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COAL MINE SAFETY AND HEALTH GENERAL INSPECTION PROCEDURES HANDBOOK

PREFACE

This handbook sets forth general procedures for conducting inspection of coal mines consistent with Section 103(a) of the Mine Act. Previously issued procedural and administrative instructions for this subject material are superseded by this handbook.

The following description of responsibilities sets forth the steps that a mine inspector takes when conducting mine inspections. When the text describes an action that the inspector "shall" do or specifies steps that the inspector "shall" perform in some sequence, then the inspector is to do so consistent with the specific conditions at a mine. Any determination not to conduct such action is to be based on his or her sound discretion, and that of the inspector's supervisors. When the action is one which "should" be followed, then the inspector who does it is engaging in the best practices for such inspection and should do it consistent with the specific conditions at a mine.

The Mine Postings and Records Documentation and Inspection Procedure Header Documentation pages contained in the Inspector Tracking System (ITS) approved with this handbook may be printed by the inspector and used as inspection notes. These pages apply only to regular (E01) inspections and are not required to be used on other event codes. The pages are designed to provide a complete listing and documentation of the Mine Postings and Records and the Inspection Procedures that may or may not be applicable at a mine. The use of these pages will lessen the chance of inspection or documentation error by an inspector.

The items identified in the paragraphs that are in **bold** lettering are areas identified that inspectors need to place additional emphasis to ensure inspection documentation and enforcement levels are commensurate with the conditions found at the mine.

Any proposed future revisions to this handbook will be communicated to the National Council of Field Labor Locals (NCFLL) in accordance with the Collective Bargaining Agreement.

Approved:

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Chapter 1 – INTRODUCTION

The objective of MSHA mine inspection and investigation activities is to promote a safe and healthful working environment for miners. MSHA personnel work to achieve this objective in three ways: (1) by enforcing the Federal Mine Safety and Health Act of 1977 (Mine Act or the Act) (P.L. 95-164), as amended (30 U.S.C. 801 et seq.) and the Mine Improvement and New Emergency Response Act of 2006 (MINER Act) (P.L. 109-236); (2) conducting education and training activities; and (3) providing technical assistance to the mining community.

A. Purpose. This handbook sets forth procedures for MSHA personnel to follow when conducting inspections and investigations of underground and surface coal mines and facilities. The instructions in this handbook are primarily procedural and administrative. The instructions contained in this handbook supersede previously issued procedural and administrative instructions on the subjects addressed in this handbook.

B. Authority. Section 103(a) of the Act provides authorized representatives (ARs) of the Secretary of Labor with the authority to conduct inspections and investigations of coal and other mines. Additionally, Section 103(a) provides ARs with the right of entry to, upon, and through any coal or other mine. Only persons who have been authorized by the Secretary and have had proper credentials issued to them shall conduct inspections and investigations under the Act. When requested, ARs shall present their credentials to interested parties before conducting an inspection or investigation.

C. Responsibility. The Administrator for Coal Mine Safety and Health (CMS&H) has the primary responsibility for enforcing the Mine Act and implementing the standards and regulations relating to coal mines. This responsibility ultimately rests with the ARs (inspectors, specialists and their supervisors). Inspectors are responsible for conducting thorough inspections and investigations. Inspectors should discuss safety and health practices with mine operators and the miners during every inspection. Stakeholder participation is essential to achieving an effective safety and health program at each mine.

D. Health and Safety Rules. Inspectors must have thorough knowledge of the Mine Act and Title 30, Code of Federal Regulations (30 CFR). MSHA employees should comply with applicable state and company health and safety rules and regulations unless they conflict with Federal standards or interfere with the performance of their duties.

E. Danger Boards/Hazardous Areas. Inspectors, and miners' representatives accompanying an inspector, have the right of entry into "posted" or "dangered-off" areas in the performance of their duties, but should do so with caution. Inspectors should not travel anywhere in a mine where the oxygen content is below the

acceptable air quality standards. In case of an emergency that adversely affects the mine's air quality, inspectors should protect themselves with use of a self-contained self-rescuer.

F. **Supervisory Coal Mine Inspectors Accompanying an Inspector**. When a supervisor accompanies an inspector, investigator, or specialist, the supervisor's name should not be cited as one of the inspection officials or authors of the resulting report except when the supervisor participates in the inspection event. Supervisors must use care to correctly code their time and activity after accompanying an inspector during inspection activities.

G. **Inspectors-in-Training**. When an inspector-in-training who has not been authorized to conduct inspections accompanies an inspector, include only the inspector's name in the report. The name of the inspector-in-training and his or her right of entry (ROE) number shall not be documented on the MSHA Form 2000-22 (Mine Activity Data Sheet), MSHA Form 2000-86 (Respirable Dust Sampling and Monitoring Data), MSHA Form 2000-84 (CMS&H Noise Report), or other forms required to be submitted with the inspection report. The inspector–in-training should remain in the presence of the inspector at all times and is not permitted to conduct any part of an inspection or investigation independently. The only exception is for inspectors-in-training who have received the entry level respirable dust and noise training at the MSHA Academy. Non-ARs certified to sample respirable dust and noise may assist the inspector (who is responsible for the inspection with respirable dust or noise sampling when the inspector is on the same mechanized mining unit (MMU).

H. **Inspection Equipment and Supplies**. Each inspector and inspector-in-training shall have equipment and supplies sufficient to safely and effectively complete the projected type of inspection or investigation **and be properly trained in the use of such equipment**. All underground inspectors should carry a device to detect and evaluate potentially adverse roof and rib conditions. Personal Protective Equipment (PPE) applicable to mine conditions and specified for use in MSHA directives shall be worn. Inspectors should immediately notify their supervisor if equipment deemed essential for planned inspection activity (including that necessary to address anticipated health/safety exposures) is not available at their office location. Each Field Office or other offices designated to have inspectors and inspectors-in-training assigned on a regular basis should have equipment available and sufficient supplies to safely and effectively complete the projected type of inspection or investigation. **The inspector should use the equipment that is owned and properly maintained by MSHA.** (Refer to the Inspector's Equipment List and Field Office Equipment and Supplies List in the appendix section of this handbook.)

MSHA-provided multi-gas detectors must be checked periodically to verify that the gas sensors are responding appropriately and the detector is maintained according to

the manufacturer's specifications. In order to maintain the performance and accuracy of multi-gas instruments used by CMS&H personnel, all CMS&H multi-gas detectors must be tested according to the following schedule:

1. All multi-gas detectors used by enforcement personnel will be calibrated according to the manufacturer's specifications at least once every 31 days or more often if required by the manufacturer; and

All multi-gas detectors used by enforcement personnel will be performance ("bump") tested according to the manufacturer's specifications at the beginning of each day of use.

Instruments that fail the "bump" test must be recalibrated prior to use in the field. Documentation of "bump" tests and the monthly calibration of each instrument will be maintained by the districts for a period of at least the previous fiscal year plus the current fiscal year. The documentation can consist of:

1. the computer data files that are produced by the instrument and an automated calibration unit; or

2. a copy of the printed test results that are stored in a central location; or

3. records developed and maintained by district personnel.

To ensure these testing requirements do not interfere with the ability of Agency personnel to perform field inspection duties, each office shall have sufficient calibration gas on hand at all times.

I. **MSHA Personnel – Former Mine Employee**. At least two years shall elapse from the last date of employment at a mine until MSHA personnel may conduct inspections or investigations at such mine. At least one year shall elapse from the last date of employment by the same operator of a mining company until MSHA personnel may conduct inspections or investigations at such mining company. This one year waiting period applies to all official matters involving their former mining company employer (such as ABC Mining Company, who owns more than one mine including XYZ Mine), as opposed to being limited to the particular mine at which they were employed (such as XYZ Mine).

J. **Mine Labor/Management Relations**. MSHA employees should remain impartial toward both labor and management. MSHA employees shall refrain from offering opinions on labor management relations matters which are not covered under the Act, regulations, or standards. When a picket line is present at a mine site, inspectors should discuss the purpose of their presence on mine property with the individuals on

the picket line. If access to mine property is delayed or denied, inspectors shall give consideration to whether the mine is in production or just being maintained and the type of inspection activity to be performed in determining whether crossing the picket line is appropriate. Under no circumstances should inspectors put anyone, including themselves, in danger while crossing a picket line. Inspectors should contact their supervisor when necessary in making this determination. In such situations, the supervisor may opt to contact labor representatives to attempt to resolve the problem, accompany the inspector, or send an additional inspector if the situation warrants.

K. Miners' and Operators' Representatives. Section 103(f) of the Mine Act requires that representatives of the operator and miners be permitted to accompany inspectors in order to assist in conducting a full inspection. A representative of the operator and a representative authorized by miners shall be given an opportunity to accompany inspectors during the physical inspection of any coal or other mine, including areas where only contractors are working, for the purpose of aiding such inspection and participating in pre- or post-inspection conferences held at the mine. Where there is no authorized miner representative, inspectors shall consult with a reasonable number of miners concerning matters of health and safety in such mine. (Refer to Representation of Miners Designation Form 2000-238 and Section 103(f) of the PPM, Volume I, for further guidance.)

L. Interagency Agreements (IA) and Memorandums of Understanding (MOU). Several agreements and memoranda exist that facilitate the efficient use of government personnel and directly affect the conduct of business by MSHA personnel. These include:

Interagency Agreement between the Mine Safety and Health Administration (MSHA), U.S. Department of Labor, and the Occupational Safety and Health Administration (OSHA), U.S. Department of Labor.

Memorandum of Understanding between the U.S. Department of Labor, Mine Safety and Health Administration (MSHA), and the U.S. Department of the Interior, Bureau of Land Management (BLM).

Memorandum of Understanding between the U.S. Department of Labor, Mine Safety and Health Administration (MSHA), and the Interstate Mining Compact Commission (IMCC).

Memorandum of Understanding between the U.S. Department of Labor, Mine Safety and Health Administration (MSHA), and the U.S. Department of Justice, Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF).

Chapter 2 - GENERAL PROCEDURES

This section covers the general procedures that should be addressed by inspectors during any inspection or investigation. Depending on the type of inspection or investigation, procedures listed in other handbooks may also apply. Inspectors must provide at least the minimum documentation, as directed in the paragraphs labeled *Documentation Required*. The documentation required for each procedure listed in this chapter shall include a statement in the inspection notes that the procedure was completed. A statement that the required procedure was completed, or an "NA" or "Not Applicable" may be used if the procedure does not apply. A short statement such as "No Violations Observed" or "NVO" shall be included when no hazards or violations are observed.

Inspectors should report time pertinent to each event on their Weekly Activity Data Form (MSHA Form 7000-36) for all inspection-related activity, including: inspection preparation, travel, on-site inspection and/or investigation activities, office-generated paperwork such as opening or closing out the event or report writing associated with the event, and review of the Uniform Mine File or Electronic Uniform Mine File (UMF/EUMF).

A. <u>Weekly Activity Data Form (MSHA Form 7000-36</u>). The Weekly Activity Data Form is used to add or change data about an inspector's work and is initiated by an AR or ROE personnel. The Weekly Activity Data Form is filled out by hand or using the Inspectors' Portable Application for Laptops (IPAL). It is subsequently entered into the MSHA Standardized Information System (MSIS) database. Completion of the form is required for all AR and ROE personnel assigned to District and Field Offices. Enforcement personnel, including Technicians performing inspection assistance duties, will complete all items on MSHA Form 7000-36 when applicable for activity codes beginning with E Activities E01 through E32 and must be used in conjunction with a mine ID number and an event number.

MSHA Form 7000-36 fields are listed below and the numbers on the list correspond to the numbering schema on the form. If this form is being completed using IPAL, numbers 1 through 3 will be filled in using your IPAL profile.

1. **<u>Item 1. Name</u>** – Your last name, first name and middle initial.

2. **<u>Item 1a. AR Number</u>** – Your Authorized Representative (AR) number, if applicable.

3. **<u>Item 1b. ROE Number</u>** – Your Right of Entry number, if applicable.

4. **<u>Item 2. Org Code</u>** – The Organization Code (Org) is your office code.

5. **Item 3. Work Group Identifier** – Enter your 2-digit work group code.

6. **Item 4. Weekly Mileage** – Not applicable to Coal.

7. **Item 5. Date** - Month, day, year (mm/dd/yyyy). Enter the appropriate date for the time worked. Multiple lines may be used for the same day/date.

