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United States Government Accountability Office
Washington, DC 20548

May 16, 2007

Subject: 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

Congressional Requesters

In 2003, GAO recommended that the Mine Safety and Health Administration (MSHA) develop a plan for addressing anticipated shortages in the number of qualified inspectors due to upcoming retirements, including considering options such as streamlining the agency's hiring process and offering retention bonuses.¹ As you requested, we conducted follow-up work on the implementation of this recommendation. We reviewed MSHA's human capital planning documents and obtained data on the number of inspectors employed by MSHA and the number of them eligible for retirement. In addition, we interviewed officials responsible for MSHA's human resources department, officials in MSHA's district offices, and officials at the National Mine Health and Safety Academy. We completed our work between June 2006 and March 2007 in accordance with generally accepted government auditing standards.

In 2004, MSHA began a new process for hiring mine inspectors under the auspices of the Federal Career Intern Program (FCIP)—a federal program designed to recruit and retain high caliber candidates and develop their professional abilities. The use of the FCIP has led to a number of improvements in inspector recruiting and hiring, such as being able to identify applicants with the basic skills needed to be a successful inspector early in the process and decreasing the time it takes the agency to hire new inspectors. Since MSHA began using the program, the agency has hired 236 new coal mine inspector trainees.

However, 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 in the next 5 years. MSHA estimates that over 40 percent of its inspectors will be eligible for retirement by 2012. District officials expressed concerns about the impact that losing experienced inspectors may have on the agency's ability to achieve its goals, particularly completing required safety and health inspections on time. We are recommending that MSHA engage in a strategic planning effort that utilizes the data it collects on expected retirements and actual attrition to develop goals that can be monitored and evaluated.

¹GAO, *Mine Safety: MSHA Devotes Substantial Efforts to Ensuring the Safety and Health of Coal Miners, but Its Programs Could Be Strengthened*, GAO-03-945 (Washington, D.C.: Sept. 5, 2003).

Background

Mine safety and health inspectors carry out the day-to-day responsibility of ensuring that underground coal mines are safe and hazard-free workplaces. The Federal Mine Safety and Health Act of 1977, as amended (the Mine Act) requires that representatives of MSHA conduct frequent inspections and investigations in coal and other mines each year for the purpose of

- obtaining, utilizing, and disseminating information relating to health and safety conditions; the causes of accidents; and the causes of diseases and physical impairments originating in such mines;
- gathering information with respect to mandatory health or safety standards;
- determining whether an imminent danger exists; and
- determining whether there is compliance with the mandatory health or safety standards detailed in the act, or with citations, orders, or decisions issued under the act.

For underground coal mines, MSHA is required to inspect each mine in its entirety at least four times a year. The agency also has the authority to conduct more frequent inspections for some mines, such as those that liberate excessive quantities of methane or other explosive gases. It is the job of the inspectors to conduct these inspections and issue citations for any violations of the health and safety standards. Inspectors are granted a great deal of responsibility and ultimately have the authority to interrupt a mine's production in certain circumstances.

The Mine Act outlines the qualifications each mine inspector must possess:

- practical experience in mining,
- experience as a practical mining engineer, or
- education.

In addition, 5 years of practical experience is preferred, but not required.²

As we identified in our 2003 report, the inspector workforce is in a state of transition. At the time of that report, we recommended that MSHA develop a plan for addressing anticipated shortages in the number of qualified inspectors due to upcoming retirements. As a part of that recommendation, we suggested that the agency consider options such as streamlining its hiring process and offering retention

²An associate solicitor of the Department of Labor issued a memorandum in 1991 analyzing the statutory qualification requirements for inspectors. He concluded that the 5 year requirement, which is qualified by the statement "to a maximum extent feasible," is not an absolute requirement. Therefore, MSHA can appoint individuals who lack 5 years of experience but meet one of the three qualifications noted above.

bonuses. This recommendation stemmed from the finding that, at that time, between 20 and 86 percent of the underground coal mine inspectors in the agency's 11 districts were eligible for retirement within 5 years—an average of 44 percent across all of the districts. In addition to the anticipated turnover in experienced inspectors, the officials we talked with at that time reported difficulty in hiring new inspectors quickly and training them to replace outgoing staff.

MSHA Developed a Strategic Approach to Hire Mine Inspectors

In 2004, MSHA began using the FCIP to hire new mine inspectors. Since it began using the program, MSHA has hired 301 interns, 236 of whom are coal mine inspector trainees.³ The FCIP requires agencies to determine how the program can be used to fulfill recruitment needs for particular occupations, and develop procedures for accepting applications, evaluating, and selecting candidates. They also must implement a formal training program for the interns and monitor program activities. MSHA's use of this program has led to a number of improvements in its hiring practices.

