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MINE SAFETY

MSHA's and Other Federal Agencies' Improved Oversight Could Enhance Safety for Coal Miners

Statement of Daniel Bertoni, Director
Education, Workforce, and Income Security





Highlights of [GAO-07-855T](#), a testimony before the Committee on Education and Labor, House of Representatives

Why GAO Did This Study

The Mine Safety and Health Administration (MSHA), the National Institute for Occupational Safety and Health (NIOSH), the Federal Mine Safety and Health Review Commission, the Department of Labor's Office of the Solicitor, the states, and the mining industry share responsibility for ensuring mine safety.

In two reports released today, GAO examined the challenges underground coal mines face in preparing for emergencies, how well MSHA oversees mine operators' training efforts, how well MSHA and NIOSH coordinate to enhance the development and approval of mine safety technology, MSHA's coal mine inspector recruiting efforts, and how civil penalties are assessed.

What GAO Recommends

GAO is making recommendations in the reports accompanying this testimony to strengthen the efforts of MSHA, Labor, NIOSH, and the Commission by improving mine operators' access to information and tools for training their workers, strengthening MSHA's oversight of training, improving the effectiveness of information sharing between MSHA and NIOSH, strengthening MSHA's human capital strategic planning efforts, and ensuring that there is transparency in penalty appeal determinations. Each agency generally agreed with the recommendations in the reports.

www.gao.gov/cgi-bin/getrpt?GAO-07-855T.

To view the full product, including the scope and methodology, click on the link above. For more information, contact Daniel Bertoni at (202) 512-7215 or bertonid@gao.gov.

MINE SAFETY

MSHA's and Other Federal Agencies' Improved Oversight Could Enhance Safety for Coal Miners

What GAO Found

Underground coal mine operators reported facing significant challenges in preparing for emergencies, including ensuring that miners receive realistic training and organizing mine rescue teams that satisfy new requirements. While mine operators recognize the importance of providing training in an environment that simulates an emergency, many of them reported challenges such as limited access to special training facilities and the cost of providing such training. In addition, mine operators reported that they anticipate challenges in implementing new mine rescue team requirements, such as conducting training annually at each mine the rescue team services.

MSHA approves mine operators' training plans and inspects their training records, but its oversight of miner training is hampered by several factors. For example, MSHA does not have current information on its instructors and does not ensure that they keep their knowledge and skills up to date. In addition, MSHA does not adequately monitor instructors or evaluate training sessions, and does not assess how well miners are learning the skills being taught.

MSHA and NIOSH have a common mission to improve the safety and health of coal miners, but they do not have a current memorandum of understanding to guide their coordination efforts. As a result, most of the coordination that occurs is initiated by individual staff members or by outside parties. Such informal coordination may not be sufficient given the pending retirements of many MSHA and NIOSH engineers and scientists and other challenges both agencies face.

In 2004, MSHA began a new process for hiring mine inspectors, which has led to a number of improvements, such as being able to identify applicants who possess the basic skills needed to be successful inspectors and decreasing the time it takes to hire new inspectors. However, MSHA's human capital plan does not include a strategic approach for addressing the large number of retirements expected in the next 5 years.

While most of the penalties proposed by MSHA are paid by mine operators without opposition, a small percentage of the cases involving more serious and higher dollar penalties are appealed, and those appealed are often reduced significantly. MSHA uses a standard formula to propose penalties, but the other entities involved in the appeals process use considerable discretion in deciding on the final penalty amount. Approximately 6 percent of the 506,707 penalties proposed by MSHA between 1996 and 2006 were appealed by mine operators. About half of the penalties for the appealed violations were reduced by an average of 49 percent, regardless of the level of gravity of the violation initially cited by MSHA or the degree of the mine operator's negligence initially cited.

Mr. Chairman and Members of the Committee:

Thank you for inviting me here today to discuss worker safety in underground coal mines. As you are aware, the tragic accidents that occurred early last year brought the nation's attention to the perils workers face in underground coal mining. In response, the Congress and the Department of Labor's (Labor) Mine Safety and Health Administration (MSHA) took steps to try to prevent future fatalities. The Mine Improvement and New Emergency Response Act of 2006 (MINER Act) required mine operators and MSHA to undertake a variety of reforms, including enhancing mine rescue teams, developing up-to-date accident response plans, and instituting tougher penalties—including a criminal penalty—for mine operators who violate health and safety standards.¹ In addition, MSHA implemented new standards aimed at instituting immediate safety and health improvements, including requiring operators to provide safety training on evacuation routes and opportunities for miners to learn how to react in certain kinds of simulated emergency situations.² Other federal agencies share responsibilities for improving mine safety. These agencies include the Office of Mine Safety and Health of the Department of Health and Human Services' National Institute for Occupational Safety and Health (NIOSH), the Department of Labor's Office of the Solicitor, and the Federal Mine Safety and Health Review Commission.

In response to concerns about the safety of underground coal mines, my testimony today will focus on five key issues:

1. the challenges underground coal mines face in preparing for mine emergencies,
2. how well MSHA oversees mine operators' training efforts,
3. how well MSHA and NIOSH coordinate their efforts to enhance the development and approval of mine safety technology,
4. how MSHA has revised its recruiting and hiring of underground coal mine inspectors, and

¹Pub. L. 109-236.

²30 C.F.R. Parts 48, 50, and 75, Emergency Mine Evacuation; Final Rule, 71 Fed. Reg. 12,252 (March 9, 2006); 30 C.F.R. Parts 3, 48, 50, and 75, Emergency Mine Evacuation; Final Rule, 71 Fed. Reg. 71,430 (December 8, 2006).

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5. how civil penalties are assessed when underground coal mine operators violate safety and health standards.