8. **Item 6. Activity Code** - Enter the Activity Code. A list of Activity Codes can be found in the IPAL User's Manual (Appendix E) on the back of the printed form or from the drop-down list in IPAL.

9. **Item 7. Event Number** – If an E activity code was entered for item 6, an event number associated with the inspection activity for which these hours are being reported must be entered. If this is being completed in IPAL, event numbers will be available through a drop-down list. When the event number is selected first using the drop-down list, the activity code and mine ID will be filled in with the corresponding information. If an event was initiated by another inspector and not available in the drop-down list, a supplemental event will need to be added in IPAL in order to enter time.

10. **Item 8. Mine ID** – If applicable, enter the Mine ID where this activity occurred.

11. **Item 9. Contractor ID** – If the inspection is specific to a contractor at the mine, such as major construction or a shaft or slope sinking project, enter the MSHA Contractor ID.

12. **Item 10. Shift** - Required for events when site inspection time is entered. Shifts are based on mine work schedules and the codes are 1 - Midnight, 2 - Day and 3 - Evening. Two-line entries are required when there are shift over-laps, with one entry for each shift inspected or other activity conducted. This entry is designed to identify the shift that the employee was actually at the mine site. It is not designed to identify which shift he/she traveled on. For example, if an employee left the office at 6:00 a.m. to travel to the mine and rode the man trip underground, and spent 6 hours inspecting, all on the day shift, then the employee would have a one-line entry on the number 2 shift. The only time that multiple entries would be required for an activity on any given day would be when the inspector or inspector-in-training was actually at the mine for more than one shift.

13. **Item 11. Task Code** – Enter the appropriate Task Code to describe the role the employee was fulfilling during the inspection. If no task code is entered, the system will treat it as a General Inspection Activity. A list of Task Codes can be found in the IPAL User's Manual (Appendix E) on the back of the printed form

or from the drop-down list in IPAL. If a supervisor accompanies an inspector, the same Activity Code, Event Number, and Mine ID should be used with an "S" Task Code for Supervisory Duties (Field).

The following five items (Columns 12 through 16 on MSHA Form 7000-36) contain two positions for recording full hours and one position to record quarter-hours. Full hours are entered to the left of the solid line and the quarter-hour designation is entered to the right of the solid line. If more than 9 hours are recorded on a line, the digits are separated by the dotted line of the column. Quarter-hours are calculated as follows: "0" for no minutes; "1" for one-quarter of an hour or 15 minutes; "2" for one-half hour or 30 minutes; and "3" for three-quarters of an hour or 45 minutes. There can be no entry for 4 or more quarter-hours. When you reach 4 quarter-hours, you have completed another full hour. Totals for each column can be calculated and entered at the bottom of the column.

Note: To properly record a time of 2 hours & 15 minutes, for example, enter 2 for the Hour in box to the left of the solid line and 1 (as in "1 Quarter-Hour") in the box to the right.

14. **Item 12. Travel -** Required entry for all codes when travel is involved for inspection activities, which includes time to load the vehicle. Enter travel time to the nearest quarter-hour.

15. **Item 13. Other -** Examples of other inspection-related time include time spent reviewing documents (e.g., UMF) to prepare for an inspection, multi-gas detector bumping or calibration, clean up, writing a report of an investigation, ITS, completing rock dust sample submission forms, respirable dust data cards, air sample forms and preparing respirable dust or noise sampling equipment.

16. **Item 14. Site Inspection Time** – Columns used to record time spent at a mine site by AR and ROE personnel when reporting events.

    a. **On-Site Insp. Time (MNM)** – Not applicable to Coal.

    b. **MMUs/Pits (Coal)** – This section includes underground working sections, surface pits, and surface facilities with their own mine identification (ID) numbers. Enter the number of hours and quarter-hour identifier for the amount of time spent inspecting MMUs or Pits. MMU time should include travel time from the surface to the MMU, time spent reviewing examination books, records and maps associated with the intent of inspecting the MMU, time spent preparing to travel underground, and time spent distributing respirable dust or noise sampling equipment. Travel time shall be reported

as "Outby" time when citations or orders are issued while traveling to or from the section or when inspecting the travel route to meet E01 requirements.

c. **Outby (UG mines Coal) –** Enter the number of hours and quarter-hour identifier for the amount of time spent inspecting Outby areas. Outby time includes travel time from the surface to the area being inspected, time spent reviewing examination books, records and maps associated with the area inspected, and time spent preparing to travel underground.

d. **Surface Areas (Coal) –** Enter the number of hours and quarter-hour identifier for the amount of time spent inspecting surface areas of an underground mine or surface areas of surface mines excluding time at the pits. Surface area time includes time spent reviewing examination books, records, maps, (including records and posting for the underground only when the inspector does not travel underground on that day's inspection) and time spent preparing to inspect the area.

e. **C/O Writing On Site/ Reviews (Coal) –** Enter the number of hours and quarter- hour identifier for the amount of time spent on-site writing issuances or conducting on-site reviews of company records. This would include time spent reviewing books, training records, and other documents and postings not associated with an inspection of a physical area.

17. **Item 15. C/O Writing Off Site** - Enter the number of hours and quarter-hour identifier for the amount of time spent writing, researching, or supporting office generated enforcement actions. This includes time spent completing required forms which may accompany any enforcement actions such as Special Assessment Review Forms, Possible Knowing and Willful Forms, and Photo Mounting Worksheets. Office generated subsequent actions that are issued should be charged to the open event that the citation or order was originally issued under, if that event is still open.

18. **Item 16. Total Inspection/Non-Inspection Hours** - This column has a two-fold purpose. It is used to record the total Inspection-Related Time as entered in columns 12 through 15 or to enter any time for non-inspection related activities (T codes). As with the other columns, the number of hours and quarter-hour identifier for the amount of time spent is entered. Examples of non-inspection related activities are time spent on conferences, plan approvals/reviews, Freedom of Information Act (FOIA) requests, leave, jury duty, etc. (For additional instructions for entering time in IPAL, see the IPAL User's Manual.)

19. **Item 17. Supervisor Initials and Date** - Supervisors will initial and date the inspector's completed and initialed copy of the form.

20. **Item 18. Key Entered By and Date** – Mine Safety and Health Assistants should certify with their initials and date that the data on this form was entered in MSIS.

21. **Item 19. Remarks -** Fill in additional information as appropriate. Information for this field can only be entered by hand either on a preprinted or IPAL generated copy of the form.

22. **Item 20. Inspector Initials and Date** - When complete, initial and date the form.

B. **Uniform Mine File Review. Inspectors shall review and sign the Uniform Mine File (UMF)/Electronic Uniform Mine File (EUMF) just prior to conducting an inspection or investigation. The type of event and the area to be inspected will dictate the extent of the review, in accordance with the Uniform Mine File Procedures Handbook. The UMF/EUMF review shall be conducted as part of the inspection/investigation and coded as "other" time. Inspectors who are regularly assigned to a coal mine are not required to conduct additional reviews of the UMF/EUMF when conducting other types of inspections or investigations during the same inspection quarter, but are not precluded from doing so.** There are instances when an inspector conducts a "limited inspection" which would not require the UMF to be reviewed in its entirety. A "limited inspection" is generally specific in nature and short in duration (one or two days on a certain event) (Example: ventilation specialists with the intent to inspect an area of their expertise such as bleeder entries). The inspectors and specialists must review for a "limited inspection" at a minimum, the roof control and ventilation plans and any other plans pertinent to that inspection. Immediate signature and review does not apply to mine emergencies.

Documentation Required: *The inspector should document the date of the UMF review on the General Information Cover Sheet and complete the MSHA Form 2000-137 (Inspector Certification Form) in the UMF/EUMF, per instructions in the Uniform Mine File Procedures Handbook. If additional reviews are conducted, no additional documentation is required.*

C. **Arrival at the Mine.** Inspectors should arrive at the mine in time for pre-inspection contacts, a preliminary review of examination records, and an overview of the mine map to determine which area of the mine to begin the inspection or investigation. While performing surface or underground inspection activity related to an open event, the mine map shall be thoroughly reviewed with special attention given to mining in close proximity to worked-out areas, oil and gas wells, fuel transmission lines, and bodies of water which could present an underground flood hazard, and

mines located adjacent to, above, and below active workings. Also, where surface mines are present, any dangers surface mining may present to underground miners shall be checked. The information obtained from these sources in addition to the information reviewed at the MSHA office and mine examination records should aid the inspector in determining what area of a mine needs immediate attention. **The arrival time at the mine should be entered on the Daily Cover sheet and will be considered the official time of arrival.** The arrival time at the mine shall be independent from other Agency time reporting data (PeopleTime, Weekly Time and **Activity, Inspection Shifts, etc.). A departure time is not required. MSHA personnel should proceed to the area selected for inspection as quickly as possible after arriving at the mine site.**

Documentation Required*: If the inspector is unable to preliminarily review files, maps, and examination records before the underground portion of the inspection begins, this fact should be noted and a reason given. If possible, the inspector should review files, maps and record books before exiting mine property. The inspector shall document the arrival time, pre-inspection contacts, and records books reviewed on the daily cover sheet or in the narrative portion of the inspection notes for all inspection-related events. The mine map review shall be documented once for each event. If additional reviews are conducted for the same event, no additional documentation is required. The arrival time at the mine shall be entered on the Daily Cover sheet and will be considered the official time of arrival.*

D. **Conference Procedures.** Inspectors should prepare carefully for conferences as they will provide an opportunity to discuss safety and health issues and reinforce effective programs at the mine.

The inspector shall print and review the following information with mine management during each inspection period:

- those portions of the Mine Profile Report determined by the inspector to be applicable, located at MSHA Intranet Home Page - MSHA Report Center – Mine Profile (hyperlink only accessible when connected to the MSHA network),

- the Part 75 Exam Rule Calculator for the previous inspection period, located at http://arlweb.msha.gov/drs/Part75ExamRule-calculator.asp (accessible from any internet connection) and;

- the Rules to Live By Calculator for the previous inspection period, located at http://arlweb.msha.gov/drs/rlb-violations-calculator.asp (accessible from any internet connection.)

Documentation required: The inspector should document the completion of these reviews in the daily inspection notes.

1. **Pre-inspection Conference.** On the first day of the inspection, the inspector will notify the representatives of the operator and miners of the type of inspection to be conducted and schedule a time for the pre-inspection conference. During the pre-inspection conference the inspector should inform the operator and the miner representatives (if designated) of the procedures for requesting a safety and health conference under § 100.6(b). The inspector should notify the representatives of the operator and miners of the inspection and afford them the opportunity to exercise their rights under Section 103(f) of the Mine Act.

   Documentation Required: *The inspector should document on the General Information Cover Sheet or in the inspection notes the conference type, the date conducted, the name of the operator and/or miner representative in attendance and any comments or concerns voiced by the representatives.*

2. **Post-Inspection Conferences**. The inspector should schedule and conduct a post-inspection conference with the mine operator and miners' representative (if designated). The conference should include a summary of all enforcement actions taken. Accidents at the mine and the available results of any samples or surveys taken during the inspection should be discussed. A means to prevent recurrence of violations, hazards, and accidents should be formulated by the mine operator and fully discussed by all parties. The inspector's immediate supervisor should be made aware of the post-inspection conference date and briefed immediately regarding concerns voiced during any portion of an inspection or investigation.

***Documentation Required*:** *The inspector should document on the General Information Cover Sheet or in the inspection notes the conference type, the date conducted, the name of the operator's and miners' representatives in attendance, and any comments or concerns voiced by the representatives.*

E. **Advance Notice.** The Mine Act prohibits advance notice of MSHA inspection activities. When an inspector learns that an operator, contractor, or any other person has given advance notice of an impending inspection, the inspector should issue a citation under Section 104(a) of the Mine Act, alleging a violation of Section 103(a) of the Act.

Advance notice includes subtle forms of communication (such as coded references, like "company is here," or "visitors are on site") intended to disguise communications announcing MSHA's presence at a mine. Communications warning of inspection pending activity after a multi-day inspection has begun also constitute advance notice. All persons need to be aware of their legal obligations, and an individual or an operator may violate the Mine Act's advance notice provisions even if not warned explicitly against providing advance notice. Inspectors are to consider all advance notice citations for a special assessment, which will be based upon the

circumstances involved with the violation.