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, where they are tested on basic math and writing skills. In order to interview with MSHA for the positions, applicants must pass these standardized exams. MSHA reported that this screening process has helped the agency maximize its resources, since the exams identify at an early stage applicants who do not have the basic skills needed to become a successful inspector. For example, of the 1,256 applicants tested in 2005 and 2006, 49 percent failed either the math or written exam, or both.

In comparison, MSHA's previous hiring process limited its ability to assess the skills and abilities of applicants for mine inspector positions. MSHA officials explained that, under the old process, applicants were ranked by experience, and their basic skills were not considered. For example, they explained that the agency hired people with considerable mining experience, but some of them had weak reading and writing skills. As a result, MSHA spent time during new mine inspector training teaching these basic skills. A skills inventory conducted by the Department of Labor in fiscal year 2003 identified the need to close the competency gaps in the mine safety and health inspector workforce in three areas: oral communication; writing; and legal, government, and jurisprudence.⁴ The new assessment process used during the job fairs is a step toward ensuring that MSHA's inspectors have a standard level of proficiency.

³These data are as of February 2007. The non coal interns were hired as inspector trainees for metal/nonmetal mining operations. Metal and nonmetal mining is separated into four broad categories: metal, nonmetal, stone, and sand and gravel.

⁴Labor defined the "legal, government, and jurisprudence" area as knowledge of laws, legal codes, court procedures, precedents, legal practices and documents, government regulations, executive orders, agency rules, government organization and functions, and the democratic political process.

Applicants that successfully complete the math and written exams move on to a structured interview with a panel of MSHA officials that includes an administrative official, such as someone from human resources, and one supervisory or management official. During the interviews, the same questions are posed to all applicants at each job fair in the same order. The questions assess, among other things, the applicant's general skills in areas such as problem solving, interpersonal skills, and oral communication. In addition, applicants for higher paying positions are asked about their knowledge of and experience in mining, including experience with inspections and knowledge of the laws and regulations governing mines.

Under its new approach, MSHA has been able to reduce the amount of time it takes to hire a new mine inspector. Under the old hiring process, MSHA officials reported that it often took up to 180 days to hire an inspector. Now, agency officials reported that they have reduced the hiring time to 45 days or less.⁵ In addition, the Office of Personnel Management approved MSHA's request to hire mine inspectors through the FCIP under a broader range of pay scale levels, which allows the agency to hire individuals with a broader range of experiences.⁶ 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 given additional training in areas specific to mine health and safety. Similarly, MSHA can hire highly experienced applicants, such as those with knowledge of progressive mining methods, at the higher end of the pay scale as an incentive to attract these candidates.

In addition, 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. According to these officials, because applicants from any location could apply for positions in any MSHA district office, they often applied for a position in one location and then, shortly after being hired, applied for a transfer to the area where they lived. Now, however, 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.⁷

Appointments to the FCIP are generally for 2 years, at which point the intern may be offered a permanent position. During the internship, new hires are required to participate in a formal training program. To meet this requirement, inspector trainees participate in training modules at the National Mine Health and Safety Academy—a training center run by MSHA that conducts a variety of education and training programs in health and safety and related subjects for federal mine inspectors and other government mining and industry personnel. Each module lasts for 3 to 4 weeks and is interspersed by periods of time when inspector trainees return to their districts for on-the-job training with experienced inspectors. Training classes include mine

⁵According 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.

⁶MSHA 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.

⁷For example, between October 2006 and April 2007, MSHA held job fairs in each of its 11 coal mine districts.

rescue, accident prevention, investigations, inspection procedures, mine emergency procedures, mine technology, and management, among others. Some of the courses include practicing techniques in the Mine Academy's mine lab to provide the new inspectors with training in a simulated mine environment. Mine Academy officials reported that new inspectors can complete the formal training in 11 months but are expected to continue with structured on-the-job training throughout the duration of their participation in the FCIP. Each inspector trainee also develops an Individual Development Plan, which guides and documents the training and development process. Inspectors 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. While the internship period serves to develop the inspectors, it also doubles as an opportunity to determine their quality and compatibility with the agency. Although new inspectors participate in a 2- to 3-year training program, 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.

MSHA's Human Capital Plan Does Not Adequately Project Its Workforce Needs

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 has developed a human capital strategic plan that declares it is designed to shift the basis of human resources planning from a reactive and passive model to a proactive competency-based model. However, according to our review of the plan and discussions with MSHA officials, the agency has not demonstrated how it plans to address the large number of retirements of its inspector workforce in the coming years.

MSHA estimates that over 40 percent of its inspectors will be eligible for retirement by 2012 (see table 1).⁸

⁸MSHA faces similar shortages in its engineer and scientist workforce in coming years. See GAO, *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).

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.

MSHA reported 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.

