

**U.S. Department of Labor**

Office of Inspector General—Office of Audit

**MINE SAFETY AND HEALTH  
ADMINISTRATION**



**UNDERGROUND COAL MINE INSPECTION  
MANDATE NOT FULFILLED DUE TO RESOURCE  
LIMITATIONS AND LACK OF MANAGEMENT  
EMPHASIS**

Date: November 16, 2007  
Report Number: 05-08-001-06-001

## **BRIEFLY...**

Highlights of Report Number: 05-08-001-06-001, *Underground Coal Mine Inspection Mandate Not Fulfilled Due to Resource Limitations and Lack of Management Emphasis*, to the Assistant Secretary for Mine Safety and Health, dated November 16, 2007.

### **WHY READ THE REPORT**

The Mine Safety and Health Act of 1977 (Mine Act) requires the Mine Safety and Health Administration (MSHA) to inspect underground coal mines in their entirety at least four times per year to safeguard miners. Missed or incomplete inspections potentially place miners at risk. It is, therefore, important that all required inspections are performed and all critical inspection activities are completed during those inspections. The August 2007 fatalities at the Crandall Canyon Mine in Utah underscore the need to continuously improve processes that minimize safety and health risks in underground coal mines.

### **WHY OIG CONDUCTED THE AUDIT**

The Office of Inspector General (OIG) conducted a performance audit of MSHA's underground coal mine inspection process to determine whether MSHA ensured that (1) all underground coal mines received the required regular safety and health inspections and (2) all critical inspection activities required during the inspections were completed. Subsequent to the fatalities at Crandall Canyon, we added the recent safety and health inspections at that mine to our audit scope.

### **READ THE FULL REPORT**

To view the report, including the scope, methodology, and full agency response, go to:

<http://www.oig.dol.gov/public/reports/oa/2008/05-08-001-06-001.pdf>

**November 2007**

### **WHAT OIG FOUND**

MSHA's Office of Coal Mine Safety and Health (CMS&H) did not perform all required inspections at 107, or 15 percent, of the Nation's 731 underground coal mines in Fiscal Year 2006. This occurred because of decreasing inspection resources and CMS&H management not placing adequate emphasis on ensuring the inspections were completed.

CMS&H also could not provide adequate assurance that some critical inspection activities required by MSHA policy were performed during regular safety and health inspections because 15 percent of the critical inspection activities we reviewed were not documented. This occurred because CMS&H did not require inspectors to document all critical inspection activities performed and Field Office supervisors to document their conclusions regarding the thoroughness of the overall inspections.

For the Crandall Canyon Mine, we found that all seven required regular safety and health inspections were performed during FY 2006 and FY 2007. However, CMS&H could not provide adequate assurance that all critical activities were performed during these inspections. Further, one inspection was found to be incomplete and unsatisfactory by the Field Office supervisor, one lacked required documentation, and one contained misdated documents for critical inspection activities, which MSHA could not explain.

### **WHAT OIG RECOMMENDED**

We made seven recommendations to the Assistant Secretary for Mine Safety and Health. Key recommendations include ensuring:

- inspection resources are commensurate with mining activity;
- CMS&H document all critical inspection activities as performed or not applicable;
- Field Office supervisors certify inspections are thorough and complete; and
- inspection documentation and supervisory oversight are reviewed as part of CMS&H's Accountability Program.

MSHA has initiated or planned corrective action to address 5 of our 7 recommendations. MSHA did not agree to implement corrective action for 2 recommendations.

# Table of Contents

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<b>Executive Summary .....</b>	<b>1</b>
<b>Assistant Inspector General’s Report .....</b>	<b>5</b>
Objective 1 - Did MSHA ensure all underground coal mines receive the required regular safety and health inspections?.....	6
Objective 2 - Did MSHA ensure all critical inspection activities required during regular safety and health inspections are performed?.....	16
<b>Exhibits .....</b>	<b>27</b>
1. FY 2006 Underground Coal Mine Inspection Data.....	29
2. Selected Critical Inspection Activities Reviewed .....	31
3. FY 2006 Selected Critical Inspection Activities Not Documented .....	35
4. FY 2006 and 2007 Selected Critical Inspection Activities Not Documented at Crandall Canyon Mine.....	37
<b>Appendices .....</b>	<b>39</b>
A. Background .....	41
B. Objectives, Scope, Methodology, and Criteria.....	45
C. Acronyms and Abbreviations.....	51
D. Agency Response to Draft Report.....	53

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# Executive Summary

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The Federal Mine Safety and Health Act of 1977 (Mine Act), as amended, requires the Mine Safety and Health Administration (MSHA) to perform inspections of each underground coal mine in its entirety at least four times per year. MSHA's primary means to comply with this statutory requirement is to conduct regular safety and health inspections.

The Office of Inspector General (OIG) conducted a performance audit of the underground coal mine inspection process performed by MSHA's Office of Coal Mine Safety and Health (CMS&H). The audit objectives were to answer the following questions:

Objective 1: Did MSHA ensure all underground coal mines receive the required regular safety and health inspections?

Objective 2: Did MSHA ensure all critical inspection activities required during regular safety and health inspections are performed?

## Results

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Our audit disclosed that MSHA did not complete one or more statutorily-required inspections at 107 (15 percent) of the Nation's 731 underground coal mines during FY 2006. One hundred and forty-seven (147) total required inspections were not completed at the 107 mines. MSHA also misstated the number of completed inspections and required inspections used in calculating the completion rate published in management reports and on MSHA's public website. The inspections were not completed and the number of completed and required inspections were misstated because (1) decreasing inspection resources during a period of increasing mining activity made it more difficult to complete the required inspections, and (2) management did not place adequate emphasis on ensuring the inspections were completed and the reported completion rate was accurate. Specifically, the number of inspectors assigned to the 11 CMS&H districts was not commensurate with the mine activity at the districts, and management's monitoring of inspection completions was not effective.

Furthermore, MSHA could not provide adequate assurance that critical inspection activities required by its policy were performed during the inspections completed in FY 2006. Our review of 21 inspections of active mines disclosed that for the 68 selected inspection activities we tested, 15 percent were not documented as having been performed because management did not require inspectors to document all critical inspection activities performed.

Due to the fatalities at the Crandall Canyon Mine in August 2007, we added it to our audit sample.<sup>1</sup> We determined that all seven required inspections were completed at the mine during FYs 2006 and 2007. However, consistent with our original audit work, we found that 16 percent of the 68 selected critical inspection activities tested for the seven inspections were not documented as actually having been performed.

Three of the Crandall Canyon Mine inspections we reviewed had significant inspection and supervisory deficiencies. The FY 2006, Quarter 1 inspections records contained written feedback to the inspector from the Field Office supervisor that the inspection was incomplete and unsatisfactory, and the FY 2006, Quarter 4 inspection records did not contain documentation for six critical inspection activities that CMS&H policy required to be documented. Some records from the inspection completed before the August fatalities (FY 2007, Quarter 3) were dated by the inspector about four months prior to the start of the inspection. One of these was a requirement for the inspector to evaluate the Roof Control Plan. The inspector could not explain why the forms were dated before the inspection period.

Because the inspection deficiencies identified in our audit were caused by weaknesses in policies and procedures, it is likely that similar documentation problems existed in all 11 CMS&H districts. In fact, MSHA found similar inspection and supervisory oversight problems during internal reviews of three fatal underground mining accidents at the Sago, Aracoma, and Darby mines. Missed or incomplete inspections place miners at risk because hazardous conditions in the mines may not be identified and corrected.

CMS&H initiated corrective action to address some of the process weaknesses we identified. In June 2007, MSHA initiated plans to establish an Office of Accountability to increase MSHA's oversight of its accountability and enforcement programs. Additionally, in July 2007, CMS&H implemented a revised CMS&H General Inspection Handbook and pilot Inspection Tracking System (ITS) that established new requirements for conducting and documenting regular safety and health inspections. Finally, in October 2007, MSHA initiated a new "100 Percent Plan" to ensure completion of all required regular safety and health inspections. MSHA has also hired more than 270 new inspector-trainees since July 2006.

## **Recommendations**

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We recommended that the Assistant Secretary ensure:

1. Inspection resources are commensurate with the mining activity in the coal districts.
2. Inspection completions are effectively monitored.

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<sup>1</sup> The OIG currently has a separate audit underway to (a) examine MSHA's approval of mine plans at Crandall Canyon and (b) determine MSHA's decision-making process during the rescue efforts following the August 2007 fatalities.

3. Policies and procedures are developed for calculating the regular safety and health inspection completion rate and ensuring the inspection data used is correct.
4. Procedures for documenting all critical inspection activities are included in the CMS&H General Inspection Handbook and ITS.
5. All critical inspection activities are documented as performed or not applicable at the mines being inspected.
6. Field Office supervisors certify inspections are thorough and complete.
7. Inspection activity documentation and supervisory oversight are reviewed as part of MSHA's Accountability Program.

### **Agency Response**

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In response to the draft report, DOL's Assistant Secretary for Mine Safety and Health disagreed with the accuracy and presentation of some of the audit results and questioned the audit methodology for assessing the thoroughness of inspections. He stated that limited enforcement time should be placed primarily on identifying and abating hazards rather than documentation and paperwork. He explained that MSHA has hired and is training additional mine inspectors and is rotating inspectors into understaffed districts to assist in completing all mandatory inspections. He did agree to make various revisions to MSHA's policies and guidance in response to several of our recommendations.

The Assistant Secretary did not agree to document when a critical inspection activity was not applicable at a mine. As an alternative, he suggested adding a disclaimer statement to ITS reports. His response did not directly address our recommendation to require Field Office supervisors to certify inspections are thorough before being counted as complete.

See Appendix D for the agency's complete response to our draft report.

### **OIG Conclusion**

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The Assistant Secretary generally agreed to take corrective actions in response to our recommendations. His response stated that MSHA is planning or has initiated corrective action for Recommendations 1, 2, 3, 4, and 7, but provided a completion milestone for only Recommendation 4.

For Recommendation 5, we are not convinced that adding a non-specific disclaimer to the ITS report provides adequate assurance that critical inspection activities were not missed due to human error or inspection resource limitations.

For Recommendation 6, we do not believe that MSHA's practice of having Field Office supervisors initial and date selected inspection records provides adequate assurance that the overall inspection was thorough.