My comments are based on the findings of two reports to be released today.³ We conducted all of our work in accordance with generally accepted government auditing standards.

In summary,

- Underground coal mine operators reported facing significant challenges in preparing for emergencies, including ensuring that miners receive realistic training and organizing mine rescue teams that satisfy new requirements. While mine operators recognize the importance of providing training in an environment that simulates an emergency, many of them reported challenges such as having limited access to special training facilities and the cost of providing such training. In addition, mine operators reported that they anticipate challenges in implementing new mine rescue team requirements, such as conducting training at least annually at each mine the rescue team services.
- MSHA approves mine operators' training plans and inspects their training records, but its oversight of miner training is hampered by several factors. For example, MSHA does not have current information on its instructors and does not ensure that they keep their knowledge and skills up to date. In addition, MSHA does not adequately monitor instructors or evaluate training sessions, and it does not assess how well miners are learning the skills being taught.
- MSHA and NIOSH have a common mission to improve the safety and health of coal miners, but they do not have a current memorandum of understanding to guide their coordination efforts. As a result, most of the coordination that occurs is initiated by individual staff members or by outside parties. Such informal coordination may not be sufficient given the pending retirements of many MSHA and NIOSH engineers and scientists and other challenges both agencies face.

³GAO, *Mine Safety: Better Oversight and Coordination by MSHA and Other Federal Agencies Could Improve Safety for Underground Coal Miners*, [GAO-07-622](#) (Washington, D.C.: May 16, 2007); *MSHA's Revised Hiring Process Has Improved the Agency's Recruiting Efforts, but Its Human Capital Strategic Plan Does Not Adequately Project or Address Its Future Workforce Needs*, [GAO-07-704R](#) (Washington, D.C.: May 16, 2007).

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- In 2004, MSHA began a new process for hiring mine inspectors, which has led to a number of improvements, such as being able to identify applicants who possess the basic skills needed to be successful inspectors and decreasing the time it takes to hire new inspectors. However, MSHA's human capital plan does not include a strategic approach for addressing the large number of retirements expected in the next 5 years.
 - While most of the penalties proposed by MSHA are paid by mine operators without opposition, a small percentage of the cases involving more serious and higher-dollar penalties are appealed, and those appealed are often reduced substantially. MSHA uses a standard formula to propose penalties, but the other entities involved in the appeals process use considerable discretion in deciding on the final penalty amount. Approximately 6 percent of the 506,707 penalties proposed by MSHA between 1996 and 2006 were appealed by mine operators. About half of the penalties for the appealed violations were reduced regardless of the level of gravity of the violation initially cited by MSHA or the degree of the mine operator's negligence initially cited. Appealed penalties were reduced by an average of 49 percent.

In our reports released today, we are making a number of recommendations to improve mine operators' access to information and tools for training their workers, strengthen MSHA's oversight of training, improve the effectiveness of information sharing between MSHA and NIOSH, strengthen MSHA's workforce planning, and ensure transparency in penalty appeal determinations.

Background

MSHA's Coal Mine Safety and Health Administration is responsible for carrying out enforcement activities related to surface and underground coal mines. As of January 2007, MSHA employed approximately 550 underground coal inspectors in its 11 coal districts. MSHA's principal enforcement responsibility for underground coal mines is fulfilled by conducting a minimum of four comprehensive inspections of every underground coal mine each year.⁴ When MSHA inspectors observe violations of federal health and safety standards, they are required to issue

⁴Mines that are recognized as more dangerous, such as those containing high levels of methane gas, are inspected more frequently.

a citation to the coal mine operator.⁵ Even if an operator does not agree with the violation or the penalty amount, the operator must resolve the problems within the time frame set by the inspector.

In assessing penalties, the Mine Act requires both the Commission and MSHA to consider six statutory factors:

1. the mine operator's history of previous violations,
2. the appropriateness of the penalty to the size of the mine,
3. whether the mine operator was negligent,
4. the effect on the operator's ability to continue in business,
5. the gravity of the violation, and
6. the demonstrated good faith of the mine operator charged in quickly remedying the situation after being notified of a violation.

Underground Coal Mines Face Challenges in Preparing Mine Workers and Rescue Teams for Emergencies

Underground coal mine operators face significant challenges preparing for emergencies, including ensuring that miners receive realistic training and organizing mine rescue teams that satisfy new requirements. MSHA issued new requirements in March 2006⁶ that direct mine operators to conduct mine emergency evacuation drills every 90 days, including drills that simulate actual emergency conditions; install directional lifelines to help miners find their way out of a dark mine; and instruct miners in the procedures for evacuating the mine in emergencies, such as those involving fires or explosions.⁷ Based on our survey completed in February 2007, almost all mines had conducted evacuation drills and installed lifelines, but we estimate that half of the mines had not conducted drills in

⁵MSHA inspectors are authorized to issue either a citation or a withdrawal order when they observe a health and safety violation. All withdrawal orders compel the removal of miners from the affected work areas until the observed hazard is terminated. This, in essence, could halt production in a particular area of the mine.