Human resources officials explained some steps they are taking to monitor the retirements in each district, such as maintaining communication with the district managers so that, when a retirement is announced, the agency can authorize the district manager to begin the process to hire a candidate from the job fairs. In addition, these officials explained that MSHA is about to start a new program to prepare for the loss of supervisors and managers, which will consist of a 1-year training program. Despite these steps, the agency has not developed a strategic plan that demonstrates how it will address the challenges in a manner that is clearly linked to achieving its mission and goals. For example, the plan does not adequately take into account the potential increases in future hiring and the time necessary to fully train replacements.

Further, district officials expressed concern over the retirements and loss of highly experienced coal mine inspectors, and the impact these challenges 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.

MSHA officials told us they generally hire replacements only after a current inspector leaves, which prevents having a period of overlap during which experienced inspectors likely to retire soon and newly hired inspectors are both on board. They also said that, given the long time it takes to train new inspectors, having this overlap would assist them to better manage their workload because it would allow experienced inspectors to train their replacements before they retired. The officials explained that budget restrictions contribute to this approach.

GAO has reported on effective strategies for workforce planning that require a more strategic outlook to meeting the challenges of the future and developing a process for

monitoring and evaluating an agency's goals.⁹ Strategic human capital planning that is integrated with broader organizational strategic planning is critical in ensuring that agencies have the talent they need for future challenges, especially as the federal government faces a large wave of retirements. 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, GAO reported on an approach the Social Security Administration is using to mitigate the impact of retirements on its workforce and broader agency goals. By using data to make long-term projections, the agency was able to design a transition program to ensure that experienced employees were available in critical areas of the agency and that the institutional knowledge would not be lost because of turnover. The agency revisits the projections on a regular basis and uses the information to address broader agency goals for improvement.

Conclusions

MSHA has taken significant steps to reform its process to recruit and hire new mine inspectors. However, the high attrition expected over the next 5 years, coupled with the amount of time needed to train new inspectors to become proficient at their duties, means the agency could jeopardize these successes without a clear and well-thought-out plan that addresses the expected turnover in its experienced workforce. While the agency has data on expected retirements and its recent attrition, it has not utilized this information in a strategic approach to prepare for the longer-term needs of the agency. Because MSHA does not utilize the data it already collects, and has not developed measurable goals, the agency's ability to monitor and evaluate its progress toward meeting its human capital goals is inhibited.

Recommendation for Executive Action

Given the long lead time needed to train new inspectors to replace those retiring, MSHA needs to focus its planning efforts on estimating and managing the large number of expected retirements. To begin this process, we recommend that the agency engage in a strategic planning effort that utilizes the data it collects on expected retirements and actual attrition to develop goals that can be monitored and evaluated.

Agency Comments

We obtained comments on a draft of this report from MSHA. These comments are reproduced in appendix I.

⁹GAO, *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).

In general, MSHA agreed that it can continue to enhance strategic planning in the area of human capital. However, in response to the number of retirements expected, MSHA officials commented that only 15 percent of its workforce will retire in the coming years. These data are based on calculations that factor in the entire underground coal inspector workforce, as opposed to just the number of inspectors eligible for retirement. Our analysis focused on the number of inspectors eligible for retirement who actually retired the first year they were eligible. We found that between 32 and 47 percent of retirement-eligible inspectors are likely to leave MSHA in the first year of eligibility. Therefore, MSHA's succession planning should focus on the number of inspectors who are eligible for retirement over the next 5 years. Understanding this population will help the agency plan for the potential impact on its experienced workforce and allow the agency to identify the needs of the remaining workforce, such as training less experienced staff and identifying supervisors to replace those who leave.

MSHA also stated in its response that the hiring of additional enforcement staff as a result of funds provided by an emergency supplemental appropriations bill passed in 2006 will effectively reduce mass retirements because of the increased number of less tenured employees. In addition, MSHA commented that it conducts exhaustive reviews to identify where current and future vacancies exist and where industry shifts require MSHA to adjust its workforce. The agency also noted that it has planned its recruitment strategy to hire enough inspectors in fiscal year 2007 to mitigate the impact of expected retirements this year. While these actions are commendable, they are examples of actions that should be tied to specific, measurable goals in the agency's strategic human capital plan. This would provide accountability and allow better oversight by entities such as GAO and the Congress.

We are sending copies of this report to the Secretary of Labor, relevant congressional committees, and other interested parties. Copies will be made available to others upon request. In addition, the report will be available at no charge on GAO's Web site at <http://www.gao.gov>. Please contact me at (202) 512-7215 if you or your staff have any questions about this report. Revae Moran, Assistant Director; Sara L. Schibanoff, Analyst-in-Charge; and Lerone C. Reid made key contributions to this report. Sheila R. McCoy provided legal assistance.