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**U.S. Department of Labor**

Office of Inspector General  
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**Assistant Inspector General's Report**

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The Office of the Inspector General, Office of Audit, conducted a performance audit of the regular safety and health inspection process managed by the Mine Safety and Health Administration's (MSHA) Office of Coal Mine Safety and Health (CMS&H). While CMS&H performs inspections at both underground and surface coal mines, this audit focused only on inspections and oversight activities occurring in FY 2006 related to underground coal mines. Due to the fatal accidents at the Crandall Canyon Mine in August 2007, we expanded our scope to include inspection and oversight activity at the Crandall Canyon Mine in FYs 2006 and 2007. We performed work to address the following questions:

1. Did MSHA ensure all underground coal mines receive the required regular safety and health inspections?
2. Did MSHA ensure all critical inspection activities required during regular safety and health inspections are performed?

We found that CMS&H should take action to strengthen its inspection process. CMS&H did not complete a significant number of statutorily-required inspections during FY 2006. In addition, the inspection completion rate reported to management and the public was not correct. Finally, CMS&H could not provide adequate assurance that critical inspection activities required by MSHA policy were performed during inspections.

CMS&H performs inspections to protect miner safety and health and to comply with the Federal Mine Safety and Health Act of 1997 (Mine Act), as amended. The Mine Act requires MSHA to perform an inspection of each underground coal mine in its entirety at least four times per year. MSHA's primary means to comply with this requirement is to conduct regular safety and health inspections.<sup>2</sup> These are comprehensive inspections of coal mines that include reviewing mine records and inspecting specific mining and

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<sup>2</sup> MSHA performs approximately 26 other types of inspections. These inspections are generally limited in scope and focus on specific areas (e.g., roof) or equipment (e.g., electrical) within a mine.

environmental conditions (e.g., roof, gas, dust, ventilation, electrical, noise) in all accessible areas of the mines.

Additional background information is contained in Appendix A.

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 objectives. We believe that the evidence obtained provides a sufficient basis for our findings and conclusions based on our audit objectives. Our audit scope, methodology, and criteria are detailed in Appendix B.

## Results and Findings

### **Objective 1 - Did MSHA ensure all underground coal mines receive the required regular safety and health inspections?**

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No. CMS&H did not complete one or more statutorily-required inspections at 107 of the Nation's 731 (15 percent) underground coal mines during FY 2006. In total, 147 required inspections were not completed at the 107 mines. This occurred because (1) decreasing inspection resources during a period of increasing mining activity made it more difficult to complete the required inspections and (2) management did not place adequate emphasis on ensuring the inspections were completed. Specifically, the number of inspectors in the 11 CMS&H districts was not commensurate with the mine activity at the districts, and management's monitoring of inspection completions was not adequate. Also, the inspection completion rate published in management reports and on MSHA's public website was not correct. This occurred because management had not established effective procedures for calculating the inspection completion rate and ensuring the inspection data used to calculate the rate were reliable.

Incomplete or missed inspections place miners at risk because hazardous conditions in the mines may not be identified and corrected. In FY 2006, approximately 7,500 miners were employed at the 107 mines which did not receive at least one required inspection. CMS&H took corrective action to address some of the process weaknesses we identified.

#### Mine Act Mandates the Number of Underground Coal Mine Inspections

The Mine Act, Section 103 (a), as amended, requires MSHA to perform an inspection of each underground coal mine in its entirety at least four times per year. MSHA's primary means to comply with this requirement is to conduct regular safety and health inspections. These are comprehensive inspections of an entire coal mine that include reviewing mine records and inspecting specific mining and environmental conditions (e.g., roof, gas, dust, ventilation, electrical, noise) in all the accessible areas of the mine. A detailed description of the inspection process is provided in Appendix A, Background.

MSHA's criteria for determining how many inspections are required for each mine during a year is documented in its Program Policy Manual (February 2003, 103 (a) – Mandated Inspections). According to the policy, only underground mines that are active for 45 days each quarter during the year require four inspections. Mines that are inactive for part of any quarter during the year may require fewer than four inspections. The specific determination for required inspections for underground mines is based on the following:

- CMS&H assigns a "status" to each mine based on the activity at the mine. Mine statuses requiring inspection include Active (coal production), Non-Producing Active (no coal production but workers onsite), and Intermittent (mine not consistently active).<sup>3</sup>
- An inspection is required for each quarter that a mine is in an Active or Non-Producing Active status for 45 days or more.
- An inspection is required for each half of the year (October to March, April to September) a mine is in an Intermittent status.
- CMS&H does not conduct inspections at mines that are in an Abandoned or Temporarily Idle status (no workers onsite).

To illustrate, a mine that was in an Active status for the first three quarters of the fiscal year and became abandoned 15 days into the fourth quarter would require three inspections during the year. Conversely, a mine that was in a Temporarily Idle status during the first three quarters and became Non-Producing Active 15 days into the fourth quarter would require one inspection during the year.

Based on the above criteria, we tested the mine status dates recorded in MSHA's Inspections Database for FY 2006 to identify all required inspections that were not completed during the year. There were 731 underground coal mines that required regular safety and health inspections during FY 2006. CMS&H did not complete one or more required inspections at 107 of the 731 underground mines, or 15 percent. In total, 147 required inspections were not completed at the 107 mines. Table 1 summarizes our test results by district.

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<sup>3</sup> MSHA assigns or changes mine statuses based on information provided by the mine operator or determined by MSHA during mine visits.

**Table 1**  
**147 Required Inspections Were Missed at 107**  
**Underground Coal Mines**  
**(FY 2006)**

<b>CMS&amp;H District</b>	<b>Number of Underground Mines</b>	<b>Mines Missing One or More Inspection</b>	<b>Number of Inspections Not Completed</b>
<b>1</b> (Anthracite coal regions in PA)	21	1	1
<b>2</b> (Bituminous coal regions in PA)	47	0	0
<b>3</b> (MD, OH, Northern WV)	50	3	3
<b>4</b> (Southern WV)	165	85	125
<b>5</b> (VA)	97	0	0
<b>6</b> (Eastern KY)	176	5	5
<b>7</b> (Central KY, NC, SC, TN)	97	0	0
<b>8</b> (IL, IN, IA, MI, MN, Northern MO, WI)	25	8	8
<b>9</b> (All States west of the Mississippi River, except MN and Northern MO)	28	4	4
<b>10</b> (Western KY)	15	0	0
<b>11</b> (AL, GA, FL, MS, PR, VI)	10	1	1
<b>Totals</b>	<b>731</b>	<b>107</b>	<b>147</b>

As can be seen in the table, the most significant deficiencies occurred in District 4 (Southern West Virginia). Two or more required inspections were not completed at 37 mines in District 4 as follows:

- At 30 mines, two of the four required inspections were not completed.
- At three mines, three of the four required inspections were not completed.
- At two mines, two of the three required inspections were not completed.
- At two mines, two of the two required inspections were not completed.

CMS&H was not in compliance with the Mine Act for the 147 missed inspections. Missed inspections place miners at risk because hazardous conditions in the mines are not identified and corrected. In FY 2006, approximately 7,500 miners were employed at the 107 mines which did not receive one or more required inspection.

Reasons Inspections Were Not Completed

We determined that the required inspections were not completed because (1) decreasing inspection resources during a period of increasing mining activity made it

more difficult to complete the required inspections and (2) management did not place adequate emphasis on ensuring the inspections were completed. According to MSHA, inspector resource limitations affected their ability to complete all the required inspections in FY 2006. They said that the year was an aberration with the three accidents at the Sago, Aracoma and Darby mines and the resulting accident investigations and internal reviews. The accident investigations and internal reviews were sometimes concurrent and required separate teams with many of the team members coming from CMS&H. Management also said other factors affected inspection completions over the last few years. They noted the lack of MSHA funding to hire or fill vacancies, the resulting dwindling manpower resources, and additional inspection requirements and initiatives as a result of the accidents and new rulemaking required by the Mine Improvement and New Emergency Response Act of 2006 (MINER Act).

### Inspection Resource Limitations Impacted Inspection Completions

We reviewed inspection resource levels and mining activity from FYs 1997 to 2006 and found that, while the number of CMS&H inspectors relative to mining activity increased from FYs 1997 to 2001, the relative number of inspectors decreased significantly between FYs 2002 and 2006. We quantified mining activity by the number of Mechanized Mining Units (MMU) that were in operation at each year end. A MMU is a major piece of mining equipment used for the extraction of coal.<sup>4</sup> Larger mines generally have more MMUs and require more time and/or inspectors to complete the inspections. Table 2 shows that as MMUs increased from FYs 2002 to 2006 by nine percent, inspectors decreased by 18 percent, causing the ratio of inspectors per MMU to decrease by 25 percent from a high of .75 in FY 2002 to a low of .56 in FY 2006.

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<sup>4</sup> CMS&H management reports use the number of MMUs as an indicator of mining activity. Examples of MMUs include a Continuous Miner, a machine that constantly extracts coal while it loads it, and a Longwall Miner, which pulls a steel plow or rotation drum mechanically back and forth across a face of coal that is usually several hundred feet long.

**Table 2**

**Inspectors per MMU Decreased 25 Percent  
from FYs 2002 to 2006**

<b>FY</b>	<b>Inspectors</b>	<b>MMUs</b>	<b>Inspectors per MMU</b>
<b>2002</b>	<b>605</b>	<b>811</b>	<b>0.75</b>
<b>2003</b>	565	781	0.72
<b>2004</b>	563	842	0.67
<b>2005</b>	512	851	0.60
<b>2006</b>	<b>496</b>	<b>882</b>	<b>0.56</b>
<b>Percent Change</b>	<b>18 percent Decrease</b>	<b>9 percent Increase</b>	<b>25 percent Decrease</b>

The decrease in the ratio of inspectors per MMU supports management’s assertion that resource limitations made it difficult to complete all the required inspections, and that any unplanned inspector activities (e.g., accident investigations, internal reviews) further compounded the problem.

CMS&H’s appropriated funding to cover labor costs contributed to the inspection resource limitation. During FYs 2002 through 2006, CMS&H labor costs increased due to mandated cost of living salary increases from \$78.8 million to \$84.9 million, or 7.7 percent; however, appropriated funding did not rise with the mandated increases. CMS&H’s total appropriated funding increased from \$116.1 million to \$117.2 million, or less than 1.0 percent. As a result, MSHA did not have sufficient funding to replace personnel that left the Agency. As previously noted, during this same period the number of MMUs increased by 8 percent, indicating an increase in coal mining activity.