Advance notice has an inherent tendency to interfere with an inspection. Thus, an inspector need not demonstrate that mine conditions or practices were altered based on advance notice to establish an advance notice violation. However, the physical conditions of a mine may indicate that mine personnel received advance notice and acted to conceal violations. For example, rock dust applied over obvious accumulations of loose coal and coal dust in limited or discrete areas near the inspection location, or new ventilation curtains installed where there are indications that no mining had occurred after the curtains were hung are conditions that may indicate advance notice occurred. Enforcement personnel should document these conditions when a citation for advance notice is issued.

In addition, inspectors are to immediately notify their supervisor following the issuance of a citation for a violation of Section 103(a) for giving advance notice. The supervisor is to inform the District Manager of the issuance. District Managers, in consultation with the Technical Compliance and Investigation Office (TCIO) and the Office of the Solicitor, as appropriate, will evaluate each advance notice violation to determine whether the circumstances and evidence warrant an investigation under Section 110(e) and/or injunctive action under Section 108(a)(1) of the Mine Act.

When preparing to conduct an inspection, MSHA enforcement personnel should take precautions not to disclose their intentions to conduct an inspection in a specific location. Examples of such precautions include reviewing examination books for several areas of the mine, rather than only the specific area that they intend to inspect that day, and making a general request for transportation, rather than requesting transportation to travel to a specific location. (Additional guidance is available in Volume I of MSHA's Program Policy Manual.)

F. Inspector Compliance with the Tracking Requirements of an Emergency Response Plan (ERP). Normally, the inspector should comply with the mine operator's tracking system. The District Manager (or his designee) may make the determination that: (1) electronic tracking of an MSHA inspector could provide advance notice of an inspection; and (2) important inspection objectives could be undermined if the MSHA inspector was tracked. In those cases, the District Manager/designee may allow the inspector to perform the portion of the inspection where the advance notice concern exists without the inspection party being tracked by the mine operator. In these situations, the inspector must provide the intended travel routes to an MSHA supervisor or to another MSHA representative who will be available at all times in the event of a mine emergency while the inspection party is underground. If the intended travel route changes, the MSHA inspector must notify the supervisor or the other MSHA representative.

Documentation Required: *The inspector shall document in the notes the reason(s) why tracking devices were not worn. The notes should also reflect who was notified of the intended travel routes and any changes to these routes. No documentation is required for this section if there is no problem with the tracking system.*

G. **Denial of Entry, Assault, or Harassment of Inspectors.** In the event an inspector is refused entry to a mine, or is threatened or harassed while making an inspection, the inspector should promptly notify his/her immediate supervisor and give the supervisor all the available information. The supervisor shall also alert his/her Manager of any circumstances that have the potential to place an inspector in harm's way. (Refer to Section 103(a) of the PPM, Volume I, for further guidance.) Under Section 111 of Title 18 of the U. S. Code, it is a Federal crime to forcibly assault, intimidate, or impede MSHA employees performing investigative, inspection, law enforcement or other official duties. (Refer to PPM Volume I, section I.103-1 for further guidance.)

H. **Examination Records. Before physically inspecting an area of a mine, the inspector should conduct a limited review of the operator's most recent examination records pertinent to the planned inspection activity for that day. More than one record will often apply to an area, such as preshift, on-shift, daily and weekly examination records. When a record of examination lists a condition that may identify a serious hazard, the inspector should thoroughly document the hazards in the narrative portion of the inspection notes and proceed to this area immediately.** If additional areas are inspected (other than those planned at the start of the shift), pertinent examination records shall also be examined prior to leaving the mine property. In all cases, mine examination records pertinent to the issuance of a citation, order, or safeguard should be reviewed prior to placing the enforcement action in writing, and the review should be documented.

When conducting an inspection or investigation other than a Regular Safety and Health inspection, only the records or postings pertinent to that activity code and area of intended inspection need be reviewed. These reviews shall be sufficient to provide a reasonable assurance that the operator is complying with MSHA recording and posting requirements.

The inspector's review of the operators' examination records is to assure that required pre-shift, supplemental, on-shift and weekly examinations are performed and properly recorded, and that any hazardous conditions and violations of nine specific mandatory safety and health standards are recorded as corrected in a timely manner. The review should be used during inspections to assure all areas of the mine site are being examined in accordance with the 30 CFR and any approved plans.

In addition to hazardous conditions, mine operators must examine for, record and correct violations of the following nine standards: § 75.202(a), § 75.220(a)(1), § 75.333(h), § 75.370(a)(1), § 75.400, § 75.403, § 75.1403, § 75.1722(a), and § 75.1731(a).

Inspectors should check operators' examination records for the following:

a. Examinations have been conducted at required intervals;
b. examination records indicate violations of nine specific mandatory safety and health standards;
c. hazardous conditions and violations of nine specific mandatory safety and health standards have been properly recorded;
d. records of violations or hazardous conditions indicate a need for inspector to follow up;
e. corrective actions have been recorded for reported hazardous conditions and violations of the nine standards; and
f. ventilation of worked-out and outby areas have been evaluated properly.

Also, if examiners observe violations of other mandatory safety or health standards during their examinations, operators are required to correct those violations.

On a quarterly basis, mine operators must review with examiners all citations and orders issued in areas where pre-shift, supplemental, on-shift, and weekly examinations are required.

(Refer to Preshift 3 hrs: 62 Fed. Reg. 35085 (June 30, 1997); Preshift Examination Fixed: 64 Fed. Reg. 45165 (Aug. 19, 1999); Preshift: 77 Fed. Reg. 20700 (April 6, 2012); and Q&As Mine Exam Final Rule 07-23-2012 for additional information.)

Documentation Required: *The inspector should document the records inspected on the daily cover sheet or in the narrative portion of the inspection notes.*

I. **Inspecting Working Places and Surface Pits for Imminent Dangers**. When inspecting a working section or a surface pit, the inspector shall check all working places for conditions or practices that may constitute an imminent danger. This check should be conducted as soon as practical after arrival at the section or pit before inspecting equipment or observing any cycle of operation. The imminent danger examination at an underground working section shall include all working places and the entire length of a longwall or shortwall face. However, if travel to the section or pit is of short duration and entirely incidental to inspecting other areas of the mine, an imminent danger examination is not required.

Documentation Required: *The inspector shall document the examination(s) for imminent dangers conducted in the inspection notes to include a short statement such as "No imminent*

dangers observed" or "NIDO". No other documentation is required unless an imminent danger or violation is observed.

J. **Inspection of Working or Idle Sections.** When inspecting a working or idle section, the inspector shall observe the following general conditions: adequacy of rock dusting and clean up, adequacy of roof support, installation of temporary and permanent ventilation controls, and presence of dates, times and initials. The inspector shall check for methane accumulations and oxygen deficiency.

K. **Handling Orders**. Closure Notice (MSHA Form 7000-9 Red Tag). When a closure or withdraw order is issued under Section 103(k), 104(b), 104(d)(1), 104(d)2), 104(e), or 107(a) of the Mine Act, the inspector shall conspicuously post mine or equipment "CLOSED" posters (MSHA Form 7000-9) so that anyone approaching the area can see them. The posters should be placed in a sufficient number of locations to prevent unauthorized entry into the area or use of the equipment. Posters are normally placed:

1. at the portal of the mine if the entire mine is closed;

2. at the entrance to the section if a section is closed; or

3. on the controls of equipment involved in the order.

The "CLOSED" poster shall be hung as soon as possible after informing the mine operator or contractor that an order is being issued. However, when issuing a Section 107(a) Imminent Danger Order of Withdrawal, do not delay the removal of miners from the affected area(s), or stopping the condition or practice before hanging the closure tag. Upon termination of the order, the inspector shall remove the "CLOSED" poster(s).

L. **Proposed Modification to Safety Standards**. A citation shall be issued when a mine operator has failed to comply with any safety standard, even though a petition for modification has been filed and a decision on the petition is pending before the Administrator. (Refer to Section 108 in Volume I of the PPM for further guidance.)

M. **Section 108 - Injunctive Relief Procedures**. An injunction is an order from a court demanding that a person do something (e.g., allow entry) or refrain from doing something (e.g., working against an order of withdrawal). The failure or refusal to comply with any type of injunction can be punishable by a contempt-of-court charge. Inspectors should notify their supervisor when the mine operator or his or her representative:

1. Violates, fails, or refuses to comply with any order or decision issued under the Mine Act;
2. Interferes with, hinders, or delays the inspector in performing any of his or her official duties;
3. Denies entry onto mine property;
4. Refuses to permit inspection of the mine by the inspector or investigation of an accident or occupational disease occurring on mine property;
5. Refuses to provide information or reports requested for the purpose of carrying out provisions of the Mine Act; or
6. Refuses to permit access to or copying of records requested for the purpose of carrying out provisions of the Mine Act.

When any of these circumstances arises and cannot be remedied by communication with the operator, discuss it with your supervisor immediately to determine if injunctive action may be appropriate. Additionally, if one of the above situations is encountered, record the names of as many persons involved as possible, the date and time of the denial or observance, and a detailed account of the circumstances. Then contact your supervisor as soon as possible. Your supervisor and the District Manager will contact the Regional Solicitor's Office to determine the merits of the case, the sufficiency of the evidence, and whether injunctive relief is advisable or possible. (Refer to Section 108 in Volume I of the PPM for further guidance.)

N. Use of Cameras. Cameras should be used whenever practical to obtain digital images to document violations, accident scenes, or other conditions during an inspection or investigation, subject to the following restrictions:

1. Only cameras approved as permissible for use in return air by MSHA's Approval and Certification Center (A&CC) shall be used or carried into areas where permissible equipment is required, unless otherwise approved by the District Manager.

2. Cameras are prohibited within 25 feet of explosives, other than Ammonium Nitrate Fuel Oil (ANFO), including storage magazines, loaded explosives vehicles, and explosives loading areas.

3. Cameras are prohibited in areas where flammable materials are stored or used and in areas of coal handling facilities that are Class I or Class II Hazardous Locations (explosive dusts or gases) as outlined in National Fire Protection Association® NFPA 70®, National Electrical Code®.

Digital photographs must clearly and accurately depict the nature of the violation or condition. Where appropriate, photographs of abatement or termination measures should also be taken. Before photographs are taken, ensure that the camera is set to the correct date and time. If the camera has audio capability, it should be turned off so that voices are not recorded, unless all persons are explicitly notified that their statements are being recorded.

To be most effective, a violation or condition should be captured with both an "up close" shot and a distance shot to provide perspective and points of view. The photograph should depict a miner's potential for exposure to the hazard or violation of the standard. As a rule of thumb, no more than two or three good photographs are necessary to illustrate a violation and its resolution. Too many photographs can become an administrative burden.

When taking a video recording, begin at a distance and "zoom in" to provide greater detail of particular features. When panning an area, move the camera slowly enough to permit viewers to observe relevant details and attempt to minimize unintended camera movement. Additionally digital memory cards may be needed to ensure sufficient storage capacity if both videos and photographs are taken.

At no time should MSHA personnel put themselves or others at risk or ask miners to reenact practices to obtain photographs. MSHA personnel should not photograph conditions that pose an imminent danger before taking actions necessary to prevent miners from being exposed to the hazard.

Even when printed photographs are produced, the digital images should be stored on a CD or DVD, and the CD or DVD must be maintained in the mine inspection/investigation file or as part of the inspection report. When transferring the digital images and the associated information to support enforcement action, use MSHA Form 4000-125. A copy of completed 4000-125 forms shall be attached to the affected citation or order.

Documentation Required*: If persons other than inspectors are taking photographs during an inspection or investigation, inspectors should record in their notes the name and affiliation of those persons. All images captured by inspectors during an inspection or investigation must be retained in the mine inspection/investigation file or as part of the inspection report. Images from digital photographs should be saved to a CD or DVD in the same file format (normally JPEG with moderate compression) and at the same resolution as they were originally captured by the camera and must be maintained in the mine inspection/investigation file or as part of the inspection report. The inspection/ investigation notes or the Photo Mounting Worksheet (MSHA Form 4000-125) should document: (a) the person who took the photograph when more than one inspector/investigator was involved in the inspection/investigation; (b) the date and time the photograph was taken; (c) the location of the condition or object; (d) a brief description of image(s) captured; and (e) the person who*

transferred the digital image to the CD or DVD and to the Photo Mounting Worksheet. Original digital images should not be modified or edited. All enforcement actions, inspector notes, and digital images associated with an inspection or an investigation should be provided to the Office of the Solicitor or a Conference and Litigation Representative (CLR) once a matter has been referred to the Federal Mine Safety and Health Review Commission or any other judicial body. Once the digital images are effectively and reliably stored on a CD or DVD, the images may be deleted from the camera's digital memory card.

