a similar occurrence in the future; and (9) Identification of any report submitted under § 50.20 of this part.

30 C.F.R. § 50.12 (Preservation of evidence) states:

Unless granted permission by a MSHA District Manager, no operator may alter an accident site or an accident related area until completion of all investigations pertaining to the accident except to the extent necessary to rescue or recover an individual, prevent or eliminate an imminent danger, or prevent destruction of mining equipment.

APPENDIX A: SCOPE AND METHODOLOGY

Scope

Our scope for the audit included FY 2024 district Mine Emergency Response Plans and mine emergencies occurring in FY 2018 through FY 2023.

We interviewed MSHA personnel from headquarters and six districts. At headquarters, we interviewed personnel from the following program areas:

- Administration and Management;
- Educational Policy and Development;
- Mine Safety and Health Enforcement;
- Office of Standards, Regulations, and Variances; and
- Technical Support.

While we also requested to interview the Director of Program Evaluation and Information Resources, MSHA did not schedule the interview.

The district personnel we interviewed were generally from the following MSHA districts:

- Birmingham, Alabama;
- Dallas, Texas;
- Lakewood, Colorado;
- Mount Pleasant, Pennsylvania;
- Norton, Virginia; and
- Vacaville, California.

Methodology

We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objective. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective.

To answer our audit objective, we:

- Reviewed public laws, United States Code, Code of Federal Regulations, and MSHA guidance related to mine emergencies and accident investigations;
- Analyzed MSHA internal reviews for past mine disasters to identify issues;
- Interviewed MSHA headquarters' and districts' personnel to learn about MSHA's mine emergency response efforts;
- Interviewed personnel from the National Council of Field Labor Locals; United Steelworkers; United Mine Workers of America; and the American Federation of Government Employees, Local 12 to identify concerns for MSHA mine emergency response efforts;
- Interviewed personnel from the U.S. Department of Energy's Waste Isolation Pilot Plant and the U.S. Department of Interior's Bureau of Land Management to learn about MSHA's mine emergency responsibilities for mines under the purview of other government agencies;
- Interviewed key stakeholders from mining agencies from 10 states to identify concerns around MSHA's mine emergency response efforts and MSHA's involvement with mine rescue contests. Those states were Alabama, Alaska, Colorado, Illinois, Kentucky, Pennsylvania, Tennessee, Utah, Virginia, and West Virginia;
- Visited MSHA mine rescue stations in Pittsburgh, Pennsylvania, and Beckley, West Virginia to learn about MSHA's mine rescue equipment and vehicles;
- Examined MSHA data and files available for historical mine emergencies to verify whether inspectors correctly issued withdrawal orders, conducted accident investigations, conducted after-action reviews, and completed training;
- Assessed MSHA's 2010 headquarters' guidance to verify completeness and accuracy; and
- Reviewed the district Mine Emergency Response Plans from every MSHA district to verify completeness and accuracy.

Data Reliability

Further, we assessed the reliability of computer-processed data. Through our testing, we found the data was generally complete but sometimes inaccurate. The data inaccuracies involved the issues with activity codes, withdrawal orders, and time charging that we discussed in the report. We addressed these issues of completeness and accuracy in our report and made recommendations to correct them moving forward.

Internal Controls

In planning and performing our audit, we considered MSHA's internal controls relevant to our audit objective by obtaining an understanding of those controls and assessing control risks relevant to our objective. We considered the five internal control components—control environment, risk assessment, control activities, information and communication, and monitoring—during our planning and substantive phases and evaluated relevant controls. We found breakdowns with three components of MSHA's internal control system for the mine emergency operations program: control activities, information and communication, and monitoring. We made recommendations to improve the policies, processes, and reliability of system data in MSHA's internal control system for the mine emergency operations program.