Lack of Management Emphasis to Ensure Inspection Completions

CMS&H’s missed inspections were also caused by management not placing adequate emphasis on ensuring the inspections were completed. The lack of management emphasis resulted in three inspection process weaknesses:

- The number of inspectors in the 11 coal districts was not commensurate with the mine activity at the districts.
- Management’s monitoring of inspection completions was not effective.
- The inspection completion rate published in management reports and on MSHA’s public website was not correct.

The number of MMUs covered by inspectors varied significantly, with some districts having a much higher workload (as defined by number of inspectors per MMU). The districts with the greatest workloads generally had the highest number of required

inspections not completed. This was especially true in District 4, where 125 (85 percent) of the 147 total missed inspections occurred. Table 3 shows that the ratio of inspectors per MMU was significantly lower in District 4 as compared to the other coal districts.

**Table 3**  
**Inspectors per MMU Ratio was Significantly Lower in District 4**  
**(FY 2006)**

<b>CMS&amp;H District</b>	<b>Inspectors</b>	<b>MMUs</b>	<b>Inspectors per MMU</b>
<b>1</b> (Anthracite coal regions in PA)	<b>15</b>	<b>15</b>	<b>1.00</b>
<b>2</b> (Bituminous coal regions in PA)	46	68	0.68
<b>3</b> (MD, OH, Northern WV)	50	75	0.67
<b>4</b> (Southern WV)	<b>89</b>	<b>203</b>	<b>0.44</b>
<b>5</b> (VA)	51	89	0.57
<b>6</b> (Eastern KY)	76	148	0.51
<b>7</b> (Central KY, NC, SC, TN)	54	102	0.53
<b>8</b> (IL, IN, IA, MI, MN, Northern MO, WI)	35	67	0.52
<b>9</b> (All States west of the Mississippi River, except MN and Northern MO)	38	49	0.78
<b>10</b> (Western KY)	22	42	0.52
<b>11</b> (AL, GA, FL, MS, PR, VI)	20	24	0.83
<b>Averages</b>	<b>45</b>	<b>80</b>	<b>0.64</b>

The ratios ranged from the low of .44 inspectors per MMU in District 4 to the high of 1.00 inspector per MMU in District 1. This represented a 127 percent variance between the low and high districts. The average ratio for all 11 coal districts was .64 inspectors per MMU, 45 percent higher than District 4.

District 4 was CMS&H's largest district based on the number of MMUs operating at the end of FY 2006. However, the relatively lower inspection resources provided to District 4, combined with the district's high rate of inspections not completed, strongly suggests that inspection resources were not commensurate with the mine activity in that district.

Management Monitoring was not Adequate

CMS&H management's monitoring of inspection completions also contributed to the missed inspections. Quarterly reports submitted by the districts to CMS&H headquarters were not used effectively to ensure compliance with the Mine Act. Since April 2003, each of the 11 CMS&H districts was required to submit a quarterly status

report, titled Inspection Completion Rates, to CMS&H headquarters. CMS&H policy (Memo No. HQ-030-034) required the reports to include the required inspections not completed during the quarter, an explanation as to why each was not completed, and the corrective action needed to prevent future missed inspections. According to management, they reviewed the reports to ensure required inspections were completed. Districts not completing the required inspections were to be provided assistance from inspectors assigned to other districts.

We reviewed the quarterly Inspection Completion Rates reports provided to CMS&H headquarters during FY 2006 to determine compliance or whether the reports could be improved for oversight purposes. We found that the districts submitted incomplete or inconsistent information as follows:

- The corrective action needed to prevent future missed inspections was not provided as required by the seven districts that had not completed all their inspections (Districts 1, 3, 4, 6, 8, 9, 11).
- District 4 reported reasons inspections were missed in general with no reference to specific mines. The other districts referenced specific mines as required.
- All districts reported quarterly completion rates. However, neither the districts nor headquarters calculated year-to-date or year-end inspection completion rates for underground coal mines. Although not required, adding cumulative completion rates for the year-to-date and the supporting number of completed and required inspections to the report would assist CMS&H to ensure compliance.

Without complete and consistent information, headquarters had limited assurance that all missed inspections were reported and that corrective actions were identified and implemented. District staff provided the following causes for missed inspections on the quarterly reports: inadequate inspection resources, miscommunication, late inspection paperwork, and staff meetings. The quarterly reports did not include explanations as to whether these causes were considered acceptable or whether corrective action to eliminate these causes was needed. Additionally, CMS&H headquarters was not able to demonstrate that it used the quarterly reports to address the noted causes or to assign district resources.

#### Reported Inspection Completion Rate was not Correct

We also found that inspection data used for management analysis and reported on MSHA's public website were not correct. Management and public reporting included a single inspection completion rate that included both surface and underground coal mines. The completion rate was reported in a CMS&H electronic report – referred to as a Digital Dashboard – that management could access as needed. The completion rate



was also reported on MSHA's website. The website provided the public with fact sheets detailing significant trends in the mine industry and MSHA enforcement.

Our audit, which looked only at underground coal mines, showed that the portion of this published rate that dealt with underground coal mines was incorrect. As a result, the published completion rate that combined underground and surface mine inspections was also incorrect.

CMS&H generated a report for us that showed 2,231 inspections were completed at underground coal mines out of 2,310 required inspections. Based on our testing, we found:

- CMS&H counted only inspections for mines that were in an active status at the end of the fiscal year. Completed and required inspections for mines that were active part of the year but inactive at the end of the year were not counted. This understated completed and required inspections by 302 and 311 inspections, respectively.
- Inspections that were started and then cancelled by District 4 were entered in CMS&H's Inspections Database as completed inspections. This overstated completed inspections by 51 inspections.
- Inspections started in Districts 4 and 6 were counted as completed even though the inspectors visiting the mines found that the mines were not active and inspections were not required. This overstated completed inspections by 22 inspections.
- Three inspections that were not required and one limited scope inspection were counted as a regular safety and health inspection. This overstated completed inspections by 4 inspections.

Inaccurate reporting impacts oversight and enforcement decisions. The United States Government Accountability Office's (GAO) *Standards for Internal Control in the Federal Government* require, in part, the following:

- Activities need to be established to monitor performance measures and indicators. Control activities help to ensure that all transactions are completely and accurately recorded.
- For an entity to run and control its operations, it must have relevant, reliable and timely communications relating to internal as well as external events.

### Crandall Canyon Mine

The Crandall Canyon Mine was in an Active status for the seven quarters preceding the mine closure in the fourth quarter of FY 2007. As such, four inspections were required

in FY 2006 and three were required in FY 2007. District 9 inspection records for Crandall Canyon Mine showed that each of the required inspections was completed (see p. 20 for a discussion of the thoroughness of the inspections).

#### Action Initiated to Address Inspection Resource Limitations

MSHA has taken action to address the resource limitations that contributed to CMS&H's missed inspections in FY 2006, including:

- In October 2007, MSHA initiated a new "100 Percent Plan" to ensure completion of all required regular safety and health inspections. The new plan provides for the temporary reassignment of MSHA inspectors to areas where they are most needed and for increased overtime to complete inspections.
- MSHA hired more than 270 new inspector-trainees since July 2006.
- MSHA requested additional funding in the FY 2008 budget for 244 more MSHA personnel.

#### Recommendations

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We recommend the Assistant Secretary for MSHA ensure all underground coal mines receive the statutorily-mandated inspections required by the Mine Act. The corrective action should ensure:

1. Inspection resources are commensurate with the mining activity in the coal districts. This includes evaluating the impact of the additional inspectors hired since July 2006 and the "100 Percent Plan" and if necessary, implementing additional steps to complete all mandatory inspections.
2. Inspection completions are effectively monitored. This includes enforcing the district quarterly Inspection Completion Rates report content requirements (Memo No. HQ-030-034) and developing the report to include additional information, such as cumulative year-to-date completion rates and the related number of completed and required inspections. An internal control should be developed to ensure deficiencies noted in the reports are addressed.
3. Policies and procedures are developed for calculating the regular safety and health inspection completion rate and ensuring the inspection data used is correct.

## Agency Response

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For recommendation 1, MSHA implemented the “100 Percent Plan” during the audit to ensure the agency has the necessary resources to fully enforce the inspections mandated in the Mine Act. MSHA hired 273 enforcement personnel since July 2006 and has 257 trainees on board as of September 2007. However, the trainees are unable to independently inspect coal mines or issue enforcement actions until they complete formal training and receive authorization from the Secretary of Labor. In order to bridge this gap, MSHA is rotating inspectors into understaffed districts for two week intervals to assist in completing all mandated inspections. MSHA has also approved overtime and alternative schedules to facilitate inspection completions.

MSHA, however, stated in its response that the OIG failed to acknowledge in this report that the majority (70 percent) of the incomplete mandatory inspections were at mines that were either non-producing, inactive, intermittent, or abandoned during the inspection period; and that miners were not placed at risk at mines that were inactive or abandoned. MSHA also stated that there are logistical problems and resource issues involved in completing inspections at intermittently active mines. Further, MSHA stated that there were incomplete inspections noted in our report for mines that had already received four mandatory inspections.

For recommendation 2, MSHA stated it will revise instructions to strengthen the requirements of the district Inspection Completion Rates reports submitted to headquarters. This includes an explanation of missed inspections by mine and the corrective action taken to achieve completion. The district reports will be used in conjunction with detailed reports generated from MSHA’s computer system which include cumulative year-to-date completion rates and the related number of completed and required inspections. Additionally, MSHA’s new Office of Accountability will ensure this management control is fully implemented and monitored and inspections are completed according to MSHA policy.

For recommendation 3, MSHA stated it will issue policies and procedures for documenting inspections that are closed before being completed and those that occur where the mine is abandoned prior to any meaningful inspection activity. Policies and procedures will also be developed to document the process for calculating the inspection completion rate. According to MSHA, “key indicator” reports are already in use or under development to assist oversight of inspection data and completion rates.

## OIG Conclusion

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Recommendation 1 is unresolved pending receipt of the MSHA policy implementing the “100 Percent Plan” and MSHA’s plans to evaluate the impact of the “100 Percent Plan” and the additional inspectors hired since July 2006. We acknowledge MSHA for implementing corrective action during the audit. However, MSHA made assertions in its response that were not correct. MSHA stated in its response that our report failed to acknowledge that the majority (70 percent) of the incomplete mandatory inspections

were at mines that were non-producing, inactive, intermittent, or abandoned during the inspection period. This statement was incorrect and misleading.