O. Inspection Report.

Mine Activity Data Form (MSHA Forms 2000-22). The Lead inspector shall complete and submit an MSHA Form 2000-22 as a cover page for all types of inspection or investigative activity reports. This electronic form is maintained in the IPAL system and changes are to be made as needed until the event is closed. If an inspector revises the form after a close date has been entered and uploaded, the inspector shall report the changes to the Mine Safety and Health Assistant responsible for updating the revised information in the MSHA Standardized Information System (MSIS). All items (boxes) must be filled out by entering either the appropriate information or by entering zeros (0). Any Form 2000-22 with documentation in Item 17 (Remarks) concerning mine operator's program or plan reviews should be forwarded to the District Office by the Mine Safety and Health Assistant for the District Manager's review.

Item-by-Item Instructions for Completing MSHA Form 2000-22:

Item 1. Action. Indicate if this report is new or if it is updating a previous original report.

Item 2. Activity Code. Enter one of the authorized inspection activity codes. A complete list of event codes can be found in the appendix of the IPAL User's Manual.

Item 3. Event Number. The event number is generated from a maintained event number bank assigned to the inspector opening the event as the Lead AR. This number is used on T&As and Citation/Orders. Exercise care to use the correct event number when issuing citations and orders.

Item 4. Date Event Started. Enter the appropriate event starting date (month, day, year). The start date begins when any activity time is used on one or more of the following items: inspection preparation, travel, or on-site inspection, office generated paperwork or report writing associated with the event, including the review of the UMF/EUMF.

Item 5. Date Event Finished. The date on which all physical, written, and verbal activities have been completed. This includes report preparation and on-site closeout conferences.

Item 6. Mine ID. The authorized 7-digit mine identification number.

Item 7.a. Organization Code (Mine Assignment). Enter the last four digits of the Field Office organization code that is assigned the responsibility for inspecting the mine.

Item 7.b. Work Group Identifier. Enter the 2-digit work group identifier that is assigned the responsibility for inspecting the mine.

Item 8.a. Organization Code (AR Assignment). Enter the last four digits of the organization code of the Lead AR who is performing the inspection when this organization is not the field office with the assigned responsibility.

Item 8.b. Work Group Identifier. Enter the 2-digits of the work group identifier of the Lead AR who is performing the inspection when this work group is not the work group with the assigned responsibility.

Item 9. Company Name. This entry must be identical to the company name contained in the current mine status record.

Item 10. Mine Name. This entry must be identical to the mine name contained in the current mine status record.

Report Type. This section identifies segments of inspection reports.

1) Item 11.a. First. Check this box if the report is the first partial submittal of a report for long-term inspection activity.

2) Item 11.b. Interim. Check this box to identify intermediate report segments for long-term inspection activity.

3) Item 11.c. Last. Check this box to identify the final report segment for long-term events, which should be retained as the cover page for the completed inspection report.

4) Item 11.d. Not Applicable. Check this box for all reports for one-day events, which should be retained as the cover page for the completed inspection report.

Item 12. Areas of Inspection. Items 1 (Item 12.a.) through 12 (Item 12.l.) identify the area(s) inspected or visited during this activity. Each of these boxes must

contain an entry-positive (checkmark for area(s) inspected) or negative (leave unchecked).

1) Item 12.a. Active Sections. Sections that are producing coal. The number of producing sections inspected/visited must be entered.

2) Item 12.b. Idle Sections. Sections that are not producing coal. The number of nonproducing sections inspected/visited must be entered.

3) Item 12.c. Outby Areas. All underground areas excluding sections. Enter positive (check mark) or negative (leave unchecked).

4) Item 12.d. Shafts/Slopes. Existing shaft and slope openings. Enter positive (check mark) or negative (leave unchecked).

5) Item 12.e. Surface Areas (UG). All surface areas of an underground mine that are required to be inspected, such as preparation plants (associated with underground mine ID numbers), bath houses, fans, impoundments with no identification numbers, etc. Enter positive (check mark) or negative (leave unchecked).

6) Item 12.f. Surface Workings. Surface mines and surface facilities. Enter positive (check mark) or negative (leave unchecked) and identify under either Item 12m or Item 17 (Remarks) the type of surface working inspected.

7) Item 12.g. Company Records. All records and documents stipulated in Title 30 CFR. Enter positive (check mark) or negative (leave unchecked).

8) Item 12.h. ATF. Surface explosives storage facilities (inspected under MOU with the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) for safety and security standards). Enter positive (check mark) or negative (leave unchecked).

9) Item 12.i. Impoundments. Impoundments with identification numbers. Enter positive (check mark) or negative (leave unchecked).

10) Item 12.j. Refuse Piles. Numbered refuse piles with identification numbers. Enter positive (check mark) or negative (leave unchecked).

11) Item 12.k. Major Construction. Enter positive (check mark) or negative (leave unchecked) in the first box after 12k. Items 1 through 5 will reflect the number of the various major construction operations covered by the report. Enter the number of each type inspected.

12) Item 12.l. Miscellaneous. Complete this item for any area of inspection not covered in Items a through k above. Enter positive (check mark) or negative (leave unchecked) and explain under Item 17 (Remarks).

13) Item 12.m. MMU/Pit Number. List identifiers for all MMUs and Pits that were inspected.

Item 13. Number of Samples Collected. This section summarizes the type(s) and total number of samples taken during the period covered by the inspection report.

1) Item 13.a. Air Samples. Enter the total number of bottle samples collected.

2) Item 13.b. Rock Dust Spot. Do not use this item due to rock dust spots no longer exist.

3) Item 13.c. Rock Dust Surveys. Enter the number of individual rock dust samples collected. Each bag collected and submitted counts as one sample.

4) Item 13.d. Respirable Dust. Enter the total number of individual respirable dust samples collected, both valid and invalid.

5) Item 13.e. Noise. Enter the number of individual noise samples.

6) Item 13.f. Other. Include any other type of health sample collected individually. If this item contains a value, show specific types of samples taken in Item 17.

Item 14. Impoundments/Refuse Piles. This section pertains to waste deposits that have identification numbers assigned. Should more than 10 waste deposits be inspected, additional entries can be made in Item 17.

1) Item 14.a. Number. The complete waste deposit (refuse pile or impoundment) number is 11 digits. The first 4 digits of this number are made up of the State abbreviation (2 digits) and the District (2 digits). Since these items either do not change, or can be identified from the mine ID number or the organization code, they will not be entered on the form. Enter into the available positions the last seven digits of the waste deposit identification number that includes the site identification number (5 digits) and the number of the waste deposit at that site (2 digits). If the last two digits are less than nine, include a zero before the last digit (example – 03).

2) Item 14.b. Field Hazard Classification (FHC). Leave this field blank.

3) Item 14.c. Configuration. Leave this field blank.

Item 15. Prime Independent Contractor Codes (Major Construction). Enter the 3- or 4-position alphanumeric identifier of the prime/leading independent contractor(s) who are inspected as major construction operations under Item 12.k. only. Do not list minor subcontractors.

Item 16. Inspection Results. Record the number of citations, orders, safeguards, and other actions taken during the period covered by the inspection report. Count only the actions that have the subject event number on them. Include vacated issuances in the total number of citations issued.

Item 17. Remarks. This section should be used to document deficiencies associated with the Cleanup Plan, Self-Contained Self Rescuer (SCSR) Storage Plan, Ground Control Plan, types of surface workings inspected, miscellaneous areas of inspection, special samples collected or to provide any other information deemed appropriate.

Item 18. Signature and Card Number of AR(s) Responsible for Activity. Enter AR number(s) of the person(s) participating in the event during the period covered by the report. ROE numbers of inspectors-in-training shall not be documented on the Mine Activity Data form. ARs are not required to sign the form.

Item 19. Key Entered By. Mine Safety and Health Assistants should certify with their initials and date that the data on this form was entered into MSIS.

Activity Calendar. A calendar is provided on the reverse side of the form to track time spent on the event. The key code for shifts marked on the calendar are 1-Owl or Midnight Shift, 2-Day Shift, 3-Evening or Afternoon Shift. Inspectors should indicate in the appropriate box each shift that was worked at the mine site. When a shift overlaps, the shift with the majority of the time must be checked. When more than one shift is spent at the mine site, the boxes for each shift actually spent at the mine site must be marked. **Office time, including the review of the UMF, completion of notes, forms, correlating information from surveys and samples, and time spent to compile the event report shall be charged to the event**. Only the Mine Activity Data Form Calendar completed by the Lead AR is required to be submitted**. The Lead AR shall assure notes, including a daily cover sheet, are provided for each box checked.** Other generated time reports may be used in lieu of the activity calendar as long as all the required information is provided (e.g., identifies all ARs who charged time to the event and the day and shift worked). When other time-generated reports are used for this purpose, they shall be dated and initialed by the lead AR to indicate the report has been compared with the inspection notes and report activities for the event.

2. **Inspection Notes**. Inspectors should submit notes, including a completed Daily Cover Sheet (MSHA Form 7000-10I), for each day that time is reported on an

inspection or investigation. In addition to required documentation for procedures conducted, inspectors should document pertinent general observations in their inspection notes.

a. **General Information Cover Sheet.** The General Information Cover Sheet (MSHA Form 7000-10H) for each inspection or investigation should be started on the first day of the inspection and completed when the event is closed. Information for this sheet will be obtained from the UMF/EUMF, the Mine Activity Data Sheet, and from the mine site. The General Information Cover Sheet is to be used to document information common to any inspection or investigation activity and may be used in lieu of the daily activity sheet for single-day events.

b. **Daily Cover Sheet**. The inspector should identify the members of the inspection party in the spaces provided on the Daily Cover Sheet. Inspectors shall also list a summary of the areas physically inspected in the "Areas of Inspection Activity" section of the Daily Cover Sheet (Example: #1 Belt, #2 Belt, etc.).

c. **Continuation Pages**. Inspectors should supplement Daily Cover Sheets using approved note keeping forms, check lists, listings or other preprinted forms to document inspection or investigation activities that require more than one page of notes. Any legible written format may be used for continuation pages, unless otherwise specified by an inspection procedure. MSHA Form 7000-10M (Air Readings) is available to document the location and results of air tests and measurements. The inspector should date, initial, and sequentially number the front of each page of the inspection notes, including nonstandard formats, starting with the Daily Cover Sheet as Page 1. (It is acceptable to initial, date, and number only the first page of large documents such as SCSR inventories and Diesel inventories.) Original documentation of samples, tests, and measurements should be included in the inspection notes. Preprinted sheets are also provided to assist in documentation of respirable dust (MSHA Form 7000-10N) and noise (MSHA Form 7000-10P) inspections and may and included in the inspection notes when used. On completion, daily notes should be turned in to the immediate supervisor for review. Inspectors should not document required information on the backside of inspection notes.

d. **Documentation of Enforcement Actions.** Section 104(a) of the Mine Act requires that each citation or order be in writing and describe with particularity the nature of the violation, including a reference to the provision of the Mine Act, standard, rule, regulation, or order alleged to have been violated. In addition, the citation is required to fix a reasonable time for the abatement of the violation.

Facts relevant to the condition or practice cited for each enforcement action and information regarding the negligence and gravity determinations should be documented. To ensure that quality citations and orders are issued, inspectors should document the following information:

1. The time (24 Hr. Clock) the inspector observed the violation.

2. A description of the conditions and practices causing and constituting the violation of a specific regulation or section of the Mine Act. They must be accurately identified and described, including a means to quantify the size and extent of the cited condition or practice (such as dimensions, periods of time, and number of occurrences). The names of individuals shall not be included in the condition or practice section of the citation.

3. The standard or section of Act violated.

4. The location or equipment where the violation or hazard exists.

5. **The following gravity factors, when applicable**:

   a. Mine characteristics, such as methane liberation, geological conditions, accident history, and other physical factors that would affect the likelihood of the occurrence.

   b. The number of persons exposed to the hazard and the duration and frequency of this exposure under continued normal mining practices.

   c. The type of injury or illness resulting from the occurrence of the event, including how this was determined such as industry history, personal knowledge, or experience.

   d. The number of persons who were actually injured or became ill as a result of the hazard caused by the violation or the number of persons who could be affected if the anticipated event occurred, including how this was determined.