Criteria

- Federal Mine Safety and Health Act of 1977, as amended
- Title 30 C.F.R. Part 49 - Mine Rescue Teams
- Title 30 C.F.R. Part 50 - Notification, Investigation, Reports and Records of Accidents, Injuries, Illnesses, Employment, and Coal Production in Mines
- Government Accountability Office Standards for Internal Control in the Federal Government, GAO-14-704G, September 2014
- Government Accountability Office Principles of Federal Appropriations Law, 3rd edition (Chapters 5-15) and 4th edition (Chapters 1-4)
- MSHA Program Policy Manual Volumes I (Enforcement of the 1977 Act) and III (30 C.F.R. Part 40 through 50 and 30 C.F.R. Parts 62 and 100)
- MSHA Administrative Program Policy Manual Volume 3, Chapters 200 (Public Affairs Program, July 1, 1988) and 1000 (Mine Emergency Response Program, January 30, 1992)
- MSHA's Headquarters Mine Emergency Response Guidelines, AH08-111-2 (June 2010) and AH25-III-1 (January 2025)
- MSHA's Accident Investigation Procedures Handbook, PH20-I-4, December 2020
- MSHA's Accident/Illness Investigation Procedures Handbook, PH11-I-1(2), June 2011 (Updated May 2016)
- MSHA's Citation and Order Writing Handbook, PH20-I-3, December 2020
- MSHA's Citation and Order Writing Handbook for Coal Mines and Metal and Nonmetal Mines, PH13-I-1(1), December 2013
- MSHA's Mine Emergency Operations Standard Operating Procedures, April 22, 2024

Prior Relevant Coverage

During the last 9 years, the OIG has issued three reports of significant relevance to the subject of this report, as follows:

1. MSHA Needs to Provide Better Oversight of Emergency Response Plans, Report No. 05-17-002-06-001 (March 31, 2017), available at: https://www.oig.dol.gov/public/reports/oa/2017/05-17-002-06-001.pdf;

2. COVID-19: MSHA Faces Multiple Challenges in Responding to the Pandemic, Report No. 19-20-006-06-001 (July 24, 2020), available at: https://www.oig.dol.gov/public/reports/oa/2020/19-20-006-06-001.pdf; and

3. COVID-19: MSHA Did Not Complete or Accurately Report Mandatory Inspections, Report No. 19-24-001-06-001 (October 17, 2023), available at: https://www.oig.dol.gov/public/reports/oa/2024/19-24-001-06-001.pdf.

APPENDIX B: AGENCY'S RESPONSE TO THE REPORT

The agency's response to our draft report follows.

U.S. Department of Labor

Mine Safety and Health Administration
200 Constitution Ave. NW, Suite S2235
Washington, DC 20210

March 25, 2026

MEMORANDUM FOR: LAURA B. NICOLOSI
Assistant Inspector General for Audit

FROM: WAYNE D. PALMER
Assistant Secretary of Labor for
Mine Safety and Health Administration

WAYNE PALMER
Digitally signed by WAYNE PALMER
Date: 2026.03.27 12:43:14 -04'00'

SUBJECT: Response to the Office of the Inspector General (OIG) Draft Report No. 05-26-001-06-001, *Despite Past Success, MSHA's Mine Emergency Response Preparedness Hampered by Persistent Issues*

The Mine Safety and Health Administration (MSHA) appreciates the Office of Inspector General (OIG) conducting the external evaluation. While we believe there is a level of misunderstanding and perhaps miscommunication between OIG and MSHA concerning some findings that necessitate further review and consideration, MSHA concurs with several of OIG's general points.

Specifically, regarding recommendations #2 through #12, MSHA shares OIG's view that additional controls are prudent to ensure accurate accounting of taxpayer funds to ensure such funds are efficiently and effectively applied to the purposes for which the law directs. MSHA is taking the necessary steps to implement such controls as recommended; additional information on each recommendation is provided below. With regard to Recommendation #1, MSHA wants to review the misunderstanding and miscommunication between the OIG and MSHA.