The majority of the missed inspections identified in our audit (105 of 147; 71 percent) were at mines that were in an Active status for the entire inspection period. The remaining missed inspections (42 of 147; 29 percent), were at mines in an Active, Non-Producing Active, or Intermittent status for all or most of the inspection period. Each of these statuses indicates that workers were on site and therefore, subject to safety and health risks. In only eight of the missed inspection cases was the mine in an abandoned or temporarily idle status for any part of the inspection period. In every case, the abandoned or temporarily idle status accounted for less than half of the inspection period. Therefore, MSHA's policy required a regular safety and health inspection to be performed.

MSHA also incorrectly stated that our report included incomplete inspections for mines that had already received four mandatory inspections. None of the 147 missed inspections we reported on were for mines that had already received four mandatory inspections.

Recommendation 2 is unresolved pending receipt of the (1) revised instructions to strengthen the district Inspection Completion Rates reports, (2) Office of Accountability's plans to ensure full implementation and monitoring of the district Inspection Completion Rates reports, and (3) Office of Accountability's plans to ensure inspections are completed according to MSHA policy.

Recommendation 3 is unresolved pending receipt of the (1) policies and procedures for documenting inspections that are closed before being completed and those that occur where the mine is abandoned prior to any meaningful inspection activity, (2) policies and procedures for calculating the inspection completion rate, and (3) "key indicator" reports in use or being developed to assist oversight of inspection data and completion rates.

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**Objective 2 – Did MSHA ensure all critical inspection activities required during regular safety and health inspections are performed?**

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No. MSHA cannot provide adequate assurance that statutorily-required inspections of underground coal mines for FY 2006 were thoroughly conducted. A significant number of critical inspection activities were not documented at the two coal districts (Districts 4 and 6) reviewed for this audit objective. As such, MSHA could not ensure that critical inspection elements were actually performed and the overall inspection was thorough. Inspections that are not thorough place miners at risk because hazardous conditions in the mines may not be identified and corrected.

CMS&H policy did not require inspectors to document all critical inspection activities performed or not applicable at each mine. Furthermore, when documentation was

required, Field Office supervisors did not consistently ensure the required documentation was completed. Finally, Field Office supervisors were not required to certify that the overall inspection was thorough. Supervisors generally ensured critical inspection activities were performed by initialing inspector notes describing such activities. However, the supervisors generally did not certify that the overall inspection was thorough.

Because these are weaknesses in policies and procedures, it is likely that similar problems exist in all CMS&H districts. In fact, MSHA found similar inspection and supervisory oversight problems during internal reviews of three fatal underground mining accidents that occurred in FY 2006. The Internal Review reports on the Sago (District 3), Aracoma (District 4) and Darby (District 7) mine accidents were published in June 2007. MSHA reported that inspection activities were not performed or well documented at each of the three mines and supervisory oversight was not well documented at two of the mines.

#### Critical Regular Safety and Health Inspection Activities were not Documented

The Mine Act and MSHA policy (e.g., inspection and supervisor handbooks) require inspectors to ensure miner safety by conducting thorough inspections of underground mines. Both general and specific inspection activities are noted as required in each of these criteria. However, neither the Mine Act nor MSHA policy prescribed a comprehensive list of critical inspection activities to be performed and documented during an inspection. We reviewed the criteria and interviewed CMS&H management and staff at headquarters and Districts 4 and 6 to develop a list of critical inspection activities for testing purposes. Our list was not intended to identify every inspection activity that should be performed and documented during an inspection. See Exhibit 2 for the 68 selected inspection activities used for our testing.

We reviewed a judgmental sample of 21 of the 1,141 regular safety and health inspections completed at active mines in Districts 4 and 6 during FY 2006. We determined whether documentation existed in the inspection files to support that the 68 selected inspection activities were completed or not applicable at the mines. For the 21 inspections tested, 15 percent of the 68 selected activities tested were not documented as having been performed. MSHA policy did not require documentation for forty-six of the 68 selected inspection activities tested. See Exhibit 3 for a summary of our test results.

Field Office supervisors or others independently reviewing the inspection files could not effectively ensure the critical inspection activities were performed as required and that the overall inspection was thorough. Our test results show that a significant number of selected critical inspection activities were not adequately documented. Inspections that are not thorough place miners at risk because hazardous conditions in the mines are not identified and corrected. The five critical inspection activities that were not adequately documented most frequently were:

- Dust: Collect a full-shift dust sample from the working environment from each designated work position (15 Inspections).
- Electrical: Inspect underground high-voltage circuits (14 Inspections).
- Electrical: Inspect trolley and direct-current circuits (14 Inspections).
- Impoundments: Evaluate operator's records of impoundment examinations per 30 CFR 216-3 and compare to actual impoundment conditions in the mine (14 Inspections).
- General: Inspect on weekend if coal produced on weekend (13 Inspections).

### Inadequate Documentation Caused by Weaknesses in Policies and Procedures

CMS&H policy did not require inspectors to document all critical inspection activities performed or not applicable at the mines. See Exhibit 2 for the 68 selected critical inspection activities tested. Of the 68 selected inspection activities tested, 46, or 68 percent, did not require documentation. Examples of critical inspection activities that did not require documentation include:

- General: Inspect the escapeways (including facilities) and communication installations (working sections).
- Roof: In every working place of a mine, inspect roof and rib conditions.
- Gas: Test for methane and for oxygen deficiency.
- Ventilation: Inspect all ventilation facilities.
- Dust: Conduct a full shift dust sampling of at least five occupations, which will include Designated Occupations if applicable on each MMU.
- Electrical: Inspect Underground High-Voltage Circuits.
- Noise: Conduct a full-shift sample from a representative number of outby<sup>5</sup> areas of an underground mine where high levels of noise may exist.

Furthermore, when documentation was required, Field Office supervisors did not consistently ensure the required documentation was completed. The number of critical inspection activities that were not documented averaged about three, or 14 percent of the 22 inspection activities requiring documentation. See Exhibit 3 for a summary of the

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<sup>5</sup> Outby – from any point in the mine, the direction nearer to the mine entrance and farther from the working face.

audit test results for selected critical inspection activities that were not documented as required.

The five selected inspection activities that most frequently were not documented as required were:

- Dust: Sample intake air at MMUs where Designated Areas have not been established and diesel-powered haulage equipment is in use (11 Inspections).
- Dust: Collect a full-shift sample from the environment of each miner if applicable (11 Inspections).
- Ventilation: If diesel equipment is being operated, measure airflow quantity and tests for carbon monoxide and nitrogen dioxide (11 Inspections).
- General: Conduct a rock dust survey within 50 feet of the section dumping point on each advancing active section of the mine (8 Inspections).
- Dust: At least twice during the sampling shift, verify that all dust control parameters stipulated in the approved Ventilation Plan are in place and functioning properly. These checks will be initiated at least at the beginning and between the 4<sup>th</sup> and 5<sup>th</sup> hours of operation (8 Inspections).

Field Office supervisors did not consistently certify that the inspections were thorough. In FY 2006, District 4 tested a pilot Inspection Tracking System (ITS) that listed required inspection activities and required Field Office supervisors to sign a certification that they considered the inspection to be thorough and complete. The inspection files for the eight District 4 inspections included in our testing included such a certification. When the pilot ITS was not used, Field Office supervisor certification was not required nor completed.

#### Inspection and Supervisory Oversight Problems Identified During Internal Reviews

MSHA found similar inspection and supervisory oversight problems during its internal reviews of three fatal underground mining accidents that occurred in FY 2006. MSHA's Internal Review reports on the Sago (District 3), Aracoma (District 4), and Darby (District 7) mine accidents were published in June 2007. MSHA reported that inspection activities were not performed or well documented at each of the three mines, and supervisory oversight problems existed at two of the mines. Over two-thirds of the 68 selected critical inspection activities we tested for documentation were noted as inspection deficiencies in at least one of the three internal reviews. Thirteen were noted in at least two internal reviews. Internal review report recommendations included:

- Supervisors should closely review individual inspection reports to immediately identify and correct procedural deficiencies, such as lapses in properly inspecting and documenting all items and areas required to be inspected

during regular safety and health inspections.

- The District manager should require inspectors to incorporate tracking maps to ensure all areas of the mine have been surveyed.
- Supervisors should visit each mine annually during an ongoing regular safety and health inspection to determine if inspection activity is effective and consistent with conditions in the mines.

The first two of these MSHA recommendations called for better documentation.

### Crandall Canyon Mine

We performed the same tests on the four inspections completed at the Crandall Canyon Mine during FY 2006 and the three inspections completed at the mine during FY 2007. Similar to Districts 4 and 6, MSHA could not provide adequate assurance that these seven inspections were thoroughly conducted. The number of critical inspection activities that were not documented as performed averaged about 11, or 16 percent of the 68 selected critical inspection activities tested. For additional test results, see Exhibit 4.

Three inspections in particular had significant inspection and supervisory deficiencies.

#### Incomplete and Unsatisfactory Inspection

For the FY 2006, Quarter 1 inspection (October 3, 2005 through December 28, 2005), 18 of the 68 (26 percent) selected critical inspection activities tested were not documented as performed. In fact, written feedback provided to the inspector by his Field Office supervisor indicated that the inspection as a whole was incomplete and unsatisfactory. Specific inspection deficiencies noted by the supervisor included performing limited work (e.g., observing work practices, sampling dust) on shifts other than day shift, not performing root cause analysis for citations, not ensuring mine and electrical maps were being kept up to date, and not reviewing training records. We found no evidence in the inspection records that the deficiencies noted by the supervisor were corrected through additional inspection work for this inspection period. The Field Office supervisor provided the feedback to the inspector 22 days after the inspection was completed.