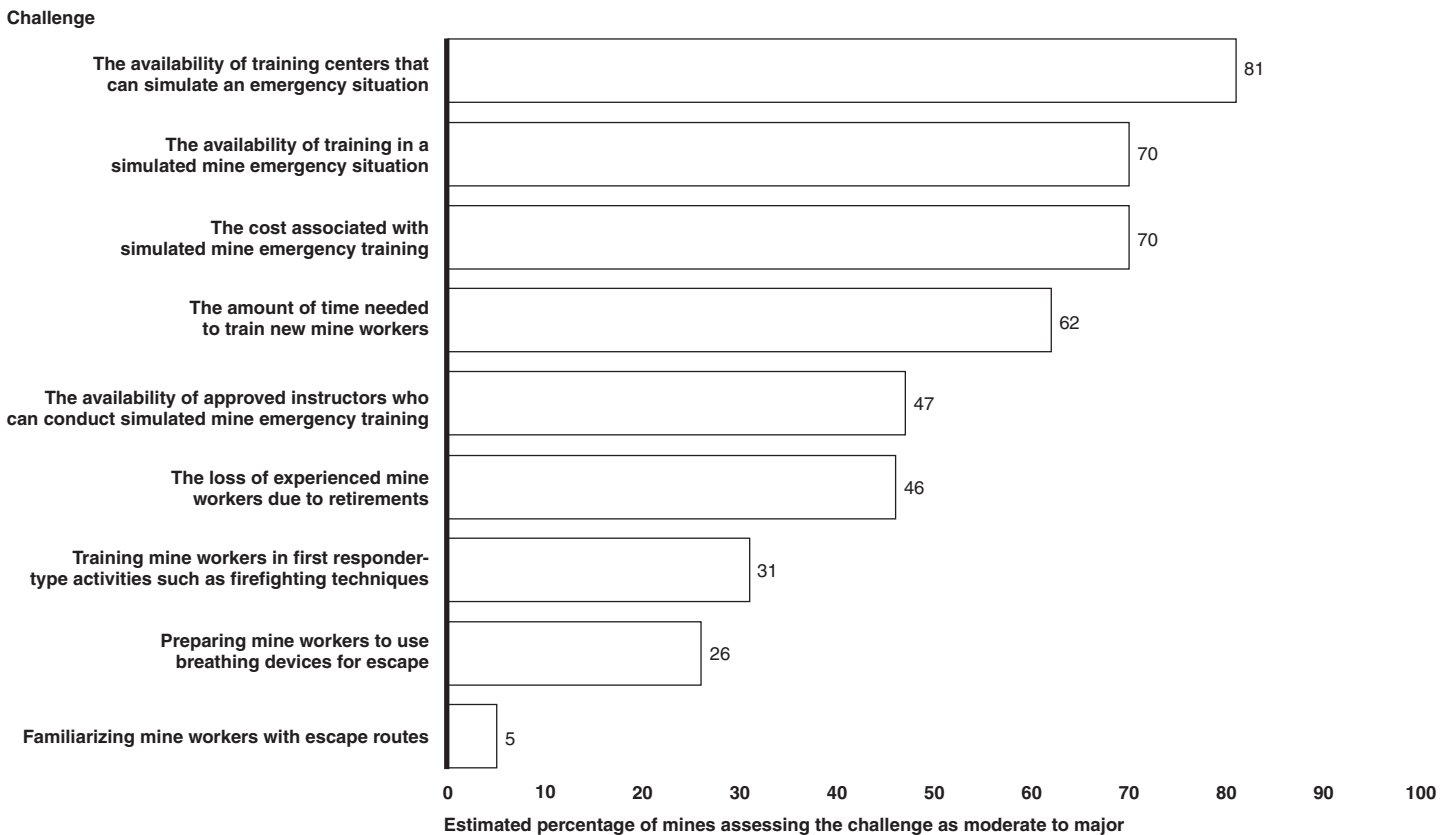
⁶The new requirements were finalized in December 2006, with some modifications and clarifications.

⁷To ensure that four major scenarios—fire, explosion, gas, and water inundation—are covered each year, the final rule requires that a different scenario be used each quarter in conducting evacuation drills.

environments that simulated actual emergency situations.⁸ According to the survey, simulated mine emergency training presents the greatest challenge in preparing miners for and responding to mine emergencies. Specifically, the most common challenges were the availability of training centers that can simulate an emergency situation, the availability of training in a simulated mine emergency situation, and the cost associated with providing simulated mine emergency training (see fig. 1).

⁸Percentage estimates are based on a sample and are subject to sampling error. See [GAO-07-622](#) for more information on the survey methodology. We are 95 percent confident that the results we obtained are within plus or minus 8 percentage points of the true values of the in-scope population. Each sample element was subsequently weighted in the analysis to account for all members of the in-scope population, including those that were not selected.

Figure 1: Mines' Assessment of Challenges in Preparing Workers for Mine Emergencies



Source: GAO analysis of survey data.