Recommendation #1 asks the Secretary of Labor to determine whether MSHA violated the Antideficiency Act. If validated: 1) report immediately to the President and Congress all relevant facts and a statement of actions taken and 2) provide a copy of each report to the Comptroller General.

Among other things, the OIG also found that "MSHA data for mine emergency operations was unreliable, affecting MSHA's ability to accurately report its fiscal performance and potentially resulting in Antideficiency Act violations for 4 of the 6 years of our audit period."

Response: The OIG's recommendation rests on a different interpretation of MSHA's annual appropriations language, as well as a different understanding of the definition of "rescue and recovery activities."

MSHA's Annual Appropriations Language.

The Antideficiency Act (ADA), 31 U.S.C. § 1341, prohibits federal agencies from obtaining or expending federal funds in advance or in excess of an appropriation. MSHA's lump-sum annual appropriation permits it to expend "up to $2,000,000 for mine rescue and recovery activities" (emphasis added). *See:* Consolidated Appropriations Act, 2026 (Pub. L. No. 119-75, div. B, tit. I (2026)). The $2,000,000 funding limit (ceiling) has been included in every MSHA appropriation since FY 2003.

MSHA has long interpreted the provision to mean that it may only spend up to $2,000,000 of its operating funds to deploy equipment, personnel, and expertise in support of a non-major disaster or mine accident where "rescue and recovery" of trapped or missing miners (i.e., people) is required. This limitation reflects that mine operators are primarily responsible for funding mine rescue and recovery activities while MSHA only serves in an advisory and limited support role. For example, in 2025, the Agency spent $58,000 on rescue and recovery activities at Alpha Metallurgical Resources' Rolling Thunder mine in Nichols County, WV, where a section foreman was recovered after an underground flood incident. Consistent with MSHA's interpretation of the $2,000,000 contingency limitation, the maintenance of equipment, training, personnel, and technological investments necessary to build and sustain the capacity to respond to a mine accident involving the rescue or recovery of trapped or missing miners, such as the acquisition of new or updated communications equipment, are not charged against the $2,000,000 ceiling, but are instead charged against the Agency's general funds.

In contrast, if MSHA were limited to $2,000,000 for all costs remotely related to rescue and recovery activities, the Agency would not be positioned to respond to major disasters (which MSHA defines as five or more fatalities in a single incident) where the potential loss of life is great, often highly complex, extremely time sensitive, and always extraordinarily dangerous. MSHA's readiness is contemplated by the Federal Mine Safety and Health Act of 1977, as amended (Mine Act), 30 U.S.C. § 801 *et seq*., and the structure of the Consolidated Appropriations Act (and previous appropriations acts). For example, the Mine Act itself contemplates preparation for mine accidents, separate from the conduct of responding to mine accidents. *See* 30 U.S.C. § 813(a) (charging MSHA with "obtaining, utilizing, and disseminating information relating to…the causes of accidents"). The MINER Act of 2006 also contemplates this distinction by requiring the Secretary to establish policies for family liaisons, Pub. L. No. 109-236, § 7 (2006), and providing for limitations on legal liability for those personnel involved in the actual conduct of mine rescue operations, 30 U.S.C. § 826. And the Consolidated Appropriations Act further states, "[t]hat any funds available to the Department of Labor may be used, with the approval of the Secretary, to provide for the costs of mine rescue and survival operations in the event of a major disaster." Significantly, the MINER Act of 2006, passed in the wake of the Sago, Aracoma, and Darby disasters, made no changes to the appropriations provisions. Congress, miners, and the country expect that MSHA be prepared for, and quickly respond to, major disasters while reasonably limiting the Agency's deployments for rescue and recovery activities to those that do not meet the definition of major disaster. This is especially true in cases where the major disaster is greater than the mine operator's resources and abilities.