#### Lack of Required Documentation

For the FY 2006, Quarter 4 inspection (July 5, 2006 through September 22, 2006), 21 of the 68 (31 percent) selected critical inspection activities tested were not documented as performed. This included six inspection activities where documentation was required by CMS&H policy. Foremost among the six was the lack of documentation supporting adequate supervisory review. The Field Office



supervisor’s initials on inspection records (e.g., daily cover sheets, enforcement actions) were not dated as required. Therefore, we were not able to determine whether the supervisory review occurred before or after the inspection was completed. Correcting inspection deficiencies after inspections have been completed is difficult because the inspectors are likely assigned to other mines. The remaining five critical inspection activities that were not documented as required relate to the effectiveness of dust parameters in the ventilation plan and dust sampling (see Exhibit 2, Section 1, inspection activities number 10, 11, 14, 15, and 16).

Documents with Questionable Dates

For the FY 2007, Quarter 3 inspection (May 30, 2007 through July 2, 2007), the documentation indicated that supervisory oversight was neither adequate nor timely. This was the last statutorily-required inspection completed at the mine before the August 2007 fatalities. The documents supporting that five inspection activities were performed were dated by the inspector about four months prior to the May 30 start of the inspection. The Field Office supervisor reviewing and initialing the records for this inspection did not identify the questionable dates and initiate corrective action. Additionally, the majority of the inspection records were reviewed by the Field Office supervisor on July 11, 2007, nine days after the inspection was completed. Table 4 shows the specific inspections activities that were dated prior to the May 30 start date of the inspection.

**Table 4**

**Inspection Activities Dated Prior to the May 30 – July 2, 2007, Inspection Crandall Canyon FY 2007, Quarter 3 Inspection**

<b>Inspection Activity</b>	<b>Inspection Deficiency</b>
Review the Roof Control Plan and evaluate the plan by making onsite observations of the plan’s effectiveness.	The date on the form used to document this activity was written as “02 Feb 07.”
List record books checked and areas of inspection activity.	The dates on two separate Daily Cover Sheets used to document these activities were written as “27 Jan 07” and “02 Feb 07”.
Inspect blasting practices in working sections, if applicable.	The date on the form used to document this activity was written as “02 Feb 07”. The date was altered to “02 Jun 07” without indication of who altered the date and when it was altered.
Conduct “post-conference” with the mine operator to discuss inspection findings and results.	The date on the General Information Cover Sheet used to document this activity was written as “02 Feb 07”.

District 9 supervisory staff agreed that the Field Office supervisor should have identified the questionable dates and initiated corrective action. They said it appeared the inspector incorrectly dated the documents and an acting supervisor did not return the

documents for correction. The inspector could not explain why he recorded January and February dates for an inspection that started in late May. We verified that the five noted documents were not copied from a prior inspection. However, we do not consider this adequate support that these activities were performed during the inspection nor that supervisory review was adequate.

#### Corrective Action Initiated During the Audit

MSHA initiated corrective action during the course of the OIG audit to address the policies and procedures weaknesses we identified. In July 2007, CMS&H issued a revised CMS&H General Inspection Handbook that included new requirements for conducting inspections. The revised handbook significantly increased the inspection activity documentation requirements.

In conjunction with the revised CMS&H General Inspection Handbook, MSHA initiated a pilot ITS in all 11 coal districts for use during the inspection process. The ITS is designed to enhance MSHA's ability to determine inspection progress by tracking completion of established inspection procedures as defined in the new CMS&H General Inspection Handbook. The ITS lists critical inspection activities and requires inspectors to document the inspection activities performed and the mine areas and equipment inspected.

Furthermore, in response to (a) an OIG audit of MSHA's Accountability Program (OIG Report No. 05-07-002-06-001) and (b) the MSHA internal reviews of the Sago, Aracoma and Darby mine accidents, MSHA plans to establish an Office of Accountability. The purpose of the Office of Accountability will be to increase the oversight of MSHA's accountability and enforcement programs to ensure that necessary management controls are fully implemented and monitored. This includes reviews of controls to ensure inspections are completed according to MSHA policy.

#### **Recommendations**

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The OIG recommends that the Assistant Secretary for MSHA establish management controls to improve the thoroughness of regular safety and health inspections. These management controls should ensure:

4. Procedures for documenting all critical inspection activities are included in the CMS&H General Inspection Handbook and Inspection Tracking System.
5. All critical inspection activities are documented as performed or not applicable at the mines being inspected.
6. Field Office supervisors certify inspections are thorough before being counted as complete.

7. Inspection activity documentation and supervisory oversight are reviewed as part of MSHA's Accountability Program.

### **Agency Response**

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For recommendation 4, MSHA stated that it will define the salient portions of a complete safety and health inspection and revise the Coal Mine Inspection Procedures Handbook to ensure documentation of all the salient portions is required. MSHA will have the revised draft Handbook available for review and comment by March 31, 2008. MSHA will also incorporate any necessary changes into the ITS. MSHA, however, also stated that our analysis of critical inspection activities was flawed because MSHA's efforts to correct our list of critical inspection activities were unsuccessful. MSHA noted an example of critical inspection activities that made reference to the "working place" and "working place procedures" as being incorrect. MSHA also noted an example where they believed our view was that an inspection cannot be complete unless exact wording, such as "ventilation facilities" rather than other words describing ventilation systems, such as "intake," are included in inspection notes and documentation.

For recommendation 5, MSHA agreed to use the ITS to document only the critical items and elements of an inspection applicable at the individual mine being inspected. MSHA did not agree with the part of the recommendation 5 that stated that MSHA needs to document when a critical inspection activity is not applicable at a mine. MSHA believes it is redundant to require documentation of inspection activities that do not apply to the mine being inspected. MSHA suggests adding a disclaimer to the ITS report stating that, "Systems, equipment, or processes not addressed in this report were not in use at the mine during this inspection activity."

For recommendation 6, MSHA discussed planned procedures for documenting that a supervisory review of inspection records was performed. However, the response did not address our specific recommendation to require Field Office supervisors to certify inspections are thorough before being counted as complete. Also, MSHA stated that much of our report hinged on a misdated form found in one of the Crandall Canyon mine inspection reports. MSHA believes the OIG's findings regarding this form may not be indicative of either the quality of the inspection or the inspection report when considered in its entirety. According to MSHA, the information required to complete the misdated form may have been well documented in the inspection notes.

For recommendation 7, MSHA stated that its Office of Accountability will address inspection documentation and supervisory oversight. MSHA's Accountability Program and associated Handbook are currently being revised and the recommendation will be considered as the revisions are made.

### **OIG Conclusion**

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Recommendation 4 is resolved and will be closed pending receipt of the final revised CMS&H General Inspection Handbook and ITS, due in draft by March 31, 2008. We

acknowledge MSHA initiating corrective action during the audit. However, we do not agree with MSHA's statement that our analysis of critical inspection activities was flawed because MSHA's efforts to correct our list of critical inspection activities were unsuccessful. The OIG reviewed MSHA inspection criteria (e.g., inspection and supervisor handbooks) and met with various MSHA management and staff throughout the audit to develop the list, which was intended solely for testing purposes. We made adjustments to our list, based on MSHA's input, when we believed it was appropriate. We did not make all the adjustments MSHA management and staff requested because opinions within MSHA often differed or were not consistent during the course of the audit. For example, MSHA stated in its response to Recommendation 4 that our use of the terms "working place" and "working place procedures" was incorrect. Yet, MSHA headquarters provided us with inspection procedures that used that specific wording and asked us to include the procedures in our list of selected critical inspection activities. MSHA also took issue with our understanding of mining terminology and how it impacted our test results. During our site visits, we provided district management with our detailed exceptions and requested feedback on our conclusions. We made adjustments when we believed it was appropriate. Additionally, on August, 10, 2007, we provided MSHA with a Statement of Facts detailing each exception to be included in our report. We again requested feedback to ensure our conclusions were accurate. MSHA did not respond to our Statement of Facts.

Recommendation 5 is unresolved. Although MSHA agreed to document the critical elements of an inspection applicable at an individual mine, the agency did not agree to document when a critical inspection activity was not applicable at the mine. We are not convinced that adding a non-specific disclaimer to the ITS report provides adequate assurance that critical inspection activities were not missed due to human error or inspection resource limitations. Additionally, we do not believe it would be redundant or time consuming for the inspector to check a "Not Applicable" box next to a critical inspection activity already listed in the ITS. By entering "Not Applicable," the inspector actively documents that the critical inspection activity was considered but not applicable during the inspection. A non-specific disclaimer provides no such assurance.

Recommendation 6 is unresolved. MSHA's response did not address our recommendation to require Field Office supervisors to certify inspections are thorough before being counted as complete. Instead, MSHA discussed plans to require Field Office supervisors to document their reviews by initialing and dating selected inspections records. In our opinion, this does not provide adequate assurance that the overall inspection was thorough. The supervisory review of the Crandall Canyon FY 2006, Quarter 1 inspection discussed previously in this report illustrates how supervisor initials and dates on selected inspection records alone do not provide adequate oversight. The inspection records for this inspection were initialed and dated by the Field Office supervisor. The supervisor found that the inspection as a whole was incomplete and unsatisfactory. Yet, we found no evidence in the inspection records that the deficiencies noted by the supervisor were corrected through additional inspection work. The supervisor provided feedback to the inspector 22 days after the inspection was completed. Requiring the supervisor to certify that the inspection was thorough

before being counted as complete would ensure that the inspection deficiencies were corrected during the inspection.

Recommendation 7 is unresolved pending receipt of MSHA's Office of Accountability's plans to address inspection documentation and supervisory oversight.



Elliot P. Lewis  
November 1, 2007

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## Exhibits

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**Exhibit 1****FY 2006 Underground Coal Mine Inspection Data**

The table below shows the data MSHA provided us for required and completed regular safety and health inspections for underground coal mines during FY 2006. MSHA included mines that were in an Active, Intermittent, or Non-Producing Active (NPA) status at the end of the fiscal year in its inspection completion rate calculation. MSHA did not include mines in an Abandoned (Ab), Abandoned-Sealed (As), or Temporary Idle (Ti) status at the end of the fiscal year, even though these mines had required and completed inspections.