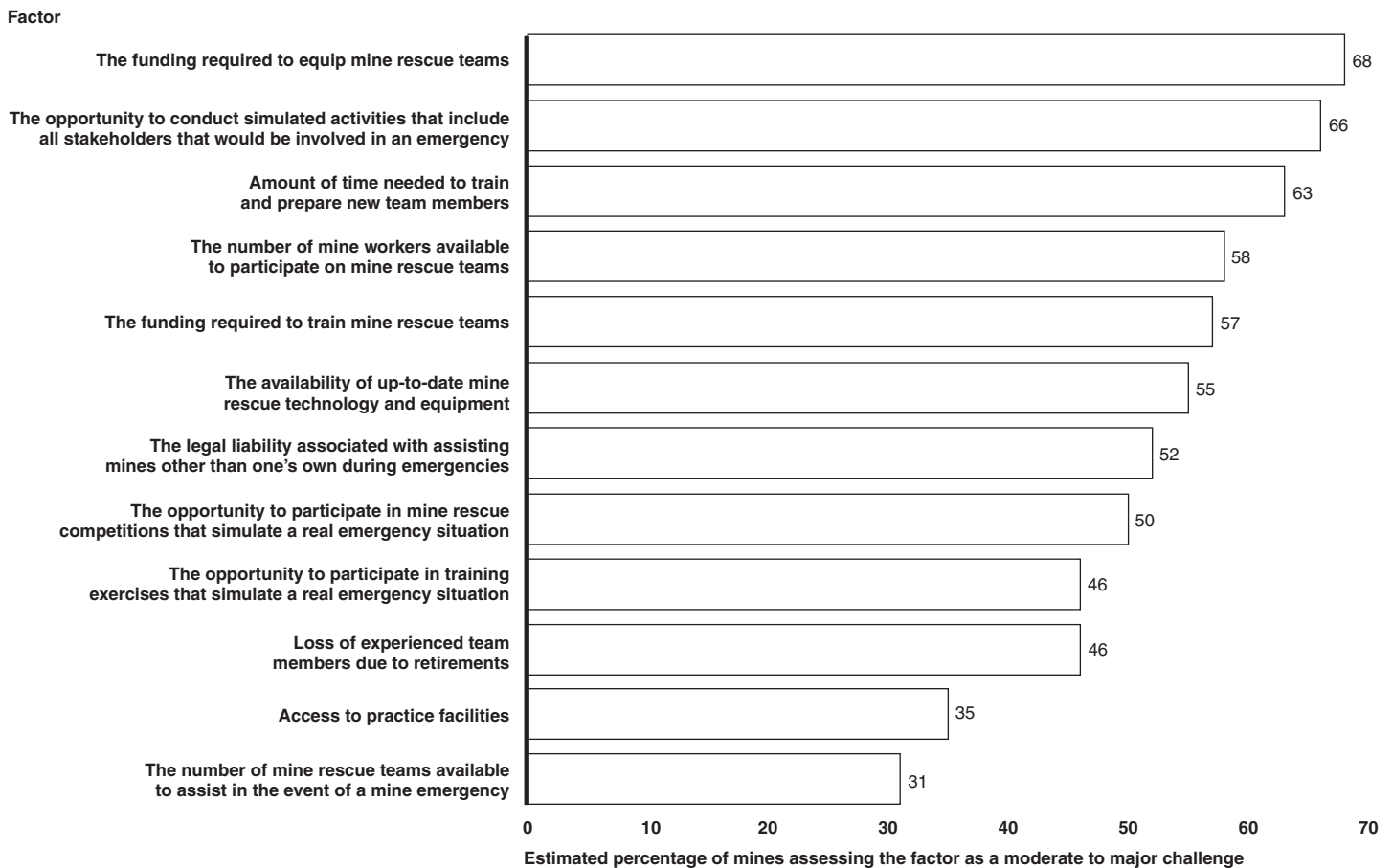
Although MSHA has materials that mine operators can use to provide hands-on training on specific topics, it does not provide all mine operators with information and tools for training under simulated emergency conditions. MSHA has a catalog of various training tools, including classroom exercises, that mine operators can obtain upon request. For example, to support the new standards issued in March that require miners to train with breathing devices, MSHA distributed a training packet to all underground coal mines and appropriate state grantees.⁹ However, MSHA does not provide all mine operators with critical information on how to provide training in simulated emergency environments such as smoke-

⁹The packet contained a DVD on the protocol for how to transfer from one breathing device to another, training manuals on six types of breathing devices, an article on how to disinfect the devices, and other related information.

filled mines or information on resources that are available for providing such training. Some mine operators use a number of techniques to simulate emergency conditions, but other mine operators may be unaware of them.

Based on our survey, cost concerns and opportunities for conducting simulated training with all stakeholders are the greatest challenges in preparing rescue teams for mine emergencies (see fig. 2).

Figure 2: Mines' Assessment of Rescue Team Challenges in Preparing for Mine Emergencies



Source: GAO analysis of survey data.

Mine operators also reported that they anticipated further challenges stemming from new requirements in the MINER Act. We estimate that half of underground coal mines anticipate changing the composition of at least one of their designated mine rescue teams as a result of the MINER Act.

Specifically, mine operators pointed to the requirement that teams train at least annually at the mines they are responsible for covering. This change could present a particular challenge for mine rescue teams in several key coal mining states that serve many or all of the states' mines. According to respective state officials, all mines in Kentucky and many in Virginia and Pennsylvania rely on the state to provide or arrange for mine rescue services. In Kentucky, for example, mines receive rescue services from state teams composed of state mine inspectors whose primary duties are to inspect coal mines. According to a state official, a Kentucky team would be required to conduct 120 training exercises annually under the MINER Act, compared to the 12 exercises it currently conducts. Depending on the final regulations developed by MSHA to implement the requirements of the MINER Act, officials in Kentucky said they might stop offering mine rescue services because of the amount of time that will be needed to meet the training requirements.

Some mine operators have already started making changes to their mine rescue teams based on the MINER Act, while others are taking a more cautious approach, given the costs of training and equipping new rescue teams. For example, one company that operates multiple mines reported that it was creating new backup mine rescue teams to satisfy the new requirement that rescue teams be within 1 hour travel time from the mines they serve. In other cases, however, according to mine and industry officials, mines were waiting to see how MSHA implements the new mine rescue requirements before changing their team designations.¹⁰ For example, the extent of the required training at each mine could affect how mine operators designate rescue teams.

¹⁰MSHA has not yet determined how the mine rescue team requirements in the MINER Act will be implemented. MSHA officials said they plan to hold public hearings on the requirements of the act before publishing final rules, which are due in December 2007.

MSHA Reviews Mines' Training Plans and Inspects Training Records but Does Not Adequately Monitor Instructors or Training

MSHA has the authority to oversee certain aspects of miner training to help ensure that miners work safely and are prepared for potential emergencies, but its oversight of training is hindered by several factors.