An interpretation that MSHA was limited to $2,000,000 for funding anything remotely related to rescue and recovery activities would be inconsistent with the Mine Act, MINER Act, Consolidated Appropriations Act (and previous appropriations acts), and the

Agency's experience with major mine disasters. Such an interpretation would effectively preclude MSHA from preparing for and timely responding to major mine disasters.

In evaluating MSHA's interpretation of the appropriation provisions (both the $2,000,000 funding ceiling and Secretary's ability to provide Department funds for mine rescue and survival operations in the event of a major disaster), the U.S. Government Accountability Office (GAO) notes in B-330935, when construing statutes:

> It is our duty to construe statutes harmoniously. *See* Posadas v. National City Bank of New York, 296 U.S. 497, 503 (1936); 2B Sutherland, Statutes & Statutory Construction, § 53:1 at 375 (7th ed. 2012) ("Harmony and consistency are positive values in a legal system because they promote impartiality and minimize arbitrariness. Construing statutes by reference to other statutes advances those values. And courts do indeed have a duty to construe statutes harmoniously where reasonable.") (footnotes omitted).

Seeking harmony among provisions within a statute, where reasonable, is an extension of this well-established duty. As noted, our interpretation harmonizes the various provisions. MSHA concedes and agrees with OIG that the phrase "including up to $2,000,000 for mine rescue and recovery activities" is somewhat ambiguous in that it can be read to have different meanings when read in isolation. However, when read together with the other appropriation provision, the Mine Act, the MINER Act and the available legislative history, our interpretation is reasonable and gives effect to all provisions.

For example, the phrase "rescue and recovery activities," and our interpretation thereof, is fully consistent with, and a continuation of, MSHA's predecessor agency's (the Mining Enforcement and Safety Administration (MESA)) statutory authority for coal mine "rescue and recovery activities" under § 103(e) of the Federal Coal Mine Health and Safety Act of 1969 (Coal Act; Pub. L. No. 91-173, Dec. 30, 1969), which stated, in pertinent part:

> In the <u>event of any accident occurring in a coal mine where rescue and recovery work is necessary</u>, the Secretary or an authorized representative of the Secretary shall take whatever action he deems appropriate to protect the life of any person, and he may, if he deems appropriate, <u>supervise and direct the rescue and recovery activity in such mine</u> (emphasis added).

The Coal Act and the $2,000,000 funding ceiling utilize the same language, "rescue and recovery activities." Further, the language "supervise and direct" in the Coal Act reflects our interpretation that Congress intended to limit MSHA's activities outside the major disaster context to expending no more than $2,000,000 annually in actually responding to those incidents, as opposed to mere preparation for a contingent response. The Coal Act § 103(e) remains essentially unchanged today in the Mine Act. Congress simply moved former § 103(e) to § 103(j) and added "or other" after "coal" for MSHA to provide rescue and recovery activities at all U.S. mines – both coal and metal/nonmetal mines. *See* 30 U.S.C. § 813(j). Additionally, the legislative history of the Coal Act further supports MSHA's interpretation:

> Subsection (e) requires the operator of a coal mine in which an accident occurs to notify the Secretary and to take appropriate action to prevent the destruction of evidence relating to the cause thereof. The Secretary or his authorized

> representative is required to take appropriate action to *protect the life of any person where an accident occurs in a coal mine and rescue and recovery work is necessary.* In such a case he may, if he deems it appropriate, supervise and direct rescue and recovery activity. (emphasis added).

H. Rep. 91-563 at 2533-2534 (Oct. 13, 1969). Moreover, MSHA's FY 2001 appropriation reinforces our interpretation that the $2,000,000 ceiling is for deploying assets for non-major disasters involving the rescue and recovery of trapped or missing miners, and does not include capacity building for such incidents by stating, "including up to $1,000,000 for mine rescue and recovery activities, which shall be available only to the extent that fiscal year 2001 obligations for these obligations exceed $1,000,000" (emphasis added). *See*: Consolidated Appropriations Act, 2001 (Pub. L. No. 106-554, Appendix A – H.R. 5656 (2000)). This provision, albeit somewhat inartful, indicates that the predecessor ceiling language contemplated a mine incident contingency requiring the expenditure while also, like the more recent appropriations acts, omitting capacity building. It is simply illogical to include capacity building in the limitation because it would lead to a situation where MSHA is unable to respond to an incident because doing so would exceed the limitation.