<b>District Office</b>	<b>Year End Status</b>	<b>Required Inspections</b>	<b>Completed Inspections</b>
1	Active	60	60
	Ab, As, Ti	14	13
2	Active	131	131
	NPA	30	30
	Ab, As, Ti	15	15
3	Active	127	127
	NPA	30	29
	Ab, As, Ti	17	16
4	Active	457	407
	NPA	123	110
	Ab, As, Ti	41	35
5	Active	232	232
	Intermittent	3	3
	NPA	44	44
	Ab, As, Ti	59	59
6	Active	373	373
	Intermittent	8	8
	NPA	82	82
	Ab, As, Ti	126	126
7	Active	247	247
	NPA	74	74
	Ab, As, Ti	32	32
8	Active	68	59
	NPA	21	20
	Ab, As, Ti	2	2
9	Active	96	92
	NPA	16	15
10	Active	48	48
	NPA	4	4
	Ab, As, Ti	4	4
11	Active	32	32
	NPA	4	4
	Ab, As, Ti	1	0
Total Required and Completed		2621	2533
Total Ab, As, Ti (not included in calculation)		<u>311</u>	<u>302</u>
Total Active, Intermittent, NPA (included in calculation)		2310	2231

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**Exhibit 2**

**Selected Critical Inspection Activities Reviewed**

The two tables below depict the 68 selected critical inspection activities we tested during our reviews of regular safety and health inspection records in District 4 and District 6. The list was developed for test purposes and is not intended to identify every inspection activity that should be performed and documented during a regular safety and health inspection. The two tables, **Section 1 and Section 2**, shows the 22 critical inspection steps we tested for which CMS&H policy **DID REQUIRE** the inspector to document (Section 1) and the 46 critical inspection elements we tested for which CMS&H policy **DID NOT REQUIRE** the inspector to document (Section 2) during a regular safety and health inspection.

**SECTION 1: Selected Critical Inspection Steps for which CMS&H policy REQUIRED Documentation**

**GENERAL**

1. Review uniform mine file
2. Violations documented
3. Supervisory review
4. Ensure that the rock dust application is adequate within the working sections
5. Conduct a rock dust survey to within 50 feet of the section dumping point on each advancing point on each advancing active section of the mine
6. Inspect surface area including impounds, surface equipment, haul roads, and prep plants (if part of the mine)
7. Review books to ensure required examinations performed by certified examiner (pre-shift, on-shift, weekly (air courses, seals) monthly (electrical installations)

**DUST**

8. Sampling of intake air at MMUs where DA have not been established and diesel-powered haulage equipment is in use.
9. Determine if the mine operator performed an on-shift examination of the respirable dust control parameters as specified in the approved mine vent plan
10. Assess the effectiveness of the dust control parameters stipulated in the approved ventilation plan
11. At least twice during each sampling shift, verify that ALL dust control parameters stipulated in the approved ventilation Plan are in place and functioning properly. These checks will be initiated at least at the BEGINNING and BETWEEN the 4th and 5<sup>th</sup> hours of operation
12. Collect full-shift sample from the environment of each Part 90 miner if applicable
13. Determine if the mine operator performed an on-shift examination of the mine ventilation parameters as specified in the approved mine vent plan
14. Document the results of the complete on-shift sampling (was appropriate action taken)
15. Document the average production over the last 30 shifts and other parameters in place but are not in the approved plan
16. Pittsburg lab determines the MRE equivalent dust concentration and give results via the Denver Computer Center (DCC) or Pittsburg Safety and Health Technology Center

**NOISE**

17. Personal Noise Dosimeters and Acoustical Calibrators are required to be calibrated annually
18. Conduct a full-shift sample on at least five miners performing different occupations, if available, on each MMU

**VENTILATION**

19. Tests for the presence of methane and oxygen deficiency
20. If diesel equipment is being operated, measure airflow QUANTITY and tests for carbon monoxide and nitrogen dioxide
21. Determine the QUALITY of the air by measuring the Quantity of airflow

**Exhibit 2 (Continued)**

**ROOF**

22. Review the Roof Control Plan and evaluate the plan by making onsite observations of the effectiveness of controls being installed

**SECTION 2: Selected Critical Inspection Steps for which CMS&H policy DID NOT REQUIRE Documentation**

**GENERAL**

1. Pre-inspection conference with mine operator
2. Post conference with mine operator
3. In every working place in the mine inspect active haulage ways
4. In every working place in the mine inspect entrances to abandoned workings if applicable
5. In every working place in the mine inspect accessible old workings
6. Inspect the air courses
7. Inspect the escapeways (including facilities).
8. In every working place in the mine inspect other places where miners work or travel
9. In every working place in the mine inspect haulage facilities including hoisting equipment
10. Inspect first aid equipment (Working sections).
11. In every working place in the mine inspect communication installations (working section).
12. Observe blasting practices; (working sections); if applicable
13. In every working place in the mine inspect fire hazards
14. In every working place in the mine inspect fire protection equipment
15. In every working place in the mine inspect potable water
16. In every working place in the min inspect sanitary facilities
17. Inspect on weekends if coal produced on weekend (weekend exposure) if applicable
18. Inspect training records including annual experienced miner, supervisor first aid, and EMT or MET on each shift
19. One time during each shift inspector must travel with examiner during each type of examination

**DUST**

20. Conduct a full shift sample of at least 5 occupations which will include the designated occupation (DO) if applicable on each MMU
21. Collect a full-shift sample from each designated area (DA)
22. Collect a full-shift sample from the working environment from each designated work position (DWP)
23. Collect a full-shift sampling of at least three occupations, if available, from other active work positions that are currently in "D" status where the potential for high levels of coal mine respirable of quartz dust may exist (NDEs)
24. Determine if compliance or noncompliance, or if sampling should continue. Additional sampling MUST be collected within 14 calendar days of receiving the sample results via the Sampling Decision Charts

**NOISE**

25. Ensure the operator is in compliance with the Hearing Conservation Program
26. Identify miners to be sampled per Noise Inspection Handbook
27. Determine miner's full-shift Noise Exposure per Noise Inspection Handbook Page 3-5.3
28. Conduct a full-shift sample from a representative number of outby areas of an underground (Areas outside of production) miners where high levels of noise may exist
29. Conduct a full-shift sample on at least 5 miners, if available, on the surface area of an underground mine where high levels of noise may exist

**ELECTRICAL**

30. Evaluate mine operator's records of weekly test of underground electrical equipment

**Exhibit 2 (Continued)**

31. In every working place in the mine inspect electrical installations
  32. Inspect high voltage installations supplying electrical installations
  33. Inspect underground high voltage circuits
  34. Inspect trolley and direct current circuits
  35. Inspect mobile equipment
  36. Inspect trailing cables
  37. In every working place in the mine inspect face and/or inby/outby electrical equipment including face mobile equipment, electrical components and belt starters
- 

**GAS**

38. Evaluate mine operator's diesel exhaust gas records and compare to actual conditions in the area inspected
  39. Evaluate mine operator's records of weekly methane and hazardous conditions and compare to actual areas in the mine inspected
  40. Evaluate the operator's compliance with recording the tests of the Methane Monitor Calibration by reviewing prior records back to the ending date of the last regular safety and health inspection by polling miners
  41. Test for Methane and for oxygen deficiency
  42. Collect sample of mine air for analysis to determine the quality of the air with respect to noxious explosive gases and oxygen content
- 

**VENTILATION**

43. Review mine operator's records of daily and monthly examination of ventilation fans
  44. Inspect ventilation facilities (Surface of UG).
- 

**IMPOUNDMENTS**

45. Evaluate operator records of impoundment examination per 30 CFR 77.216-3 and compare to actual impoundment conditions in the mine
- 

**ROOF**

46. In every working place of a mine inspect roof and rib conditions

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**Exhibit 3**

**FY 2006 Selected Critical Inspection Activities Not Documented**

The table below summarizes the test results for our sample of 21 regular safety and health inspections completed at Districts 4 and 6 during FY 2006. The total inspection activities not documented averaged about 10, or 15 percent of the 68 selected critical inspection activities tested. The inspection activities not documented as required by CMS&H policy averaged about three, or 14 percent, of the 22 inspection activities requiring documentation tested.

<b>Sampled Inspection</b>	<b>District</b>	<b>Total Inspection Activities Not Documented</b>	<b>Inspection Activities Not Documented as Required</b>
1	4	5	2
2	4	4	0
3	4	13	3
4	4	12	4
5	4	4	3
6	4	5	1
7	4	3	1
8	4	14	3
9	6	6	3
10	6	13	5
11	6	13	5
12	6	8	1
13	6	14	5
14	6	15	3
15	6	13	5
16	6	10	1
17	6	3	1
18	6	20	4
19	6	12	4
20	6	10	2
21	6	10	5
<b>Averages</b>		<b>10</b>	<b>3</b>

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**Exhibit 4**

**FY 2006 and 2007 Selected Critical Inspection Activities  
Not Documented at Crandall Canyon Mine**

The table below summarizes the four regular safety and health inspections completed at the Crandall Canyon Mine during FY 2006 and the three regular safety and health inspections completed at the mine during FY 2007. The total inspection activities not documented averaged about 11, or 16 percent of the 68 selected critical inspection activities tested. The inspection activities not documented as required by CMS&H policy averaged about one, or five percent of the 22 inspection activities requiring documentation tested.

<b>FY and Qtr (Q) Inspection Completed</b>	<b>Total Inspection Activities Not Documented</b>	<b>Inspection Activities Not Documented as Required</b>
2006, Quarter 1	18 (26 percent)	1
2006, Quarter 2	9 (13 percent)	0
2006, Quarter 3	12 (18 percent)	0
2006, Quarter 4	21 (31 percent)	6
2007, Quarter 1	3 (4 percent)	0
2007, Quarter 2	5 (7 percent)	0
2007, Quarter 3	9 (13 percent)	1
<b>Averages</b>	<b>11 (16 percent)</b>	<b>1</b>

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## Appendices

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## Appendix A

### Background

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#### MSHA

MSHA was established in 1978 by the Mine Act. The Mine Act transferred the Federal enforcement program from the Department of Interior (DOI) to the Department of Labor (DOL) and placed coal mines and metal/nonmetal mines under a single law.

As a result of the increase in coal mine fatalities in early CY 2006, the MINER Act was signed into law on June 15, 2006. The MINER Act includes provisions for updated emergency response plans, increased training and availability of rescue teams, improved communication technology, and training programs for miners and mine inspectors.

MSHA is responsible for administering the provisions of both the Mine Act and the MINER Act. MSHA's primary goals are (1) enforcing compliance with mandatory safety and health standards to eliminate fatal accidents; (2) reducing the frequency and severity of nonfatal accidents; (3) minimizing health hazards; and (4) promoting improved safety and health conditions in the nation's mines. MSHA's budgeted operating costs totaled \$278 million for CY 2006.