6. **The following negligence factors, when applicable:**

   a. The title of person(s) who knew, or had reason to know, that the violation existed and how this was evidenced. Document the name of any person who knew or had reason to know that the violation existed in your inspection notes only, as the condition or practice section of citations should not contain the name of any person.

b. Mitigating circumstances including, but not limited to, actions taken by the operator to prevent or correct hazardous conditions or practices. The number of mitigating circumstances documented should be used in conjunction with the definitions for degrees of negligence listed in § 100.3(d). The failure of the operator to exercise a high standard of care for miners constitutes negligence.

c. Facts indicating the length of time that the violation existed.

7. For unwarrantable failures of the operator to comply with a mandatory safety or health standard, include the factors that explain how the operator engaged in aggravated conduct. The following factors, when applicable, should be documented to explain how the operator engaged in aggravated conduct:

a. the obviousness or extensiveness of the cited condition or practice;

b. the length of time that the cited condition or practice existed and whether it was excessive;

c. any similar violations that were issued at the mine or to the contractor in the recent past;

d. the title of any agent of the operator or contractor who conducted an examination or had been in the area, or was aware of the existence of the condition, including dates and times. Document the name of any agent of the operator or contractor who conducted an examination or had been in the area, or was aware of the existence of the condition in your inspection notes only, as the condition or practice section of the citation/order should not contain the name of any person;

e. facts related to whether the cited condition or practice had been reported to the operator or contractor who then allowed it to exist, without correcting or adequately addressing the problem, for a period of time;

f. the title of any supervisor or an agent of the operator or contractor who committed or allowed the condition or practice to exist. Document the name of any supervisor or an agent of the operator or contractor who committed or allowed the condition or practice to exist in your inspection notes only, as the condition or practice section of citation/order should not contain the name of any person;

g. whether the mine operator or contractor made reasonable efforts to correct the cited condition or practice; and

h. other factors, not identified above, that resulted in a negligence evaluation by the inspector of "high" or "reckless" disregard.

8. The time the citation/order/safeguard was set for abatement and the time it was terminated. Describe in detail the specific action(s) taken to correct the cited condition(s) or practice(s) that justifies termination or extension.

If an enforcement action results from failure to comply with an approved plan, permit, or petition, a copy of the related approval letter and pertinent page(s) shall be included with the inspector's notes. When enforcement or subsequent action(s) are taken based upon the results of analysis report(s), that report shall be included with the inspector notes.

(Refer to the Citation and Order Writing Handbook for further guidance and additional information.)

Chapter 3 - REGULAR SAFETY and HEALTH INSPECTION PROCEDURES

A Regular Safety and Health Inspection (E01) is one in which a mine is inspected in its entirety pursuant to Sections 103(a)(3) and (4) of the Act. This inspection is to determine if imminent dangers exist and to ascertain compliance with mandatory health and safety standards, approved plans (including suitability to current mine conditions), citations, orders, or decisions issued, and other requirements of the Act. If other types of inspections, excluding 103(i) inspections, are used to complete a Regular Safety and Health Inspection, comments should be included on the regular inspection event sheet to clearly show the event numbers used.

No portion of a 103(i) spot inspection (including inspection notes, reports, bottle samples, etc.) may be used to complete any other type of inspection, including a Regular Safety and Health Inspection. Subsequent actions on previously issued citations and orders are permitted as long as they are in the same general area and do not interfere with the requirements of the 103(i) inspection.

When conducting inspections while riding on mobile equipment, the mode of transportation should allow a complete and effective inspection of the areas from a safe position. When extremely low coal seams are inspected, it may not be possible to conduct an inspection from mobile equipment completely, effectively, or safely. Conveyor belts shall be inspected from within the entry where the belt is located and the entire conveyor length must be traveled.

Problems encountered during inspection activities that could affect the health or safety of miners which are not covered by existing standards should be promptly communicated to the inspector's immediate supervisor. It is especially important that this information is shared when other inspectors travel to the mine or mine assignments change.

Inspection Tracking System (ITS).

The ITS is designed to enhance MSHA's ability to determine inspection progress, fulfill established inspection procedures, and plan and coordinate inspection activities. Inspection information contained in the ITS should be maintained as required by the applicable procedural header.

The documentation required for each item under the procedural headers listed in this chapter should include a statement in the inspection notes that the procedure was completed (example: first day arrival in advance of starting time). Inspectors should document pertinent general observations made during their inspections in the narrative portion of the inspection notes. Not Applicable or "NA" may be used if the header does not apply. A short statement such as "No Violations Observed" or "NVO" should

be included when no hazards or violations are observed. No other documentation is required unless a violation is observed.

The completion of each procedure shall be documented in the ITS and/or on the inspection tracking map. If additional documentation is required, these requirements appear beneath the paragraphs labeled *Documentation Required* applicable to the header. To the extent possible, documentation should be entered into the ITS at the end of each inspection day and synced to ensure that other inspection personnel can access inspection results and prevent the loss of information.

Printed portions of the ITS may be used as a part of the inspection notes which should have on the front of each page the date, inspector initials, and page number(s). When included as part of the inspection notes, printed portions of the ITS must also be provided in the daily notes and attached to a daily cover sheet.

If a required inspection procedure cannot be fully completed by the end of the inspection, the inspector's immediate supervisor shall be advised prior to closing the event.

Tracking Map. A tracking map should be used to record the location of MMU(s) or name of section(s), approved evaluation/measuring points, and each air course inspected. The appropriate field or district office shall provide the inspector(s) with a map for the subject mine if the mine operator is unwilling to provide a copy. Line diagrams will no longer be accepted for tracking purposes. Tracking maps received from the mine operator may not always show each location of measurement points or evaluation points where test and measurements are required to be performed by the mine ventilation plan. All required measurement points and evaluation points should be marked for identification on the tracking map at the beginning of each E01 inspection and as new measuring points or evaluation points become approved. This will help assure that the required points are not missed during the inspection. Each approved measurement point or evaluation point should be marked on the tracking map and identified by the name and location of each measurement point or evaluation point, including each MMU number. Should a new measurement point or evaluation point become approved after the affected air course has been traveled and inspected during the quarter's inspection, a go-back would not be necessary just to document the air reading at that measurement point or evaluation point. Upon reviewing the UMF prior to the mine inspection, measurement points or evaluation points should be reviewed on the mine map that accompanies the approved ventilation plan and a comparison should be made to the official mine map posted at the mine site and the operators' records of air readings.

A. General.

1. **First Day Arrival in Advance of Starting Time**. The inspector should arrive at the mine on the first day of the inspection in advance of the mine's starting time. Sufficient time should be allowed for pre-inspection contacts, a preliminary review of record books pertaining to the area or equipment being inspected, and an overview of the mine map to determine which area of the mine to begin the inspection. When preparing to conduct an inspection, inspector should take precautions not to disclose their intentions to conduct an inspection in a specific location. Examples of such precautions include reviewing examination books for several areas of the mine, rather than only the specific area that they intend to inspect that day, and making a general request for transportation, rather than requesting transportation to travel to a specific location. A physical inspection of the mine should begin immediately after the pre-inspection contacts are made. The inspector should enter the mine with the mantrip on the first inspection day. At surface coal mines, the surface pit and related mining operations should be inspected before any preparation facilities. At underground coal mines, working sections should be inspected before the surface facilities. However, this does not preclude inspecting other areas (including surface areas) first where the inspector determines a serious problem or condition needs immediate attention. If a physical inspection of the mine cannot begin on the first day of a regular inspection, MSHA supervision or management should be informed as soon as practicable.

2. **Mine Map. Prior to going underground on the first day of the inspection, the inspector should review the mine map for consistency with approved mining methods and determine whether mining is being conducted in proximity to worked-out areas, oil and gas wells, fuel transmission lines, bodies of water that could present an underground flood hazard, mines located adjacent to, above, and below active workings, and any danger that surface mining may present to underground miners. During the course of inspection activities, the mine map should be reinspected as needed to assure the maps are appropriately updated, changes documented, or noted as incomplete as compared to the actual mining activities.**

3. **Check In And Out System.** The inspector shall determine if the system being used at the mine complies with § 75.1715 (Identification check system).

4. **Cleanup Program.** Inspectors shall evaluate the adequacy and effectiveness of the operator's cleanup program continually by reviewing the enforcement history for regular cleanup and removal of accumulations of coal and float coal dust, loose coal, and other combustibles.

   § 75.400-2 (Cleanup program) – Cleanup Program requires mine operators to

establish and maintain a program for regular cleanup and removal of accumulations of coal and float coal dust, loose coal, and other combustibles. Such program shall be available to the Secretary or authorized representative. Therefore, mine operators are required to have a written cleanup program.

The written program must include details regarding how the operator will regularly control the accumulation of float coal dust, loose coal and other combustibles. These details could involve the quantity, schedule, and method for rock dust application in various locations. MSHA guidance to the mining industry interprets that mine operators should include the following elements in their written cleanup program:

a. The regular cleanup methods for the removal of accumulations of coal and float coal dusts, loose coal, and other combustibles in all active workings or on diesel-powered and electrical equipment in these areas;

b. The equipment and methods used for applying rock dust to maintain 80% Total Incombustible Content (TIC) as required by § 75.403 and the methods to continuously apply rock dust to areas where coal dust is generated and float coal dust accumulates; and

c. The means to evaluate the effectiveness of their cleanup program, such as review of preshift examination records, rock dust usage, rock dust sampling results, and compliance history. Mine operators should place emphasis on critical areas such as longwall tailgates, belt transfer points, section returns, and bleeder entries.

There are various methods for applying rock dust, such as hand dusting, mechanical dusting and wet rock dust application. Mine operators should use mechanical rock dusters on the working sections, in the return entries of these sections, and on the longwall tailgate to neutralize float coal dust accumulations and to maintain compliance with the 80% TIC requirement. These areas often require continuous rock dusting with trickle dusters or high-pressure rock dusting machines to maintain the required incombustible content levels and inert float coal dust accumulations. Accumulations of coal and other combustibles must be cleaned up and removed from the mine. Accumulations of oil, grease, coal dust and other combustible materials are not allowed on diesel or electrical equipment.

To evaluate the mine operator's cleanup program, inspectors should:

a. Review the current cleanup program each quarter for compliance with § 75.400-2;
b. Maintain a copy of the current cleanup program in the uniform mine file (UMF);
c. Compare the UMF cleanup program with the current cleanup program. Changes should be justified, and

d. The mine operator should modify the cleanup program to address significant or persistent violations of Subpart E. The inspector should include necessary modifications of the cleanup program in the actions to terminate a citation or order.

When a violation of §§ 75.400 (Accumulation of combustible materials), 75.402 (Rock dusting), or 75.403 (Maintenance of incombustible content of rock dusting), is found, abatement should be set at the shortest reasonable time after careful evaluation of conditions on a mine-by-mine basis, including whether the mine liberates large volumes of methane gas or has a history of methane ignitions. If an operator fails to totally abate the citation within the specified time, a Section 104 (b) Order of Withdrawal should be issued.

If a mine operator has repeat violations of §§ 75.400 (Accumulation of combustible materials), 75.402 (Rock dusting) or 75.403 (Maintenance of incombustible content of rock dusting), inspection personnel should discuss the adequacy of the cleanup program with the mine operator and consider requiring the use of more effective methods for controlling and maintaining the incombustible content of the combined coal dust, rock dust, and other dust along with elevated enforcement actions. Inspection personnel should also consider changes to the cleanup program which would require the use of bulk dusters, trickle dusters, or high-pressure rock-dusting machines to continuously rock dust the areas downwind of belt transfers, the returns of active sections, the tailgates of longwalls, and the bleeder entries.

Rock dusting in non-pillared worked out areas - prior to abandoning sections or other underground areas, efforts should be made to assure that the incombustible content of mine dust is in full compliance with the regulations. Afterwards, rock dust can be blown into inaccessible areas if accumulations of float coal dust are observed at the approaches to the inaccessible areas.

(Refer to Maintenance of Incombustible Content of Rock Dust in Underground Coal Mines: 76 Fed. Reg. 35968 (June 21, 2011) for additional information.)