Similarly, MSHA's FY 2008 Congressional Budget Justification explains that:

> In the instance of a mine disaster, the Mine Safety and Health Administration (MSHA) provides staff, technical expertise, and specialized equipment in assisting rescue operations at mine sites. (MSHA defines a mine disaster as a mine accident involving five or more fatalities.) Funds are not specifically requested to cover the major costs associated with mine disaster recovery operation. This provision provides the Secretary authority to authorize the use of funds in the event the assistance costs exceed MSHA's funding capacity.

FY 2008 Congressional Budget Justification, Mine Safety and Health Administration at 9. As reflected in the statement explaining the major disaster provision in the FY 2008 appropriations act, MSHA's capacity building is part of and funded by its general funds; otherwise, MSHA would be incapable of meeting its statutory responsibilities. Funding of deployments for rescue and recovery operations, however, depending on degree, are either capped at $2,000,000 annually, or whatever funding is available in the Department.

MSHA thus draws a clear distinction between major disasters and non-major disasters where both typically involve the critical, life-saving work of mine rescue and recovery of trapped or missing miners, and the separate functions of updating communications equipment or providing other technical assistance.

"Rescue and Recovery Activities."

After any accident, there must be a determination, based on the facts, whether "rescue and recovery activities" are required. This determination depends directly on whether there are missing or trapped miners. The distinction between "rescue and recovery" of missing and trapped miners as opposed to other operations is a critical distinction. While MSHA does deploy mine emergency personnel to assist operators with responding to emergencies, retrieving or salvaging equipment, reopening closed areas of mines, and making mines safe for operation, these are not "rescue and recovery" activities. Stated

otherwise, not every deployment of MSHA's mine emergency personnel involves "rescue and recovery activities." In fact, many times, MSHA deployed mine emergency personnel to assist mines where there has been an accident, but where there are no trapped and missing miners and therefore, there are no "rescue and recovery activities."

MSHA's mine "rescue and recovery activity" expenditures for FY 2018–2022 (that is, expenditures to rescue and recovery of miners) are attached; see Attachment 1. Notably, MSHA only had rescue and recovery expenditures in FY 2019 -- $73,991 in response to the July 31, 2019, fatality at the Paradise #9 mine in Muhlenberg County, KY. This is quite comparable to MSHA's expenditures for the "rescue and recovery" response to the Rolling Thunder "rescue and recovery" operation highlighted above.

MSHA acknowledges that these revised figures differ from those first provided to OIG in 2025. This difference is related to a misunderstanding/miscommunication between the OIG and MSHA as to the definition of "rescue and recovery activities." During the audit, MSHA provided the OIG what the OIG requested, even where the summarized costs related to the broader "mine emergency operations," as opposed to the narrower "rescue and recovery activities." Presumably, Congress was aware of a distinction between these terms since they did not limit the appropriations for "mine emergency operations" to $2,000,000. The earlier 2025 figures included expenditures well beyond "rescue and recovery activities." By blurring the distinction between "mine emergency operations" and "rescue and recovery activities," the OIG created an inaccurate narrative. MSHA did not exceed the $2 million ceiling for "rescue and recovery activities" during any fiscal year of the review period and did not violate the Antideficiency Act.

Moving forward, MSHA acknowledges that it must do a better job tracking expenditures arising from the deployment of mine rescue and recovery incidents against the $2 million ceiling for the more narrow "rescue and recovery activities" and pledges to do so through, for example, improved use of agency accounting codes, improved tracking, and and improved guidance to personnel on the definition of "rescue and recovery" activities and the proper use of such accounting codes. MSHA is working with the Departmental Budget Center and the Office of the Chief Financial Officer to ensure accounting controls are in place.