- Inconsistent instructor approval standards

To become an approved instructor, MSHA requires that an applicant prove his or her mining and teaching experience in one of three ways: by (1) submitting written qualifications, (2) attending new instructor training, or (3) teaching a class monitored by MSHA under provisional approval from an MSHA district manager. MSHA suggests factors that district managers may use in determining an applicant's skills, but it does not have firm criteria that new instructors must meet. In addition, the approval procedures are not standardized across MSHA's 11 coal districts, according to MSHA officials. For example, some districts grant provisional authority to new instructors only if they can be monitored by MSHA staff. Other districts grant provisional approval for individuals to teach specific courses but, according to MSHA officials, may not monitor these instructors' teaching skills. According to MSHA officials, staff resources limit districts' ability to monitor applicants' teaching skills.

- Lack of up-to-date information on approved instructors

MSHA maintains a database of approved instructors that includes contact information for each instructor, the courses they are approved to teach, and whether they have full or provisional authority to teach the courses. But according to MSHA officials, the database contains outdated contact information because some instructors move without notifying MSHA. Without accurate information on its instructors, MSHA cannot ensure that instructors receive training policy updates and cannot determine whether there are enough qualified instructors to meet mine operators' needs.

- No continuing education requirements for approved instructors

Once instructors are approved, according to an MSHA official, they are not required to demonstrate that they are staying current on emerging mining issues. As a result, MSHA cannot ensure that instructors are keeping their mining knowledge and skills up to date, including their knowledge of emerging safety and health issues and new training tools.

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- Limited monitoring and evaluation of training sessions

According to MSHA officials, the agency monitors few miner training sessions relative to the number conducted, and instructor evaluations occur on an ad hoc basis. According to mine operators and trainers, MSHA rarely oversees training, and it monitors sessions primarily for enforcement purposes rather than to enhance instructors' knowledge and abilities. In addition, many of the training sessions occur on the weekends, when MSHA staff do not normally work, limiting their ability to monitor training. MSHA does not collect or analyze training evaluations obtained from miners to help gauge whether learning objectives are taught effectively, and an estimate of 80 percent of mines do not seek feedback on training sessions from their workers. As a result, MSHA cannot determine how well miners are learning the skills taught by MSHA-approved trainers and recommend corrective measures as necessary.

MSHA and NIOSH Lack a Formal Agreement to Guide Mine Safety Coordination

MSHA and NIOSH have complementary roles in improving the safety and health of coal miners, but coordination between the two agencies is largely informal and inconsistent due to a lack of a formal agreement or policies to guide their efforts. MSHA is primarily involved in setting health and safety standards and enforcing them through mine inspections that can result in citations and penalties, whereas NIOSH's mining program is focused on research into the causes of and ways to prevent the safety and health hazards miners face.

MSHA and NIOSH currently lack a formal agreement, such as a memorandum of understanding or other policy to guide their coordination efforts, a practice we have identified as effective in prior work.¹¹ In 1978, NIOSH's predecessor and MSHA had a signed memorandum of understanding that specified how they would coordinate to ensure that technology resulting from mine safety research would be used to the

¹¹We have reported that agencies can strengthen their commitment to work collaboratively by articulating their agreements in formal documents, such as a memorandum of understanding, interagency guidance, or an interagency planning document, signed by senior officials in the respective agencies. See GAO, *Results-Oriented Government: Practices That Can Help Enhance and Sustain Collaboration among Federal Agencies*, [GAO-06-15](#), (Washington, D.C.: October 21, 2005).

fullest extent.¹² The memorandum embodied many of the key practices identified in prior GAO work that can help federal agencies enhance and sustain their collaborative efforts, such as defining roles and responsibilities and developing joint strategies. However, the memorandum is no longer used, and MSHA officials were unaware of any plan to update the document. As a result of not having a formal agreement or policies to guide their activities, coordination between MSHA and NIOSH is primarily driven by informal relationships between staff at both agencies. Officials from both agencies and labor union representatives told us that coordination has been primarily at the initiative of individuals at both agencies and, as such has not always been consistent across the agencies.

NIOSH and MSHA face a potentially large workforce turnover in coming years, and informal coordination based on working relationships between staff members may not continue when the individuals leave. As at many federal agencies, MSHA and NIOSH have a large proportion of employees, including many engineers and scientists, who are eligible to retire over the next several years. MSHA data show that more than 50 percent of its 140 engineers and scientists will be eligible for retirement within the next 10 years, with 31 percent eligible within 5 years. Similarly, about half of NIOSH's employees—most of whom are scientists and engineers—are eligible to retire in 5 years.

In addition, MSHA and NIOSH face other challenges that require them to work more closely together, particularly in developing and approving safety technologies under tight time frames. An influx of new and inexperienced miners brought on due to the increased demand for coal and the aging of the workforce, rising dangers as miners go deeper underground to mine coal, and recent mine disasters have heightened interest in promising new safety technology. The MINER Act addresses some of these issues and underscores NIOSH's and MSHA's roles in developing and approving safety technologies. For example, the act requires NIOSH to study the use of refuge chambers for miners and requires MSHA to review the results of NIOSH's work to determine what

¹²This agreement was originally executed between MSHA's predecessor in the Department of Interior, the Mining Enforcement and Safety Administration (MESA) and NIOSH's predecessor, the Division of Mining Research – Health and Safety in the Bureau of Mines in 1976. The MOU was updated in 1978 after MESA was transferred to the Department of Labor and renamed MSHA.

actions, such as making regulatory changes, are appropriate. Both agencies must take action within a relatively short period of time.¹³

MSHA Has Improved Its Hiring Process, but Its Human Capital Strategic Plan Does Not Adequately Project or Address Its Future Workforce Needs