Documentation Required: *The inspector should document in the remarks section, Item 17 of the Mine Activity Data sheet (MSHA Form 2000-22) that the Cleanup Program in effect at the mine is adequate or otherwise note the deficiencies in the program. Additionally, document a general statement in the notes of any discussions held with the mine operator in reference to changes in the Cleanup Program based on the evaluation of the adequacy and effectiveness of the program.*

5. **Communication and Tracking Surface Facility.** The surface facility for the post-accident two-way communication and electronic tracking systems shall be

inspected for compliance with applicable standards, and the Emergency Response Plan (ERP). This inspection should include:

a. Observing the responsible person demonstrate the functionality of the post-accident tracking system to determine whether it uniquely identifies miners underground and their locations.

b. Observing the responsible person: (1) conduct an emergency communication broadcast test and (2) confirm that messages were received.

c. Determining whether the responsible person on the surface has a working knowledge of the communication and tracking system, is always on duty when miners are underground to provide communications, initiates corrective actions for system failures and faults, and takes appropriate actions during emergencies. If the responsible person performs duties away from the communications center, determine whether the responsible person will remain in contact with the system and can immediately attend to alerts. (Refer to Q&As Post-Accident Two-Way Communication Tracking 2011 for further guidance and additional information.)

6. **Refuge Alternatives.** Inspect all refuge alternatives (RAs) for compliance with applicable standards, including determining if the RAs are properly located, examined, and maintained.

   1. Assure RAs are examined as part of the preshift examination;
   2. properly identified on the mine map;
   3. within 1,000 feet of the nearest working face;
   4. conspicuously marked;
   5. connected to lifelines with branch lines;
   6. assure a clear space is available to fully deploy the RA;
   7. communications are provided; and
   8. the RA is adequate in size to accommodate the number of persons reasonably expected to use it.

   (Refer to Q&As Mine Emergency Evacuation 2007; Q&As Breathable Air; Q&As Mine Emergencies §§ 75.1501 & 75.1502; Q&As Refuge Alternatives; Q&As Post-Accident Two-Way Communication Tracking 2011; Mine Emergency Evacuation: 71 Fed. Reg. 71430 (Dec. 8, 2006); Refuge Alternatives: 73 Fed. Reg. 80656 (Dec. 31, 2008); and 2000-223 ERP Review Form for further guidance and additional information.)

7. **Independent Contractors.** Independent contractors shall be inspected for compliance with applicable standards. The inspector shall examine the independent contractor register. The inspector should give consideration to the

size of the contractor, the type of work being performed, and the length of time the contractor is projected to be present at the mine to determine what inspection activities are appropriate. With the exception of "major construction site inspections" all inspection efforts directed to independent contractors should be contained within the report for the ongoing inspection or investigation being conducted.

MSHA Form 2000-208 (yellow contractor notes page) should be completed and submitted as part of the inspection report. Form 2000-208 should be filled out each time a contractor is inspected. If the number of contractor employees, the work location, and type of work being performed remain the same, inspectors may use a single page with multiple dates indicated. Each date will be entered separately by the appropriate Mine Safety and Health Assistant. When the independent contractor is inspected for the first time at each mining operation, the Independent Contractor Information Form (MSHA Form 2000-207) should be completed and the information documented shall be entered into Contractor Database for the subject mine. The appropriate Mine Safety and Health Assistant should update the Contractor Database. (Refer to Contractor Forms and Contractor Database Training Booklet for further guidance.)

When an enforcement action is issued to a contractor who has not previously been issued a MSHA Contractor I.D. Number, the inspector shall gather the information required to complete MSHA Form 7000-52 Contractor ID. This information will be provided to the appropriate Mine Safety and Health Assistant, a contractor I.D. number will be assigned, and the enforcement action shall be served. Before obtaining a new contractor I.D. number, the Mine Safety and Health Assistant should check that the contractor does not already have an I.D. number that it is using on other mine sites.

Documentation Required: *The inspector should document inspections of independent contractors in the inspection notes utilizing MSHA Form 2000-208. When the independent contractor is inspected for the first time at the mining operation and any new data or updates to MSHA's Contractor Database, MSHA Form 2000-207 should be filled out and the documented information should be submitted for entry into the Contractor Database for the subject mine.*

8. **Travel with Mine Examiners.** The inspector should travel with and evaluate at least one preshift, at least one on-shift, and at least one weekly mine examiner to determine if adequate examinations are being conducted. Observations should be made of the examiner's equipment to determine that it is appropriate for the measurements and tests required on these examinations and that calibrations are current when such calibration is required. It should be noted that a mine examiner may satisfy more than one examination requirement

during their travel through an area. If an inspector observes a hazard or violation of a mandatory health or safety standard while accompanying a mine examiner, appropriate enforcement action shall be taken, regardless of whether the examiner records and/or corrects the hazard.

While conducting inspections of aircourses and approaches to sealed areas, inspectors must issue appropriate citations when deteriorating roof and rib conditions are observed. Inspectors should accompany the mine's weekly examiners and discuss the importance of noting hazardous roof conditions in the examination records and conduct follow-up inspections to observe corrective actions taken.

(Refer to Preshift 3 hrs: 62 Fed. Reg. 35085 (June 30, 1997) and Preshift Examination Fixed: 64 Fed. Reg. 45165 (Aug. 19, 1999); Preshift: 77 Fed. Reg. 20700 (April 6, 2012); Q&As Mine Exam Final Rule 07-23-2012 for additional information.)

Documentation Required: *The inspector should document the examination type, the examiner by name, and the area examined in the inspection notes; if the examiner is satisfying the requirements of more than one examination (a combination of preshift, on-shift, or weekly) it should be documented in the inspection notes and the inspector may also consider the procedure complete for those examinations.*

9. **Inspection Shifts. A portion of each E01 inspection should be conducted on each working shift to the extent necessary to gauge the general attitude of supervisors and miners toward health and safety. Any shift during which work is conducted, such as belt moves, mine clean up, rock dusting, power moves, and work during vacation shut downs, is considered a working shift. Normal mine examinations and water pumping are not considered working shifts.**

Inspection of mines or facilities on idle shifts should focus on activities specific to that shift, such as maintenance work. Otherwise, inspections on idle shifts should be limited to places where conditions during idle shifts are similar to the conditions that normally exist on working shifts (e.g., escapeways, travelways, explosives and material storage areas for which conditions would be similar for both working and idle shifts).

In mines where regular weekend production occurs, a representative number of regular E01 inspection days should be allocated for weekend inspections. Accordingly, at mines which regularly (more than two weekends per month) produce coal on Saturday and/or Sunday, at least one Saturday or one Sunday should be included in each regular inspection. This step is intended to ensure that production shifts and crews are observed and inspected by the regular

inspector during E01 inspections. Application of this procedure is mandatory only to the extent that resources are available within the district for the resulting overtime costs.

Documentation Required: *The inspector should document the mine shift(s) (day or 1st shift, afternoon or 2nd shift, midnight or 3rd shift, and/or weekend production shift) inspected each day on the cover sheet of inspection notes to identify the mine shift and shift type (production, maintenance, or idle). For example when an operation works only two shifts, only two shifts are required to be documented in the ITS. The documentation requirements of this section are independent of any other documentation requirements.*

10. **Part 47 Hazard Communication.** Inspectors shall evaluate the mine operator's compliance with Part 47 Hazard Communication (HazCom). The inspector will assure containers are properly labeled and Material Safety Data Sheets are available. The operator's written program shall be reviewed.

    (Refer to Q&As Hazard Communication 2002; HazCom Inspection Procedures; HazCom Tool Kit 2002; and HazCom: 67 Fed. Reg. 42314 (June 21, 2002); for further guidance and additional information.)

11. **Mantrip Operation.** The inspector shall evaluate mantrip operating practices for safety by observing at least one mantrip enter or exit the mine.

12. **Mine Rescue.** An inspector shall inspect mine rescue team stations for capabilities and compliance with regulations quarterly, except for state-maintained mine rescue stations, which shall be inspected biannually. If an E01 inspection is not open, the inspection may be conducted during a spot (E16) inspection. For mine rescue stations that cover more than one mine, the inspection can be conducted during an E01 or E16 inspection of any of the covered mines. Under these circumstances, to avoid duplication of mine rescue station inspections and to minimize confusion, the inspector must notify the field office supervisor(s) assigned to the mines and provide the event number, mine identification number, and the date of the inspection. If violations of 30 CFR Part 49 Subpart B are found during the inspection, duplicate citations must be issued to each mine covered by the mine rescue station.

    Where inspection of mine rescue stations serving mines in different MSHA Districts are performed, the mine rescue station should be inspected by personnel from either MSHA Districts, but not by personnel from both districts. To avoid duplication of MSHA inspections and minimize confusion as to which district should inspect mine rescue stations, the procedures below should be followed:

1. Mine rescue stations located on mine property shall be inspected by the district having jurisdiction over the mine.

2. Mine rescue stations located off mine property should be inspected by the district where the mine rescue station is located.

In addition to the annual statement submitted to the District Manager by the mine operator certifying that each team meets the requirements of 30 CFR Part 49 Subpart B, inspection personnel may use the Mine Rescue Check Sheet (I11-V-10) during an inspection pertaining to mine rescue teams and mine rescue stations to assist in verifying compliance.

(Refer to Part 49 Mine Rescue Station Inspection Check Sheet; MSHA Form 2000-224 Mine Rescue Team (MRT) - Certification Form; Mine Rescue: 73 Fed. Reg. 7636 (Feb. 8, 2008); Mine Rescue Equipment: 73 Fed. Reg. 53116 (Sept. 15, 2008); Mine Rescue Teams: 74 Fed. Reg. 28606 (June 17, 2009); and Q&As Mine Rescue Teams 03-08-2008 for further guidance and additional information.)

13. **Filter Self-Rescuers (FSRs) and Self-Contained Self Rescuer (SCSRs)**. The inspector shall inspect and evaluate FSRs and SCSRs. MSHA inspectors should inspect 50% of SCSRs worn or carried each E01 regular inspection alternating as close as practicable the other 50% on the following E01 regular inspection and 100% of the SCSRs stored on the section and/or on the mantrip for sections. A representative number but no less than 10% of outby SCSRs should be inspected. If defects are found, additional SCSRs should be inspected. All locations where SCSRs are required to be stored outby and/or stored on underground mobile equipment shall be inspected for compliance with applicable standards and approved plans.

Inspectors shall evaluate: the adequacy of the approved SCSR storage plans (if applicable), compliance with annual testing requirements specified in the approved ERP, accuracy of SCSR storage locations shown on mine maps as required by § 75.1714-5 (Map locations of SCSRs), and company records for compliance with applicable standards. The evaluation should also include comparing data from operator FSR and SCSR inspection and testing records with observations made during physical inspections. Data from SCSR inspection and testing records and observations made during physical inspections should be compared to MSHA's SCSR Inventory Report to assure the mine operator's SCSR inventory is being updated and problems are reported as required by § 75.1714-8 (Reporting of SCSR inventory and malfunctions; retention of SCSRs). Inventory changes are to be reported within the quarter that any change occurs by utilizing MSHA Form 2000-222 (2000-222 Instructions). An up-to-date copy of MSHA's SCSR Inventory Report shall be

provided to the inspector at the start of each E01 inspection for the subject mine. This report shall be included in the inspection report and initialed by the inspector(s) conducting the inspections. This will indicate that the operators' records, physical inspection, and MSHA's SCSR Inventory comparison was made. MSHA Form 2000-220 is to be discontinued.

Investigating and Reporting Problems with Self-Rescue Devices – Each CMS&H District is required to assure each reported incident involving the use of a self-rescue device is thoroughly investigated. Incidents involving the following events are considered significant and should be reported to the inspector's immediate supervisor, who will in turn report the incident to Division of Safety at (202) 693-9527, or Technical Support at (202) 693-9473, as soon as practicable:

a. an injury to a miner while using a self-rescue device;

b. failure of a self-rescue device to perform as designed; and/or

c. an incident that resulted in a need for a miner(s) to don a self-rescue device to escape to a safe location. Item c applies even if there were no reported injuries and the self-rescue devices performed as designed.

Operator's Inspection Procedures - § 75.1714-3(a) (SCSRs; inspection, testing, maintenance, repair and recordkeeping) requires, in part, that mine operators provide for proper inspection of self-rescue devices by a person trained to perform such inspection. Proper inspection and testing instructions are conducted in accordance with manufacturer's conditions-of-use requirements approved by MSHA and NIOSH for SCSRs, approved plans, and the testing as required under § 75.1714-3(c) (SCSRs; inspection, testing, maintenance, repair and recordkeeping) for FSRs.