Recommendation #2 asks the Assistant Secretary for MSHA to identify alternate uses for new and renovated spaces for which it expended $9,598,592 so that funds are put to better use.

Response: MSHA agrees with the spirit of this recommendation. MSHA has effectively utilized its new and renovated facilities to support mine emergency operations. With the exception of a limited number of laboratory rooms, the buildings at both the National Mine Health and Safety Academy (Academy) complex and the Approval and Certification Center (A&CC) have been in continuous use since their construction in June 2022 and April 2024, respectively. The Academy houses Beckley Station for mine emergency equipment and serves as the duty station for personnel assigned to the Mine Emergency Operations (MEO) Division. At the A&CC, the building has been used to investigate field complaints involving refuge alternatives that require a substantial, climate-controlled indoor space capable of accommodating multiple units. The facility also houses the Seismic Trapped Miner Location System trailer, associated equipment, and a dedicated vehicle, all of which were transferred from the Pittsburgh Center. MSHA is planning to allocate the limited laboratory rooms at the Academy to other activities in the near future.

Recommendation #3 asks the Assistant Secretary for MSHA to develop a mechanism(s) to track costs and ensure adherence to limitations identified in appropriation language (e.g., mine rescue and recovery activities). This should include all MSHA program areas, such as Technical Support and Mine Safety and Health Enforcement.

Response: MSHA agrees with this recommendation to improve the identification of expenditures related to “mine rescue and recovery activities,” as a clearly defined and limited subset of mine emergency operations related to the rescue and recovery of miners. For example, MSHA has established dedicated cost center codes for mine emergency operations, which includes mine rescue and recovery activities, within the Mine Safety and Health Enforcement program area, the Technical Support Directorate, and the Program Evaluation and Information Resources (PEIR) Directorate. From this, MSHA can accurately determine the cost of any deployments which involve mine rescue and recovery activities. This will allow MSHA to better track expenditures, further strengthening the Agency’s ability to monitor costs related to mine rescue and recovery. As noted, MSHA will also better educate personnel on existing accounting codes for emergency operations generally. MSHA will also harmonize use of the term “major disaster” (i.e., five or more fatalities in a single incident), as the term appears in the appropriation, in its instructions and guidance to Agency personnel, and in references on the MSHA website. Moreover, MSHA will establish additional oversight and accounting controls to quantify all costs associated with mine emergency operation deployments, and the agency will be able to quantify and identify costs specific to mine rescue and recovery activities.

Recommendation #4 asks the Assistant Secretary for MSHA to develop guidance and training for district personnel on: 1) the use of enforcement activity codes E06, E07, E08, E09, and E33 for mine emergencies, 2) the use of task code “O” on time charges during mine emergency operations, and 3) the minimum elements required in Mine Emergency Response Plans and in annual revisions to the plans.

Response: MSHA agrees with this recommendation. The Citation and Order Writing Handbook for inspectors has been updated and reissued. MSHA will also provide training to all Enforcement districts on the use of activity/accounting codes, time charges, and the minimum required elements for Mine Emergency Response Plans. Of note, the activity code "E09" is exclusively for mine emergency operations, as stated in the Citation and Order Writing Handbook (PH25-I-2). This code includes all emergency response, rescue, and recovery activities, and time spent monitoring the mine's environment during these emergencies. MSHA can require further differentiation between the general “mine emergency operations” and the specific “rescue and recovery activities”

Recommendation #5 asks the Assistant Secretary for MSHA to provide refresher training on: 1) what qualifies as “mine rescue and recovery activities” costs, 2) requirements in MSHA’s guidance regarding MSHA district Mine Emergency Response Plans, 3) requirements to complete accident investigation documentation, and 4) when it is appropriate and how to write or modify Section 103(j) and Section 103(k) of the Federal Mine Safety and Health Act of 1977 withdrawal orders, including how to determine which activity code to use to issue withdrawal orders.