While MSHA has taken significant steps to improve its hiring process, the agency's human capital plan does not include a strategic approach for addressing the large number of retirements expected over the next 5 years. In 2004, MSHA began using the Federal Career Intern Program (FCIP) to hire new mine inspectors, which has resulted in a number of improvements to the hiring and recruitment process, such as hiring new inspectors more quickly. Since it began using the program, MSHA has hired 301 interns, 236 of whom are coal mine inspector trainees.¹⁴ Through the FCIP, MSHA developed a process for assessing applicants' skills, conducting interviews, and providing applicants with immediate feedback on their aptitude during 1-day job fairs held in locations around the country. As of October 2004, all applicants for inspector positions must attend job fairs and pass a test on basic math and writing skills before interviewing with MSHA. MSHA reported that this screening process has helped the agency maximize its resources, since the exams identify applicants who do not have the basic skills needed to become a successful inspector at an early stage of the hiring process. For example, of the 1,256 applicants tested in 2005 and 2006, 49 percent failed either the math or written exam, or both. MSHA's previous hiring process considered experience over basic skills, and officials told us that this resulted in some new hires with significant mining experience but weak reading and writing skills. As a result, MSHA spent time during new mine inspector training teaching these basic skills.

MSHA officials reported that this new approach has reduced the amount of time it takes to hire a new mine inspector from up to 180 days to 45 days or less.¹⁵ In addition, the Office of Personnel Management approved MSHA's request to hire mine inspectors through the FCIP under

¹³NIOSH is required to report out on its work within 18 months after the enactment of the MINER Act. MSHA then has 180 days after receiving the report from NIOSH to determine what actions it intends to take.

¹⁴These data are as of February 2007. The noncoal interns were hired as inspector trainees for metal/nonmetal mining operations.

¹⁵According to an MSHA human resources official, this time frame begins when an applicant receives a job offer and includes time for the agency to review the results from a medical exam and drug test. It does not include any time that an applicant might be placed on a waiting list if the district does not have a job opening available.

a broader range of pay scale levels, which allows the agency to hire individuals with different experiences.¹⁶ For example, an applicant might have little experience in mining but possess relevant experience in construction and electrical engineering. This applicant would be hired as a mine inspector trainee at the lower end of the pay scale and be given additional training in areas specific to mine health and safety. Further, MSHA officials commented that the job fairs have helped the agency reduce the number of interagency transfers that occurred under its old hiring process, which was a significant problem. Since job fairs are held in the locations where applicants are being sought and applicants must attend the job fairs in person, they tend to live in those communities and are less likely to request a transfer to another location once they are hired.¹⁷

Appointments to the FCIP are generally for 2 years, at which point the intern may be offered a permanent position.¹⁸ During the internship, new hires are required to participate in a formal training program, which consists of training provided by the Mine Academy and structured on-the-job training. However, district managers and Mine Academy officials agreed that, realistically, new inspectors can take up to 5 years to become fully competent and confident in their roles as underground coal mine inspectors.

While the improvements MSHA has made to its recruiting process are an important part of addressing impending retirements, the agency has not developed a long-term strategy for replacing mine inspectors. MSHA estimates that over 40 percent of its inspectors will be eligible for retirement by 2012 (see table 1), and agency officials told us that in the last 3 years, between 32 and 47 percent of the coal mine enforcement employees eligible to retire actually did so in the first year of eligibility.

¹⁶MSHA can offer new mine inspectors positions under the government general schedule (GS) that range from GS-5 to GS-11. As of January 2007, the potential pay ranged from \$25,623 to \$61,068.

¹⁷For example, between October 2006 and April 2007, MSHA held job fairs in each of its 11 coal mine districts.

¹⁸Inspectors with relatively little experience (and hired at the lower end of the pay scale) participate in the FCIP longer—3 years instead of 2 years—to give the agency time to assess their performance and knowledge before a decision is made on whether to convert them to permanent employee status.

Table 1: Number of Underground Coal Mine Inspectors and Those Eligible for Retirement by 2012

	District office											Total
	1	2	3	4	5	6	7	8	9	10	11	
Number of underground coal mine inspectors	6	38	39	71	35	56	52	24	26	16	14	377
Number of underground coal mine inspectors eligible to retire within 5 years	3	23	15	36	12	16	13	10	13	8	5	154
Percentage eligible to retire within 5 years	50%	61%	38%	51%	34%	29%	25%	42%	50%	50%	36%	41%

Source: GAO analysis of MSHA data.

Note: Data are as of January 31, 2007.

District officials expressed concern over loss of highly experienced coal mine inspectors and the impact such retirements can have on achieving the goals of the agency. For example, one district official told us that recent retirements have left the district short-handed and expressed concern over the inspectors' ability to complete the required annual mine inspections on time.

While MSHA human resources officials told us about steps they are taking to mitigate the turnover, the agency has not developed a strategic plan that clearly links measurable outcomes to the mission and goals of the agency. In our review of the plan and discussions with MSHA officials, the agency has not yet demonstrated how it is planning for its future needs, what targets and goals are established to meet those needs, and how the goals will be monitored. For example, given the amount of time needed to train new inspectors, it is not clear how the agency will take into account the potential increases in future hiring and the time necessary to fully train replacements.

GAO has reported on effective strategies for workforce planning that require a more strategic approach to meeting the challenges of the future.¹⁹ Among other elements, strategic planning serves as a tool to help agencies address challenges in a manner that is clearly linked to achieving their mission and goals. For example, by using data to make long-term

¹⁹GAO, *Human Capital: Federal Workforce Challenges in the 21st Century*, [GAO-07-556T](#) (Washington, D.C.: March 6, 2007); GAO, *Human Capital: Key Principles for Effective Strategic Workforce Planning*, [GAO-04-39](#) (Washington, D.C.: Dec. 11, 2003).

projections, an agency can design a transition program to ensure that experienced employees are available in critical areas of the agency and that the institutional knowledge would not be lost because of turnover. Further, the agency can revisit the projections on a regular basis and use the information to address broader agency goals for improvement.