CMS&H is responsible for enforcing the Mine Act at coal mines. It administers 11 districts and 44 associated field offices with staff totaling approximately 1,175. Eight of its 11 districts are located in the Eastern United States near coal seams located in or near the Appalachian Mountains. CMS&H's budgeted operating costs totaled \$117 million for CY 2006.

CMS&H has jurisdiction over approximately 2,100 coal mines located in 27 states. In Calendar Year (CY) 2006, these mines employed approximately 123,000 workers. The recent increase in the number of fatalities in the nation's coal mines, from 22 in CY 2005 to 47 in CY 2006, has resulted in significant media and congressional attention on MSHA's effectiveness in carrying out its enforcement responsibilities.

#### Mandatory Inspections

The Mine Act requires MSHA to perform an inspection of each underground coal mine in its entirety at least four times per year. Title 30 of the Code of Federal Regulations, (CFR), requires mine operators to provide a healthy and safe work environment in the nation's coal mines. MSHA's primary means to ensure compliance with these requirements is to conduct regular safety and health inspections. MSHA's criteria for determining how many regular safety and health inspections are required for each mine during a year is documented in the administration's Program Policy Manual (February 2003, 103 (a) – Mandated Inspections).

## Inspection Process

The Code of Federal Regulations (CFR), Title 30, provides mandatory safety and health standards for mine operators. MSHA's primary means to ensure compliance with the Mine Act and the CFR is to conduct regular safety and health inspections. These are comprehensive inspections of coal mines that include reviewing mine records and maps, inspecting specific mining and environmental conditions (e.g., roof, gas, dust, ventilation, electrical, noise) and walking the entire accessible areas of the mines.

Regular safety and health inspections are performed by qualified inspectors, designated by MSHA as Authorized Representatives (AR). To become an AR, an individual must pass a 21-week training course, which includes formal and on-the-job training. In addition, each AR must receive a minimum of two weeks of training every two years.

The *General Coal Mine Inspection Procedures Handbook* describes procedures for CMS&H inspectors to follow when conducting inspections. The inspectors also refer to handbooks that consist of procedures for selected inspection activities (e.g., Respirable Dust Inspection Procedure Handbook, Electrical Inspection Procedures Handbook, and Noise Inspection Procedures Handbook).

Inspectors generally perform regular safety and health inspections in the following manner:

- **Review of the Uniform Mine File** – This is a file that contains all of the latest information on the mine to be inspected.
- **Conduct Pre-Inspection Conference** – A meeting with the mine representative, miners, and or union official to notify them of the type of inspection to be conducted.
- **Complete In Depth Inspection Steps**– This includes the review of the mine operator's records and physically inspecting the underground mine. Violations are cited, if any.
- **Conduct Daily or Interim Conferences** – A meeting is held with the mine operator officials at the end of each inspection day to provide an overview of the results to include violations identified and cited.
- **Conduct Post Conference** - A meeting with mine operator officials is held to discuss the results of the inspection to include all enforcement actions taken.
- **Complete Inspection Report** – After the inspection is completed, all MSHA forms, field notes, citations/orders completed during the inspection are put together in proper sequence to form the Inspection Report.

If a violation is identified, a citation and/or order is issued to the mine operator. A description of the violation(s) and date is documented by the inspector. The citation and/or order are terminated when the inspector determines that the violation has been corrected. Citations and orders result in fines determined by MSHA.

Throughout the inspection process, inspectors are to document conditions, practices, test results, and if warranted, a description of violations identified. Field office supervisors are responsible to ensure inspections are conducted in accordance with Agency policies and procedures. The supervisors accomplish this by reviewing work products generated by the inspectors, dating and initialing a representative portion of the work products, and periodically accompanying the inspectors onsite during inspections.

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## Appendix B

### Objectives, Scope, Methodology, and Criteria

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#### Objectives

We performed audit work to determine whether MSHA effectively ensures regular safety and health inspections of underground coal mines are conducted in accordance with federal law, regulations and MSHA policy. We answered the following questions:

Objective 1: Does MSHA ensure all underground coal mines receive the required regular safety and health inspections?

Objective 2: Does MSHA ensure all critical inspection activities required during regular safety and health inspections are performed?

#### Scope

Our audit included MSHA inspection and oversight activity occurring in FY 2006. However, we reviewed CMS&H inspection resource and mine activity data for FYs 1997 through 2006 for comparative purposes. We also added activity at the Crandall Canyon Mine during FY 2006 and FY 2007. Our work related to the Crandall Canyon Mine was not intended to determine the cause of the August 2007 fatalities.

MSHA conducts 27 types of inspections. We focused on the specific inspection type used by MSHA to comply with the Mine Act, the regular safety and health inspection. Regular safety and health inspections are the most comprehensive inspections conducted of underground coal mines.

#### Methodology

To accomplish our objectives, we obtained an understanding of MSHA's underground coal mine inspection policies and procedures and of applicable federal laws and regulations. We interviewed MSHA officials at headquarters and two district offices. In addition, we judgmentally selected samples of regular safety and health inspections and tested various attributes of the inspection process.

We only tested those management controls necessary to address our audit objectives. 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 objectives. We believe that the evidence obtained provides a sufficient basis for our findings and conclusions based on our audit objectives.

### Reliability of Data

Prior to the audit, we assessed the reliability of data in MSHA's inspections database for FY 2006. We judgmentally selected several fields in the database and statistically selected samples of data from these fields. We then visited two randomly selected CMS&H districts and compared the information in the database with the information maintained in the district offices. The data tested was reliable. As such, we concluded that the database was sufficiently reliable to accomplish our audit objectives.

### Site Visits

We made site visits to CMS&H headquarters in Arlington, Virginia, District 4 in Mt. Hope, West Virginia, and District 6 in Pikeville, Kentucky. We judgmentally selected the two districts visited from among CMS&H's 11 districts based on the volume of regular safety and health inspections MSHA completed during FY 2006. District 6 had the highest number of completed inspections (589) and District 4 had the second highest (552). The two districts' 1,141 (589+552) completed inspections represented 51 percent of the 2,231 total inspections MSHA informed us were completed for all 11 coal districts during FY 2006.

### Completion of Required Inspections

To evaluate MSHA's processes for ensuring the nation's underground coal mines receive the required number of inspections, we reviewed criteria established in the Mine Act and MSHA policy. Additionally, we interviewed CMS&H officials at headquarters and Districts 4 and 6. We then tested inspection completion data maintained in MSHA's Inspections Database for all 11 coal districts to determine (1) the number of underground mines that did not receive the required number of inspections during FY 2006 and (2) the number of required inspections that were not completed during the year.

To determine the impact inspection resources had on inspection completions we reviewed and compared the following data:

- Total CMS&H inspection resource levels and total coal mining activity during FYs 1997 through 2006.
- Total appropriated funding for CMS&H labor costs during FYs 2002 through 2006.
- Inspection resource levels and coal mining activity during FY 2006 for each of the 11 coal districts.

We also evaluated the controls used by management to ensure underground inspection data used for management decision making and public reporting were accurate. This included reviewing quarterly Inspection Completion Rates reports submitted to

headquarters by each of the 11 coal districts. Additionally, we reviewed CMS&H policies and practices for (1) entering underground inspection data into automated systems and (2) calculating the number of completed and required inspections to be included in the published completion rates.

At Districts 4 and 6, we tested the accuracy of inspection completion data included in the published completion rates. Specifically, we reviewed the records for 87 completed inspections to determine whether the inspections were actually completed and correctly coded. Our judgmental sample of 39 inspections at District 4 and 48 inspections at District 6 included the following:

- 26 inspections of mines that were actively producing coal during the inspections.
- 61 inspections of mines that had relatively few (e.g. less than 8) inspection hours charged to the inspections.

The 87 total inspections reviewed represented eight percent of the 1,141 inspections MSHA informed us were completed at Districts 4 and 6 during FY 2006.

### Inspection Thoroughness

To evaluate MSHA's processes for ensuring regular safety and health inspections of underground coal mines are thorough, we reviewed inspection and oversight criteria established in the Mine Act and MSHA policy (e.g., inspection and supervisor handbooks) and interviewed CMS&H officials at headquarters and Districts 4 and 6. Based on the noted criteria and the interviews, we developed a list of 68 critical inspection activities for testing purposes. Our list of 68 selected critical inspection activities was not intended to identify every critical inspection activity that should be performed and documented during a regular safety and health inspection.

At Districts 4 and 6, we judgmentally selected a sample of 26 total inspections of mines that were actively producing coal during the inspections (13 at each district). Five of the 13 District 4 inspections were cancelled before completion. As such, we reduced our total sample size to 21.<sup>6</sup> We determined whether documentation existed in the inspection files to support that the 68 selected critical inspection activities were either completed or not applicable at the mines.

We also evaluated the controls used by management to ensure regular safety and health inspections of underground coal mines are thorough. This included oversight at the district level (Field Office supervisors) and headquarters level (Accountability Program). MSHA's Accountability Program includes headquarters and district peer reviews of district inspection activity. Our findings relating specifically to MSHA's

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<sup>6</sup> The five cancelled inspections were part of 51 District 4 inspections that were cancelled but counted in CMS&H's inspection completion rate for FY 2006. They are discussed under Objective 1 of this report.

Accountability Program are detailed in a separate OIG audit report, MSHA's Office of Coal Mine Safety and Health Needs to Strengthen its Accountability Program (Report No. 05-07-002-06-001), issued in August 2007. However, MSHA corrective action that relates specifically to inspection thoroughness is included in this report.

### Crandall Canyon Mine

Due to the fatal accidents at the Crandall Canyon Mine in August 2007, in conjunction with Congressional and Public interest in mine safety, we reviewed inspection and oversight activity occurring in FYs 2006 and 2007 at the Crandall Canyon Mine in this audit. We made a site visit to the District 9 Field Office in Price, Utah. We determined whether all the required regular safety and health inspections were completed at the mine during FY 2006 (four inspections) and FY 2007 (three inspections). In addition, we determined whether documentation existed in the inspection files to support that the 68 selected critical inspection activities were either completed or not applicable during the inspections.