Response: MSHA agrees with the recommendation to provide refresher training on the differentiation between the general “mine emergency operations” and the specific “rescue and recovery activity costs,” requirements in the Agency’s guidance on MSHA district Mine Emergency Response Plans, and how to write or modify Section 103(j) and Section 103(k) withdrawal orders.

Recommendation #6 asks the Assistant Secretary for MSHA to implement system controls to: 1) require completion of the “task code” field in the time reporting system for Enforcement personnel, 2) require accident investigation documentation to be completed before closing a chargeable accident investigation event, and 3) ensure proper activity code use when issuing violations during mine emergencies.

Response: MSHA agrees with the recommendation to implement three system controls: 1) requiring Enforcement personnel to complete the “task code” field in the time reporting system, 2) requiring that accident investigation documentation be completed before a chargeable accident investigation event can be closed, and 3) preventing the issuance of violations using activity code E09.

Recommendation #7 asks the Assistant Secretary for MSHA to conduct a trend analysis of repeated challenges encountered in historical after-action reviews and verify corrective actions were implemented to improve future emergency response efforts.

Response: MSHA agrees that reviewing historical mine emergency response deployments is beneficial to strengthening future responses. Although the Agency does not prepare formal after-action reports, event debriefing meetings take place and include the Mine Emergency Operations Division (MEO) Division, the Mine Emergency Unit (MEU), and the Mine Emergency Technology Team (METT). These discussions are informal and generally consist of short presentations, along with a review of key data and actions taken during the deployment.

To better organize after-action reviews and identify continuous improvement opportunities, MSHA will develop an after-action template to document important information such as response time, resources used, unique situations presented during the deployment, lessons learned, and necessary corrective actions for future emergency response deployments. The template will include separate sections for the MEU, METT, Enforcement, and MSHA Headquarters.

Recommendation # 8 asks the Assistant Secretary for MSHA to update MSHA’s Mine Emergency Operations Standard Operating Procedures (SOPs) to require documentation of after-action reviews incorporating actions of: 1) the Mine Emergency Unit, 2) the Mine Emergency Technology Team, 3) any district personnel supporting the emergency response efforts, and 4) the headquarters’ Emergency Management Team.

Response: MSHA agrees with this recommendation. The after-action template described in Recommendation #7 will be incorporated into the Agency’s Standard Operating Procedures and specify the positions responsible for completing the template, establish a timeline for completion following an emergency event, and provide direction for scheduling a meeting with the involved parties to review and discuss the Agency’s findings.

Recommendation #9 asks the Assistant Secretary for MSHA to develop or update the process to ensure periodic reviews of MSHA guidance for required updates.

Response: MSHA agrees with the importance of conducting periodic reviews of its directives/guidance to ensure their currency, accuracy, and efficacy. To that end, MSHA revalidates all Agency directives on a regular basis and will continue to do so.

Recommendation #10 asks the Assistant Secretary for MSHA to develop MSHA guidance that sets expectations for: 1) training requirements for MSHA personnel responsible to respond (whether on-site or remotely) during a mine emergency and 2) vehicle and equipment requirements for each MSHA mine rescue station.

Response: MSHA agrees with the recommendation. The MEO Division provides training for the Agency's MEU team throughout the year at levels exceeding the requirements defined in 30 CFR Part 49 for mine rescue teams. MEO also regularly conducts District Manager Mine Emergency Response Development (MERD) exercises so that appropriate personnel can practice executing District SOPs for mine emergencies based on plausible event scenarios. In addition, MSHA will continue to provide training consistent with the guidelines established in 30 CFR Part 49 and MSHA's Mine Emergency Response Program.

The MEO also regularly assesses existing equipment and, through the Agency's annual internal budget process, recommends necessary maintenance, upgrades, or replacements. The Agency has never intended for every mine rescue station to have identical equipment; instead, resources are strategically distributed to support phased deployments from multiple station locations during a mine emergency or recovery event.