As a part of this inspection, the inspector should review the mine operator's records to determine if the mine operator:

a. conducted required inspections on each self-rescue device in use at the mine; and

b. documented the date of each inspection. If possible, the inspector should also determine who conducted the inspection and if this person knew, understood, and followed the applicable instructions and procedures.

<u>Inspection of Devices Being Worn or Carried By Miners</u> - When inspecting a self-rescue device that is being worn or carried by a miner, the inspector shall:

a. interview the miner, explaining the purpose of the inspection, and determine if the device has been inspected by the person trained to perform the inspection after each time the self-rescue device is worn as required by § 75.1714-3(b);

b. assure effective donning and usage training has been provided;

c. acquire the device from the miner; inspect the device by following the manufacturer's approved daily inspection procedures for the device being examined; and, if not previously established, determine the date the mine operator last tested the device in accordance with the approved MSHA and NIOSH procedures; and

d. issue citations for self-rescue devices with broken seals or damage such that the device will not function properly as per § 75.1714-3(b) (SCSRs; inspection, testing, maintenance, repair and recordkeeping). A citation under § 75.1714-3(b) is appropriate if, on an end of shift inspection, the damaged self-rescue device is not removed from service.

Inspection of stored SCSR devices - When inspecting stored SCSR devices, the inspector shall:

a. conduct a visual examination of SCSRs using the appropriate approved procedures for conducting daily inspections;

b. look for any obvious sign that may indicate a device is not being properly maintained; and

c. determine the last date the unit was tested as per procedures in accordance with manufacturer's conditions-of-use requirements approved by MSHA and NIOSH.

MSHA inspectors should verify that in-service MSA Life-Saver 60 SCSRs have not exceeded their service life and verify that mine operators follow the manufacturer's revised storage instructions for in-service units. (Refer to MSA-NIOSH User Notice for further guidance.)

Other Inspection Actions at Coal Mines:

a. Inspection personnel must assure that SCSRs are being inspected and tested

as required under § 75.1714-3. Appropriate enforcement action must be taken if it is found that the required inspections and tests are not being conducted.

b. A mine operator must submit to MSHA a complete inventory of all SCSRs at each of its mines under § 1714-8(a). In the event that a change in a mine operator's SCSR inventory occurs, a mine operator must report the change to MSHA within the quarter that the change occurs under § 75.1714-8(a)(2). Appropriate enforcement action must be taken if it is found during an inspection that the inventory has not been appropriately updated.

c. Section 2 of the MINER Act of 2006 amended section 316 of the Federal Mine Safety and Health Act of 1977 at section 316(b)(2)(E)(iii)(III) to require that a maintenance schedule for checking the reliability of SCSRs be included in a mine's Emergency Response Plan (ERP). Program Policy Letter (PPL) No. P13-V-01, which was a reissue of PPL No. P06-V-10, provides guidance that ERPs should address SCSR performance by specifying a schedule for opening, initiating the breathing cycle, and establishing operational reliability for a representative number of SCSR units on an annual basis. Inspection personnel must assure this testing is being conducted in compliance with each mine's approved ERP and that any defects are being reported as required by § 75.1714-8(b). Mine operators reporting SCSR defects to MSHA are required to preserve and retain the reported units in accordance with § 75.1714-8(c). Appropriate enforcement action must be taken if the tests and/or reporting and retention requirements are not being met.

d. § 75.1504(b)(2) requires, in part, that quarterly mine emergency evacuation training and drills emphasize the importance of recognizing when an SCSR is not functioning properly, demonstrating how to initiate and reinitiate the starting sequence, and the proper use of the SCSR by controlling breathing and physical exertion. Inspection personnel must determine if miners are being trained in how to recognize an SCSR is not functioning properly; the proper manufacturer's procedures for manually starting the SCSRs in use at the mine; to understand that starting the SCSR manually is a last resort to be used only when no other SCSRs are available; and that physical exertion and breathing must be controlled as per the manufacturer's procedures. Inspection personnel should talk to miners about these requirements to determine if effective training is being conducted. Appropriate enforcement action must be taken if it is determined that the training is not effective.

Actions to Dispose of SR-100 SCSRs

SR-100 SCSRs that are removed from service may not be reintroduced into any

other industry. The SR-100 owners must follow the manufacturer's instructions for disposal of SCSRs that are removed from service.

Refer to Q&As Emergency Mine Evacuation 5-3-07; CSE User Notice 2-25-2010; CSE User Notice 5-10-2010; CSE User Notice 1-14-2011; NIOSH CSE User Notice 2-26-2010; NIOSH CSE User Notice 6-23-2010; NIOSH CSE User Notice 9-29-2010; NIOSH CSE User Notice 10-20-2010; Q&As on Phase-out of the CSE SR-100; and SCSR: 71 Fed. Reg. 71430 (Dec. 8, 2006 for further guidance and additional information.

***Documentation Required*: Each SCSR storage cache shall be inspected and documented in the inspector's notes including the physical location.** *Each SCSR required to be inspected should be documented in the inspection notes by including the SCSR manufacturer, model, serial number and physical location. A general statement, for example: the approved SCSR storage plan parameters were evaluated (if applicable), would serve as documentation that the inspector evaluated the approved SCSR storage plan for the area covered by the inspection notes for that day. If the operator maintains an SCSR cache listing, the inspector may use that listing as inspection notes if the SCSR manufacturer, model number, serial number, and physical location are listed. The printed MSHA SCSR Inventory Report submitted with each E01 inspection shall be initialed on the front page by the inspector(s) conducting the inspection. The inspector should document in the remarks section, Item 17 of the Mine Activity Data sheet (MSHA Form 2000-22) that the storage plan (if applicable) is adequate or otherwise note the deficiencies in the approved plan (for example, the approved storage plan parameters were evaluated at each of the designated storage caches identified in the approved plan and the plan is adequate). This would serve as documentation that the storage plan parameters were evaluated at each of the designated storage caches during this inspection as identified in the approved plan. A general statement that a discussion with a representative number of miners to ensure effective donning and usage training was provided will be sufficient.*

14. **Smoking Program**. During the course of the regular Safety and Health Inspection (E01) at underground mines, MSHA inspectors shall evaluate the mine operator's compliance with the approved smoking articles search program and should determine whether an adequate search program exists and is being complied with. MSHA inspectors shall not search anyone for matches, lighters, or smoking materials. However, the inspector should:

    a. Observe searches for smoking materials to ensure searches are done as prescribed in the mine's search program;

    b. Determine whether an adequate search program exists by reviewing the records;

c. Interview a number of miners concerning the search program; and

d. Be alert for evidence of smoking underground.

The operator's written program shall be reviewed. If a citation is issued to an individual for smoking or for carrying smokers' articles in areas prohibited by Section 317(c) of the Mine Act or § 75.1702 (Smoking prohibition), the violation shall be served to the miner. An original shall be retained by the inspector. A copy shall be given to the miner violating the statutory provision. A copy shall also be provided to the operator.

Special assessment under Section 110(g) of the Mine Act is mandatory for the violations cited to miners related to smoking or the carrying of smoking materials.

15. **Petitions for Modification**. Inspectors should identify all granted petitions for modification when reviewing the UMF and evaluate them during the regular inspection to determine if they are still warranted. If the final order requires revisions to be implemented into the operator's training plan, a review of the training plan(s) should be conducted to assure those provisions have been implemented and approved. The inspector(s), through their supervisor, should notify the District Manager if a granted modification is no longer appropriate or is not in use, in which case it should be considered for revocation. Mines which are permanently abandoned and sealed should initiate the revocation process. (Refer to the Petitions for Modification Handbook for further guidance.)

Documentation Required: *If the inspector determines that granted modifications are no longer appropriate or not in use, inspectors shall indicate on the inspector's certification form that the modification should be considered for revocation. Otherwise, the inspectors' documentation that the UMF was reviewed will suffice.*

16. **Review of Training Plans and Training Records**. The inspector shall review a representative number of training records (at least 10%) of all persons working at the mine. If the review indicates 25% of the records reviewed have deficiencies, then additional records shall be reviewed. If a 104(g) order is issued, an Educational Field Services Specialist should conduct a follow-up, and review each applicable approved training record for compliance with applicable standards and approved plans. This inspection shall include all applicable Part 48 Subpart A, Part 48 Subpart B, Part 75, and Part 77 approved plans to reasonably assure that proper training was given to the miners in accordance with the operator's approved plans. A thorough review of the training plans in the UMF should be conducted before going to the mine.

The inspector shall:

a. Try to obtain a list of employees from the mine operator and contractor (if applicable) containing names of employees, their hire date and classification;

b. Review the required number of MSHA Form 5000-23s or equivalent approved form for completeness, including date, type of training, signature of company representative, mine ID, address, etc., for a two-year period;

c. Assure the annual refresher training has been conducted for each employee on or before the annual requirements with the exception of new employees hired as a New Miner or Experienced Miner. (Example: An employee's training was conducted on July 1, 2011; was the annual refresher training conducted on or before July 31, 2012);

d. Assure New Miner Training, Experienced Miner Training, Hazard Training, New Task Training, and Annual Refresher Training have been provided as required; and

e. Assure all applicable training courses required (New Miner Training, Experienced Miner Training, and Annual Refresher Training) have been conducted by an MSHA approved instructor qualified for the subject course. New Task Training of miners and Hazard Training do not have to be performed by MSHA-approved instructors.

Specific training requirements and types for miners and independent contractors may be found in Volume III of MSHA's PPM. (Refer to the Education and Training Procedures Handbook for additional guidance.)

Documentation Required: *The inspector should document the specific type of training record reviewed (annual refresher, hazard, newly employed inexperienced miner, etc.) and the approximate number of training records reviewed.*

17. Observation of Multi-Gas Detector Calibration. Observation of detector gas calibrations shall be conducted to assure the proper calibration of gas detectors or otherwise determine that calibrations are being properly performed as recommended by the detector manufacturer.

B. Underground and Surface of Underground Mine Records and Postings. All records and postings listed in this section shall be reviewed during a Regular Safety and Health inspection. Before the inspection is completed, all records required to be

created and/or retained since the ending date of the previous Regular Safety and Health inspection shall be reviewed.

The purpose of an inspector's review of the operator's examination records is to assure that required examinations are performed at required intervals, properly recorded, and violations and/or hazardous conditions are recorded and corrected in a timely manner. The review should be used during inspections to assure all areas of the mine site are being examined in accordance with 30 CFR and any approved plans, and the ventilation of worked-out and outby areas has been properly evaluated.

During all onsite enforcement activities, inspectors should compare the results of their record and posting reviews to actual observations in or at the mine. The appropriate citation or order shall be issued when non-compliance has been determined during these reviews or observations.

Underground and Surface of Underground Mine Records.

1. AMS Alert/Alarm Signals, Malfunctions, Tests, Calibrations, and Maintenance– § 75.351(o).

2. Annual AMS Operator Training - § 75.351(q)(i) – (iv).

3. Annual Expectations Training for Donning and Transferring SCSRs - § 75.1504(c).

4. Annual Tests of Fire Hydrants and Fire Hoses - § 75.1103-11.

5. Annual Training for Certified and Qualified Persons – § 75.161(a) - (b).

6. Annual Mine Rescue Physical – § 49.17(c).

7. ATRS Certification - § 75.209(f).

8. Audiometric Test Records - § 62.171(c).

9. Bi-Monthly Tests of Hoist Safety Catches - § 75.1400-2.

10. 14-Day Hoist Rope Examinations - § 75.1433(d).

11. 14-Day Hoist Rope Examinations - § 77.1433(d).

12. Certification of Canopies or Cabs - § 75.1710-1(e).

13. Certification of ROPS & FOPS - § 77.403-1(d).

14. Certification of Certified Person Sampling – § 71.202.

15. Certification of Certified Person Maintenance and Calibration – § 71.203.

16. Check-In/Check-Out System and Belt Identification – § 75.1715.

17. Cleanup Program - § 75.400-2.

18. Contractor Register - § 45.4(a) - (b).

19. Daily and Monthly Main Mine Fan Examinations - § 75.312(g)(1) and (h).

20. Daily Hoisting Equipment Examinations - § 77.1404.

21. Daily Hoisting Equipment Examinations - § 75.1400-4.

22. Daily Inspection of Active Surface Working Areas - § 77.1713(c).

23. Daily Examination of Slope and Shaft Projects – § 77.1901(f).

24. Daily Inspection of Man-Hoists for Slope and Shaft Sinking - § 77.1906(c).

25. Diesel Exhaust Gas Samples Exceeding TLV® Action Levels for CO & NO_2 (including hazards as per §§ 75.321, 75.322 and required to be recorded as per §§ 75.363(c) and 70.1900(d)).