### **Criteria**

We used the following criteria to perform this audit:

- Federal Mine Safety and Health Act of 1977, as amended
- General Accountability Office, Government Auditing Standards, 2003 Revision
- General Accountability Office, Standards for Internal Control in the Federal Government, November 1999
- Federal Mine Safety & Health Act of 1977
- 30 Code of Federal Regulations (CFR) Chapter 1, Subchapter G and O
- Program Policy Manual dated 10/23/2003.
- MSHA General Coal Mine Inspection Procedures Handbook dated July 2007
- MSHA General Coal Mine Inspections Procedures Handbook dated January 2006
- MSHA Coal Mine Safety and Health Supervisor's Handbook dated August 1997
- MSHA Coal Inspection Procedures Handbook dated September 1995

- Coal Mine Health Inspection Procedures dated March 15, 2005, Chapter 3, Noise
- Coal Mine Health Inspection Procedures dated December 2005, Chapter 1, Respirable Dust
- Coal Mine Electrical Procedures Handbook dated January 2006.

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**Appendix C**

**Acronyms and Abbreviations**

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AR	Authorized Representative
CFR	Code of Federal Regulations
CMS&H	Coal Mine Safety and Health
CY	Calendar Year
DA	Designated Area
DOI	Department of Interior
DOL	Department of Labor
FY	Fiscal Year
ITS	Inspection Tracking System
Mine Act	Federal Mine Safety and Health Act of 1977
MINER Act	Mine Improvement and New Emergency Response Act of 2006
MSHA	Mine Safety and Health Administration
MMU	Mechanized Mining Unit
NPA	Non-Producing Active
OIG	Office of Inspector General

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Agency Response to Draft Report

U.S. Department of Labor

Mine Safety and Health Administration  
1100 Wilson Boulevard  
Arlington, Virginia 22209-3939

INFORMATION



NOV 13 2007

MEMORANDUM FOR ELLIOT P. LEWIS

Assistant Inspector General for Audit

FROM:

RICHARD E. STICKLER  
Assistant Secretary for  
Mine Safety and Health

A handwritten signature in black ink that reads "Richard E. Stickler".

SUBJECT:

Response to OIG Draft Audit Report No. 05-08-001-06-00  
"Coal Mine Inspection Mandate Not Fulfilled Due to  
Resource Limitations and Lack of Management  
Emphasis"

Thank you for the opportunity to comment on your draft audit report. Attached are MSHA's comments regarding your audit findings and recommendations. In this regard, we offer suggestions to improve the accuracy of the report, and provide important context to your readers. In particular:

- Your final report fails to acknowledge that the majority (70 percent) of incomplete mandatory inspections determined during your audit period were at mines that were either non-producing, inactive, intermittent, or abandoned during the inspection period. For inspections not completed at inactive or abandoned mines, miners were not placed at risk to hazardous conditions.
- The draft report identifies deficiencies in the failure to document "critical inspection elements." The failure to document does not demonstrate MSHA's failure to inspect certain activities, equipment, or records because not all elements require documentation.
- MSHA's main priority during regular health and safety inspections is determining compliance with existing standards, rules, and regulations. Valuable and limited enforcement time by our inspectors should be placed primarily on identifying and abating hazards as a result of inspections rather than documentation and paperwork.

You can now file your MSHA forms online at [www.MSHA.gov](http://www.MSHA.gov). It's easy, it's fast, and it saves you money!

We appreciate the open dialogue with your auditors. This afforded MSHA with the opportunity to initiate corrective actions prior to the issuance of your draft report. Going forward, we will continue to work with your office to implement viable recommendations that will improve the safety and health of miners. If you have any questions, please contact Melinda Pon (202) 693-9516 or Brent Carpenter (202) 693-9782.

Attachment

Response to OIG Draft Audit Report No. 05-08-001-06-001

**OIG Recommendation No 1:** Inspection resources are commensurate with the mining activity in the coal districts. This includes evaluating the impact of the additional inspectors hired since July 2006 and the “100 Percent Plan” and if necessary, implementing additional steps to complete all mandatory inspections.

**MSHA Response:** As referenced in the recommendation, MSHA has instituted the “100 Percent Plan” to ensure that MSHA has the necessary resources to fully enforce the inspections mandated in the Mine Act. In 2006, Congress appropriated funding for MSHA to hire an additional 170 enforcement personnel. The “supplemental hiring” took place between July 2006 and September 30, 2007. In order to account for backfilling enforcement positions due to attrition, 273 enforcement personnel were hired during that timeframe. As of September 30, 2007, there were 257 trainees on board. Until these trainees complete their formal training and receive authorization from the Secretary of Labor, they are unable to independently inspect coal mines or issue enforcement actions.

However, in order to bridge this gap, inspectors are being rotated into understaffed districts for two (2) week intervals to assist in completing all mandated inspections. Furthermore, overtime and all other alternative schedules have been approved to facilitate the districts in completion of all mandated inspections.

It is important that the OIG acknowledge and incorporate into the final report that the majority of the incomplete, mandatory inspections reviewed during the time period covered by the audit were at mines that were inactive for the inspection period, intermittently active during the inspection period, or abandoned during the inspection period. For inspections not completed at inactive or abandoned mines, there was no diminution of health and safety to the miners for failure to complete inspections at these mines. Further, it should be recognized that there are logistical problems and resource issues involved in completing inspections at intermittently active mines. Finally, there were incomplete inspections noted in your report for mines that had already received four (4) mandatory complete inspections.

**OIG Recommendation No 2:** Inspection completions are effectively monitored. This includes enforcing the district quarterly Inspection Completion Rates report content requirements (Memo No. HQ-030-034) and developing the report to include additional information, such as cumulative year-to-date completion rates and the related number of completed and required inspections. An internal control should be developed to ensure deficiencies noted in the reports are addressed.

Response to OIG Draft Audit Report No. 05-08-001-06-001

**MSHA Response:** MSHA will revise and reissue the current instructions in Memo No. HQ-030-034 to strengthen the requirements of the District's reports to headquarters regarding the status of their regular inspection completions. This will include an explanation of missed regular inspections by mine and the corrective action taken to achieve completion. These reports will be used in conjunction with the detailed reports generated from MSHA's computer system which includes cumulative year-to-date completion rates and the related number of completed and required inspections. In addition, MSHA has established a new Office of Accountability whose purpose is to increase oversight of MSHA's accountability and enforcement programs to ensure that necessary management controls are fully implemented and monitored. This includes reviews to ensure inspections are completed according to MSHA policy.

**OIG Recommendation No 3:** Policies and procedures are developed for calculating the regular safety and health inspection completion rate and ensuring the inspection data used is correct.

**MSHA Response:** MSHA will issue policies and procedures for documenting regular inspections that are closed before being completed and those that occur where the mine is abandoned prior to any meaningful inspection activity. Policies and procedures will also be developed to document the process of calculating the regular safety and health inspection completion rate.<sup>1</sup>

**OIG Recommendation No 4:** Procedures for documenting all critical inspection activities are included in the MSHA General Inspection Handbook and Inspection Tracking System (ITS).

**MSHA Response:** Unfortunately, MSHA's efforts to correct the critical inspection list compiled by your auditors during the audit were unsuccessful. Thus, your analyses of critical inspection activities continues to suffer from fundamental flaws. For example, critical inspection elements relative to the "working place" and references to workplace procedures are incorrect. Further, you maintain a view that an inspection cannot be complete unless exact wording, such as "ventilation facilities" rather than other words describing ventilation systems such as "intake", are included in inspection notes and documentation. This position is unnecessarily restrictive and results from a lack of understanding of mining terminology.

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<sup>1</sup> "Key indicator" reports are already in use or under development to assist oversight in a wide variety of areas, including inspection data and completion rates.

Response to OIG Draft Audit Report No. 05-08-001-06-001

Therefore, in keeping with Section 103(a) of the Mine Act, MSHA will define the salient portions of a complete safety and health inspection. We are in the process of revising and reissuing the Coal Mine Inspection Procedures Handbook, and anticipate having a draft for review and comment during the first calendar quarter of 2008. Prior to release of this handbook, MSHA will ensure that language is included in the handbook to require documentation of all salient portions of a complete inspection. MSHA will also incorporate any necessary changes into the ITS.

**OIG Recommendation No 5:** All critical inspection activities are documented as performed or not applicable at the mines being inspected.

**MSHA Response:** The inspection tracking system has been streamlined to include only the critical items and elements of a complete inspection on an individualized basis. MSHA feels it is redundant to require documentation of inspection activities that do not apply to the mine being inspected.<sup>2</sup> For example, MSHA suggests that a disclaimer be added to the ITS report stating that, "Systems, equipment, or processes not addressed in this report were not in use at this mine during this inspection activity."

Currently, MSHA has accepted general statement(s) when an area is inspected as documentation that all processes or systems in the area are hazard-free. Statements such as, "*Traveled the haulage entry – No hazards observed*" would be considered complete documentation for examining the haulage way and the high voltage cable (if the high voltage cable was located in the haulage entry).

Finally, MSHA points out that the OIG should reconsider their statements regarding full-shift respirable dust sampling. Past and current law, regulation, and policy mandate portal-to-portal respirable dust sampling for the full shift or for eight (8) hours, **whichever is less**.

**OIG Recommendation No 6:** Field Office supervisors certify inspections are thorough before being counted as complete.

**MSHA Response:** MSHA is currently in the process of revising and reissuing the Coal Supervisors Handbook. MSHA anticipates having a draft for review and comment during the first calendar quarter of 2008. Prior to release of this handbook, MSHA will ensure that language is included in the handbook to

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<sup>2</sup> Your report, for example, references an inspector's failure to document inspection of the track and trolley system at a mine where track and trolley did not exist.

Response to OIG Draft Audit Report No. 05-08-001-06-001

require the review of documentation of all salient portions of a complete inspection. MSHA feels that documentation of this review is adequately demonstrated by supervisory date and initials on the cover page of the inspectors' daily cover sheet(s) and on all other enforcement actions.

Much of the OIG report hinged on a misdated form found in one of the Crandall Canyon mine inspection reports. The OIG's findings regarding this form **may** not be indicative of either the quality of the inspection or the inspection report when considered in its entirety. The information required to complete the misdated form may have been well documented in the inspection notes.

**OIG Recommendation No 7:** Inspection activity documentation and supervisory oversight are reviewed as part of MSHA's Accountability Program.

**MSHA Response:** MSHA's Accountability Program and associated Handbook are currently being revised based on several factors, including your prior audit and the results of our own internal reviews. We will consider recommendation No. 7 as well when making our revisions. MSHA's Office of Accountability will also address inspection documentation and supervisory oversight.

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