Recommendation #11 asks the Assistant Secretary for MSHA to develop MSHA guidance that sets expectations for MSHA's: 1) support of mine rescue contests and 2) timely response to contest preparers' requests and notify the mining industry about these identified expectations.

Response: MSHA agrees with the spirit of this recommendation. The Agency regularly provides support to mine rescue contest organizers, primarily contingent on the availability of trained personnel, concomitant with appropriate budget considerations and other MSHA priorities, such as the successful completion of all statutorily required inspections. Because District Managers are responsible for ensuring that mine rescue teams within their districts are properly trained, requests for support are forwarded from each district to MSHA Headquarters, along with the district's recommendation of how many, and which Agency staff should participate.

30 CFR 49.60(c), promulgated on February 8, 2008, sets forth the criteria for local mine rescue contests. In particular, the final rule requires mine operators to notify the appropriate District Manager, upon request, of when and where their designated teams intend to participate in mine rescue contests. MSHA then reviews its support for each contest with the Office of the Solicitor to ensure the Agency's participation complies with all applicable laws and regulations.

As noted, MSHA must ensure available staffing to respond to mine emergencies and perform regular inspection activities. Since mining conditions and the need for MSHA personnel at mine sites can vary throughout the year, providing a single or annual

notification to operators outlining the Agency's expected participation for mine rescue contests is not practical. In the alternative, MSHA will re-examine its current processes for receiving and assessing requests for mine rescue contest support and identify opportunities to improve efficiency.

Recommendation #12 asks the Assistant Secretary for MSHA to conduct a gap analysis between what MSHA uses for a wireless underground communications system and the systems used by the mining industry and develop a mitigation plan for any identified gaps. Communicate the results of the gap analysis and mitigation plan to the mining industry and, if appropriate, to Congress.

Response: MSHA disagrees with this recommendation. MSHA is aware that neither state agencies nor mine operators have invested in equipment compatible with MSHA's Underground Communication System manufactured by Innovative Wireless Technologies (IWT) for mine rescue purposes, except for small complements of equipment acquired by two state agencies. A limited number of underground coal mines also use IWT systems to comply with the Mine Improvement and New Emergency Response (MINER) Act of 2006 requirement for wireless or alternative to wireless communication systems intended to aid miners in escape during a mine emergency. MSHA's system is intended to support the MEU, possibly at simultaneous deployments depending upon the circumstances, but there was never any intention to outfit industry or state mine rescue teams working alongside MSHA.

While IWT systems installed in underground coal mines originate from the same manufacturer and consist of similar components, they are not readily compatible with MSHA's Underground Communication System. The MSHA access point nodes are programmed with the ability to take control of the wireless nodes installed in a mine to quickly extend the MSHA network, if necessary, but the MSHA handsets are encrypted to secure communications and will not communicate with the regular handsets owned by mine operators. If a state or company mine rescue team were to invest in IWT equipment with encrypted handsets for mine rescue purposes, a common encryption key can be generated to allow MSHA and non-MSHA handsets to communicate for the duration of an emergency. Accordingly, MSHA will seek an alternative course of resolution to resolve this recommendation.

Attachment 1.

Table 1: MSHA's Mine Rescue and Recovery Activities Costs by Fiscal Year, FY 2018 through FY 2023

Fiscal Year	MSHA Revised Totals	OIG-Calculated Estimated Costs	Potential Violation of Antideficiency Act?
2018	$0	$1,500,000	No
2019	$73,991*	$2,500,000	No
2020	$0	$3,000,000	No
2021	$0	$2,800,000	No
2022	$0	$1,300,000	No
2023	$0	$2,100,000	No
Total	**$73,991**	**$13,200,000**	

* Paradise #9 - Muhlenberg County, KY July 31, 2019 Fatality

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