Sincerely yours,



Daniel Bertoni
Director, Education, Workforce,
and Income Security Issues

List of Congressional Requesters

The Honorable Robert C. Byrd
Chairman
Committee on Appropriations
United States Senate

The Honorable Edward M. Kennedy
Chairman
The Honorable Michael B. Enzi
Ranking Member
Committee on Health, Education, Labor, and Pensions
United States Senate

The Honorable Tom Harkin
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The Honorable Arlen Specter
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The Honorable George Miller
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House of Representatives

The Honorable John D. Rockefeller IV
United States Senate

The Honorable Shelley Moore Capito
House of Representatives

The Honorable Alan B. Mollohan
House of Representatives

The Honorable Nick Rahall
House of Representatives

Appendix I: Comments from the Department of Labor

U.S. Department of Labor

Mine Safety and Health Administration
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Arlington, Virginia 22209-3939



MAY 01 2007

Mr. Daniel Bertoni
Director
Education, Workforce, and
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General Accounting Office
441 G. Street, NW
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Dear Mr. Bertoni:

Thank you for the opportunity to comment on your draft report titled "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." We agree that MSHA, like many federal agencies, can continue to enhance strategic planning in the area of human capital. However, we take issue with your conclusions. Specifically, several vital human capital issues and planning efforts were discussed with your staff both during the course of the review and during your exit conference but are not included in the draft report.

GAO Conclusion: "MSHA has taken significant steps to reform its process to recruit and hire new mine inspectors. However, the high attrition expected over the next 5 years, coupled with the amount of time needed to train new inspectors to become proficient at their duties, means the agency could jeopardize these successes without a clear and well-thought-out plan that addresses the expected turnover in its experienced workforce."

MSHA Response: We again assert that being eligible to retire is much less a dominant factor than employees projected to actually retire. Although we estimate that 40% of underground inspectors will become eligible to retire in 1-5 years, the data trends show that at most 15% actually will retire. More employees stay on the job after reaching eligibility due to the FERS benefit system and other personal decisions.

Moreover, the MINER Act of 2006 mandates that the agency hire an additional 170 enforcement employees within the Coal program using supplemental funds supplied by Congress. The inclusion of new hires, both as supplemental and back-fill employees, effectively reduces the percentage of inspectors eligible to retire within 5 years. Finally, the increased population of less tenured government employees greatly reduces the probability that at any given time MSHA will face mass retirement.

GAO Conclusion: “While the agency has data on expected retirements and its recent attrition, it has not utilized this information in a strategic approach to prepare for the longer-term needs of the agency. Because MSHA does not utilize the data it already collects, and has not developed measurable goals, the agency’s ability to monitor and evaluate its progress toward meeting its human capital goals is inhibited.”

MSHA Response: MSHA currently engages in extensive strategic planning and utilizes collected data for employee attrition and retirement to inform its strategic hiring goals. While the 2006 DOL human capital plan did not specifically address the strategic approaches MSHA instituted, we have planned and implemented strategic efforts to replace inspectors lost to attrition and retirement. Since July 1, 2006, MSHA augmented already existing strategic hiring plans by revamping our strategy in the following ways:

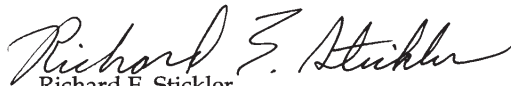
- Human Resources and Coal headquarters and field management conduct exhaustive reviews to pinpoint areas of concern for the immediate future (1-3 years), including existing vacancies, anticipated vacancies, and industry shifts that require MSHA to adjust its workforce. This review and analysis is an ongoing, dynamic process, with projections and targeted hiring undergoing constant refinement based on attrition and industry shifts. This flexibility allows MSHA to compensate for periods and geographic locations of greatest need. For example, we recently conducted repeat job fairs in the same districts only three months apart to account for our forecasted needs.
- MSHA realizes that the nature of our mission and the training needed to accomplish our mission require a qualified pool of talent from which to add new human capital. Traditionally, MSHA relied on lapse rates to inform the Agency hiring strategy on upcoming vacancies due to attrition and retirement. To mitigate this situation and proactively address the issue, MSHA’s strategic plan for FY 2007 includes front-loading the numbers targeted for recruitment through 09/30/2007 by 56, which is the approximate number of inspectors eligible to retire. This decision reflects MSHA’s desire

to hedge against the trends discussed above and prepare a qualified work force from which to draw future inspectors.

Again, thank you for the opportunity to comment on your draft report. We are certainly open to dialogue with your staff regarding any additional strategic planning actions needed beyond what MSHA is currently doing.

If you have any questions, please contact David Meyer at (202) 693-9802 or Brent Carpenter at (202) 693-9782.

Sincerely,


Richard E. Stickler
Assistant Secretary for
Mine Safety and Health

(130653)

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