Most Penalties Assessed by MSHA Are Paid without Opposition, but Many of Those Appealed Are Reduced Significantly

Most of the penalties proposed by MSHA are paid by mine operators without opposition, but a small percentage of more serious and higher-dollar penalties are appealed, and many of those appealed are reduced significantly. In order to determine the amount of a proposed penalty, MSHA uses a standard formula that generally results in larger penalties being proposed for more serious violations. MSHA assigns point values to each of the six broad factors outlined in the Mine Act, and two of these factors—whether the operator was negligent and the gravity of the violation—carry the greatest weight in deciding the amount of the proposed penalty.²⁰ MSHA inspectors are responsible for making an initial determination regarding the magnitude of these two elements during their inspections.²¹ After an inspector issues a citation and makes an initial finding regarding the gravity and negligence of the violation, MSHA determines the magnitude of the remaining four factors and tallies the points to determine the proposed penalty amount. Between 1996 and 2006, MSHA proposed 506,707 penalties for safety and health violations, and the average penalty was \$234 per violation. Table 2 details the range of

²⁰Under regulations effective as of April 23, 2007, MSHA's penalties are assessed in two different penalty categories: regular and special. Prior to the recent regulatory changes, MSHA issued a third type of penalty called the single penalty. The single penalty was a flat \$60 penalty for violations that are unlikely to cause injury or illness. This type of penalty accounted for approximately 60 percent of the penalties issued between 1996 and 2006. MSHA's new regulations eliminate the single penalty. A regular assessment is the agency's general penalty and ranges from \$112 to \$60,000. Special assessments are reserved for violations in which MSHA elects to waive the regular assessment, and set another penalty consistent with the six statutory factors. For example, special assessments may be used when an operator fails to correct certain violations or notify MSHA of certain kinds of accidents. A special assessment can be as high as \$220,000, but this is for the new flagrant violation established under the MINER Act; the maximum for most special assessments is also \$60,000. Eligibility guidelines and assessment formulas for special and regular assessments are outlined in MSHA regulations and agency policies.

²¹MSHA inspectors also determine whether mine operators have made good faith efforts to correct the violation, which results in a 10 percent reduction in the proposed penalty. Under regulations that were in effect through April 22, 2007, the good faith reduction was 30 percent.

average penalties, by degree of gravity and negligence, proposed by MSHA from 1996 through 2006.

Table 2: Average Proposed Penalty by Gravity and Negligence Indicators, 1996 to 2006

Elements of gravity and negligence	Percentage of citations issued	Average proposed penalty
Gravity of violation^a		
<i>Likelihood of accident</i>		
Accident occurred	0.2%	\$12,324
Highly likely to occur	0.9%	\$2,362
Reasonably likely to occur	38.6%	\$367
Unlikely to occur	55.5%	\$74
No likelihood	2.4%	\$168
Total	97.6%^b	
<i>Potential injury or illness</i>		
Fatal	3.5%	\$1,185
Permanent injury	7.4%	\$569
Lost days	62.4%	\$202
No lost work days	24.4%	\$77
Total	97.7%^b	
<i>Number of miners affected</i>		
0-1 miners	82%	^c
2-5 miners	10.8%	^c
6-9 miners	4.5%	^c
10 or more miners	2.7%	^c
Total	100.0%	
<i>Negligence by mine operator</i>		
Reckless	0.1%	\$8,458
High	3.5%	\$1,757
Moderate	84.3%	\$179
Low	9.4%	\$91
None	0.3%	\$454
Total	97.6%^b	

Source: GAO analysis of data MSHA penalty and violation data.

Note: These data represent the points accumulated under the former assessment process. MSHA expects its new regulations to result in higher proposed penalty amounts for each of these categories.

^aEach subelement of gravity is an exclusive category.

^bPercentage does not add to 100 due to a small amount of missing data.

^cWe did not calculate the average proposed penalty for the number of miners, because most (75 percent) of the violations involved only one miner.

MSHA recently changed its regulations governing civil penalty assessments to update them and increase proposed penalty amounts, and to implement the new civil penalty requirement of the MINER Act. The new regulations will increase the points for most of the six statutory factors, and MSHA officials predicted that the new penalty structure will increase total proposed penalties by 234 percent. For example, these changes will increase the maximum points allotted for gravity from 30 to 88 points. MSHA officials asserted that these changes will likely lead to greater rates of compliance and subsequently a safer working environment for the nation's miners.

Between 1996 and 2006, approximately 6 percent (31,589) of the penalties proposed by MSHA for violations of underground coal mine safety and health standards were contested by mine operators, and about half of the contested penalties were reduced. The average amount of a contested penalty was \$1,107, compared to an average of \$176 for a noncontested penalty, and more than half of all contested penalties were for the most serious violations.²² Almost half of all penalties contested by underground coal mine operators are reduced through the appeals process, even those involving the highest levels of gravity and negligence. From 1996 to 2006, 47 percent of all contested penalties (14,723 penalties) were decreased from the amount originally proposed by MSHA. On average, these penalties were reduced by about half of the amount initially proposed by MSHA using its standard formula.²³

While all of the entities involved in the appeals process—the Labor's Solicitor's Office, MSHA's conference litigation representatives (CLR)²⁴, and the Commission's administrative law judges (ALJ)—are required by

²²Sixty-three percent of contested penalties are considered "significant and substantial," or "S&S," violations. An inspector designates violations as S&S if they are deemed at least reasonably likely to cause an injury that results in lost work days. This designation can trigger more serious sanctions, such as closing a portion of a mine or closing an entire mine.

²³For more detailed information about penalty reductions, see [GAO-07-622](#).

²⁴CLRs are MSHA enforcement staff and are located in every MSHA coal district. They have been provided with specialized legal training and are authorized by the agency to negotiate settlements for penalties that are no higher than \$350 and are limited in legal complexity.

law to apply the six statutory factors specified in the Mine Act, they are not legally obligated to use any particular method to determine a final penalty amount when they determine that a reduction from MSHA's proposed penalty is appropriate. As a result, they have considerable discretion in deciding on the final penalty amount. Officials from all three of the entities involved in the appeals process told us that in determining the size of a final penalty, they apply the six statutory factors on a case-by-case basis and use their professional judgment. For example, officials from the Solicitor's Office and CLRs told us that, when appropriate, the Department of Labor generally views penalty settlements as being in the best interest of both the agency and the mine operators because settlements allow them to avoid costly litigation.²⁵ Attorneys from the Solicitor's Office also told us that they analyze the evidence presented by MSHA inspectors and mine operators and assess their chances of winning the case in deciding whether to settle a case or go to trial.

Prior decisions by the Commission require ALJ decisions to be sufficiently explained.²⁶ However, in some cases we reviewed, while the reasons supporting a reduction from MSHA's proposed penalty are clearly explained, the rationale for the final penalty amount is not always well documented. For example, in one case decided in October 2005, the ALJ reduced MSHA's proposed penalty from \$50,000 to \$10,000.²⁷ Although the judge concluded that the gravity of the violation was less than MSHA had originally found, thereby supporting a penalty reduction, he appeared to agree with MSHA's assessment regarding the other five statutory factors,

²⁵In addition to the general costs of litigation, in some cases, the Equal Access to Justice Act requires that the Department of Labor pay a mine operator's fees and expenses, including reasonable attorneys fees, if the ALJ finds that the agency's position was not substantially justified, such as when an MSHA-proposed penalty is lowered significantly in formal proceedings. 5 U.S.C. § 504 and 29 C.F.R. Part 2704.

²⁶In August 2006, the Commission reminded ALJs of the importance of adequately documenting penalty decisions. Specifically, the Commission wrote "When . . . it is determined that penalties are appropriate which substantially diverge from those originally proposed, it behooves the Commission and its judges to provide a sufficient explanation of the bases underlying the penalties assessed by the Commission. If a sufficient explanation for the divergence is not provided, the credibility of the administrative scheme providing for the increase or lowering of penalties after contest may be jeopardized by an appearance of arbitrariness." *Jim Walter Resources, Inc.*, 28 FMSHRC 579, 606-07 (August 2006) (citing *Sellersburg Stone Co.*, 5 FMSHRC 287, 293 (March 1983)).

²⁷*Wabash Mine Holding Co.*, 27 FMSHRC 672 (October 2005).

including MSHA's finding that the operator's degree of negligence was high.²⁸

In conclusion, the events of the last year heightened interest in protecting miners and preparing them for the perils in their workplace. While Congress, federal and state officials, mine operators, miners and their representatives have taken important steps to improve safety in mines, more can be done in several areas. First, without assistance for mine operators in providing training under simulated emergency conditions and adequate monitoring of instructors and the training miners receive, miners may not be able to safely and confidently escape a mine. Further, the high rates of retirement eligibility among MSHA and NIOSH scientists and engineers as well as the need to work together under tight time frames may render current informal coordination ineffective, thus hampering the agencies' efforts to speed the implementation of new safety technology in mines. Similarly, the expected high attrition among MSHA's inspector corps, coupled with the amount of time needed to train new inspectors to become proficient at their duties, calls for a more strategic approach. Absent a clear plan to address expected turnover, MSHA could jeopardize its success to date in reforming the inspector recruitment and hiring process.

Finally, given the trends over the past 10 years, the higher proposed penalties under MSHA's new penalty structure will likely lead more operators to appeal. As a result, it is important that decisions on contested penalties are transparent and contain the necessary information to understand how final penalty amounts are determined. Without such information, it will be difficult to monitor their decisions over time to ensure that all of the entities involved in the appeals process are appropriately and consistently applying the six statutory factors in altering penalty amounts and that the impact of penalties in protecting miners' safety through greater compliance by mine operators is not diminished.

In the reports, we made recommendations to the Secretaries of Labor and Health and Human Services, and the Chairman of the Federal Mine Safety and Health Review Commission. These recommendations are designed to strengthen the efforts of Labor, MSHA, NIOSH, and the Commission by

²⁸See also *Jim Walter Resources, Inc.*, 28 FMSHRC 1068 (December 2006) and *Jim Walter Resources, Inc.*, 28 FMSHRC 579 (August 2006).

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- improving mine operators' access to information and tools for training their workers,
 - strengthening MSHA's oversight of training,
 - improving the effectiveness of information sharing between MSHA and NIOSH,
 - strengthening MSHA's human capital strategic planning efforts, and
 - ensuring that there is transparency in final penalty amounts for appealed cases.

Each agency generally agreed with the recommendations after reviewing a draft of the reports.

Mr. Chairman, this concludes my statement. I will be pleased to respond to any questions you or other members of the committee may have.

GAO Contact and Staff Acknowledgments

For further information, please contact Daniel Bertoni at (202) 512-7215. Individuals making key contributions to this testimony include Revae Moran, Sara L. Schibanoff, and Rachael C. Valliere.

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