26. Diesel Equipment Inventory (updated within 7 days of changes) – § 72.520(a) - (b).

27. Diesel Fuel Evidence – § 75.1901(a).

28. Diesel Training and Qualifications – § 75.1915(c).

29. Diesel-Powered Equipment, Weekly Tests and Examinations – § 75.1914(h)(1).

30. Diesel-Powered Generators (Moving Equipment) – § 75.901(b)(12).

31. Examinations of Trolley Systems for Off-Track Equipment Moves – § 75.1003-2(b).

32. First-Aid Training of Surface Supervisory Employees - § 77.1703.

33. First-Aid Training of Underground Supervisors (Initial Training) – § 75.1713-3.

34. First-Aid Training of Underground Supervisors (Retraining) – § 75.1713-5.

35. HazCom Program – § 47.31.

36. Hearing Conservation Program Training – § 62.180(b).

37. High-Voltage Power Centers and Transformers; Record of examinations as per §§ 75.812 and 75.812-2.

38. High-Voltage Continuous Mining Machines – § 75.832(g).

39. Impoundment Examinations – § 77.216-3(c).

40. Initial Hoist Rope Stretch Measurements – § 75.1432.

41. Initial Hoist Rope Stretch Measurements - § 77.1432.

42. Inspections and Tests of Fire Suppression for Diesel-Powered Equipment – § 75.1911(j).

43. Inspections and Tests of Fire Suppression for UG Permanent Diesel Storage – § 75.1912(i).

44. Legal Identity Changes Within 30 Days – § 41.12.

45. List of Certified and Qualified Person for Part 75 Duties – § 75.159.

46. List of Certified and Qualified Person for Part 77 Duties – § 77.106.

47. Main Mine Fan Pressure Recordings – § 75.310(a)(4).

48. Map of Electrical System – § 75.508.

49. Map of Electrical System (Change Made by End of Next Workday) – § 75.508-2.

50. Map of Roof Falls – § 75.223(b) - (c).

51. Material Safety Data Sheets – § 47.51.

52. Measurements of Tensioned Roof Bolt Torque – § 75.204(f)(6).

53. Methane Monitor Calibration – § 75.342(a)(4)(ii).

54. Mine Accident, Injury, and Illness Reports (Form 7000-1) – § 50.20(a).

55. Mine Accident Maintenance of Records – § 50.40(a) - (b).

56. Mine Emergency Evacuation Responsible Person Mine Emergency Evacuation Training and Drills – § 75.1504(d)(3).

57. Mine Emergency-Training and Records for Examination, Maintenance, and Repairs of Refuge Alternatives and Components – § 75.1508(b).

58. Emergency Evacuation Training – § 75.1501(a)(3).

59. Mine Map – § 75.1203.

60. Miner Notification of Noise Exposure – § 62.110(e).

61. Monthly Calibration of Fire Sensors and Warning Device Systems – § 75.1103-8(c).

62. Monthly Examinations of Surface Electrical Equipment – § 77.502.

63. Monthly Fire Doors Tests (when non-fireproof structures are within 100′ of mine openings) – § 75.1708.

64. Monthly Tests, Exams, & Maintenance of Surface High Voltage Circuit Breakers – § 77.800-2.

65. Monthly Tests, Exams, & Maintenance of Surface Low & Medium Voltage Circuit Breakers – § 77.900-2.

66. Monthly Tests, Exams, & Maintenance of UG High Voltage Circuit Breakers – § 75.800-4(a).

67. Monthly Tests, Exams, & Maintenance of UG Low and Medium Voltage Circuit Breakers – § 75.900-4.

68. Movement of Energized High Voltage Power Centers and Transformers – §§ 75.812 and 75.812-2.

69. Noise Records (Access to all Part 62 Records) – § 62.190.

70. Post-Accident Communication and Tracking Component and System Failure and Corrective Action Records – Section 316(b)(2)(a) of the MINER Act. (Refer to ERP for specific requirements.)

71. Post-Accident Communication and Tracking System Examination Records - Section 316(b)(2)(a) of the MINER Act. (Refer to ERP for specific requirements.)

72. Post-Accident Tracking Miner Location Record – Section 316(b)(2)(a) of the MINER Act. (Refer to ERP for specific requirements – this may be maintained as a data record.)

73. Preshift by Pumpers of Hazards Found – § 75.360(a)(2).

74. Preshift/On-shift Examinations – § 75.360(g).

75. Quarterly Employment and Coal Production Reports (Form 7000-2) – § 50.30(a).

76. Quarterly Inspection and Calibration of Thermal Dryer Control Instruments – § 77.314(c).

77. Quarterly Mine Emergency Evacuation Training and Drills – § 75.1504(a).

78. Qualified Persons to Test for Methane – § 75.151.

79. Record of Explosive Materials – 27 CFR § 555.125(b) and 555.127 (surface area).

80. Record of Work on High Voltage – § 75.705–3.

81. Recording of Hazardous Conditions – § 75.363(b).

82. Refuge Alternatives (Maintenance and Repair) – § 75.1508(b).

83. Roof Bolt Manufacturer's Certification – § 75.204(a)(2).

84. Roof Control Plan Availability – § 75.220(e).

85. Seal- Approved Seal Design - § 75.335(c)(1).

86. Seal Sampling and Monitoring – § 75.333(e).

87. Seal Construction and Repair – § 75.337(c)(5).

88. Seal-Certification of Provision of Approved Seal Design is Addressed – § 75.335(c)(2).

89. Seal-Certification of Seal Construction, Installation, and Materials - § 75.337(d).

90. Seal-Certified Person Sampling Training (records maintained 2 years) - § 75.338(a).

91. Seal-Certification of Training for Persons that Perform Seal Construction and Repairs – § 75.338(b).

92. Seal-Gas Sampling Records - § 75.336(e)(2).

93. Seal Recordkeeping Requirements (See Table) – § 75.339(a).

94. Self-Rescuer Device Tests – § 75.1714-3(e).

95. Self-Rescuer Inventory Update - § 75.1714-8(a), (b).

96. Semi-Annual Hoist Rope Measurements and Nondestructive Tests – § 75.1433(e).

97. Semi-Annual Hoist Rope Measurements and Nondestructive Tests – § 77.1433(e).

98. Smoking Program – § 75.1702.

99. Testing, Examination, and Maintenance of High Voltage Longwall Equipment – § 75.821(d).

100. Training & Retraining of Surface Miners (Form 5000-23) – § 48.29.

101. Training & Retraining of Underground Miners (Form 5000-23) – § 48.9.

102. Training of Mine Rescue Team Members – § 49.18(g).

103. Trolley Overcurrent Tests and Calibrations – § 75.1001-1(c).

104. Weekly Examination for Hazardous Conditions – § 75.364(h).

105. Weekly Examination of Fire Sensors and Warning Device Systems – § 75.1103-8(b) – (c).

106. Weekly Examination of Underground Electric Equipment – § 75.512.

107. Weekly Inspection of Fire Suppression Devices – § 75.1107-16(c).

Underground Mine Postings.

1. Administrative Noise Control Procedures – § 62.130(a).

2. AMS Map or Schematic – § 75.351(a)(3).

3. Approved Respirable Dust Control Plan (Surface) – § 71.301(d).

4. Approved Ventilation Plan and Revisions – § 75.370(f)(3).

5. Bathhouse Waiver – § 71.403(c). 2000-87 Bathhouse Waiver Form.

6. Citations and Orders - Section 109(a).

7. Contact Information for AMS Operators and Designated Responsible Persons – § 75.351(a)(4).

8. Copy of Mine Rescue Availability - § 49.12(h).

9. Copy of Mine Rescue (Alternative Capability Small and Remote Mines) - § 49.13(d).

10. Copy of Mine Rescue Notification Plan - § 49.19(b).

11. Emergency Medical Assistance Arrangements Underground Mine as per § 75.1713-1(a).

12. Escapeway Map Posted at a Surface Location Where Miners Congregate – § 75.1505(a)(4).

13. Granted Petitions for Modification – § 44.5(b).

14. Non-Final Petitions for Modification – § 44.9 (at mines with no representative of miners).

15. Pattern of Violation Notice – § 104.4(d).

16. Proposed Ventilation Plan and Revisions – § 75.370(a)(3)(iii).

17. Proposed Health and Safety Standards or Regulations Posted – Section 101(e).

18. Representative of Miners – § 40.4. MSHA Form 2000-238 Miners Rep.

19. Respirable Dust Sample Results (Surface) – § 71.210(b).

20. Respirable Dust Sample Results (Underground) § 70.210(b).

21. Roof Control Plan Available – § 75.220(e).

22. X-Ray Plan – Mine Act 203(a), 42 CFR §§ 37.4(e) and 37.6(c).

    Note: This provision can only be enforced at underground mines and preparation plants or surface operations that have the same mine identification number as the underground mine. As per 42 CFR § 37.2(g), *Miner* means any individual including any coal mine construction worker who is working in or at any underground coal mine, but does not include any surface worker who does not have direct contact with underground coal mining or with coal processing operations. (Refer to 42 CFR Part 37 for further guidance.)

C. Surface Facility, Surface Mine Records and Postings.

All records and postings listed in this section pertinent to the mine being inspected shall be reviewed during a Regular Safety and Health inspection. Before the inspection is complete, all records required to be created and/or retained since the ending date of the previous Regular Safety and Health inspection shall be reviewed.

The purpose of an inspector's review of the operator's examination records is to assure that required examinations are performed at required intervals, properly recorded, and violations and/or hazardous conditions are recorded and corrected in a timely manner. The review should be used during inspections to assure all areas of the mine site are being examined in accordance with 30 CFR and any approved plans.

During all onsite enforcement activities, inspectors should compare the results of their record and posting reviews to actual observations in or at the mine. The appropriate citation or order shall be issued when non-compliance has been determined during these reviews or observations.

Surface Facility and Surface Mine Records.

1. Audiometric Test Records – § 62.171(c).

2. Auger Mining Inspections – § 77.1501(a) - (b).

3. Certification for ROPS – § 77.403-1(d).

4. Contractor Register – § 45.4(a) - (b).
5. Daily Examination of Active Areas of Mine – § 77.1713(c).
6. Daily Examination of Hoist for Slope and Shaft Sinking - § 77.1906(c).
7. Preshift and On-shift Examination of Slope and Shaft Areas – § 77.1901(f).
8. Daily Hoist Examination – § 77.1404.
9. First Aid Training for Supervisors – § 77.1703.
10. First Aid Retraining for Supervisors – § 48.29(a).
11. Hazard Training Records – § 48.31(d).
12. HazCom Program – § 47.31(a).
13. Hearing Conservation Program Training – § 62.180(b).
14. Hoist Rope Examination and Tests – § 77.1433(d) - (e).
15. Hoist Rope Initial Measurement – § 77.1432.
16. Impoundment Inspection – § 77.216-3(c).
17. Investigation and Accident Reports (5 Years) – § 50.40(a) - (b).
18. Material Safety Data Sheets – § 47.51.
19. Mine Accident, Injury and Illness Reports (Form 7000-1) – § 50.20(a).
20. Miner Notification of Noise Exposure – § 62.110(e).
21. Monthly Examination of Electrical Equipment – § 77.502.
22. Monthly Examination of High Voltage Circuit Breakers - § 77.800-2.
23. Monthly Examination of Low & Medium Voltage Circuit Breakers – § 77.900-2.
24. Qualified & Certified Persons – § 77.106.
25. Quarterly Employment and Coal Production Reports (Form 7000-2) – § 50.30(a).
26. Record of Equipment Pre-Operational Check – § 77.1606(a).

27. Record of Explosive Materials – 27 CFR §§ 555.125(b) and 555.127.

28. Thermal Dryer Examination – § 77.314(c).

29. Training & Retraining of Surface Miners (Form 5000-23) – § 48.29(a).

30. Work on Energized High Voltage Lines – § 77.704-3.

31. Ventilation of Slopes and Shafts – § 77.1911(a).

Surface Facility and Surface Mine Postings.

1. Administrative Noise Control Procedures – § 62.130(a).

2. Approved Respirable Dust Control Plan (Surface) – § 71.301(d).

3. Bathhouse Waiver – § 71.403(c). 2000-87 Bathhouse Waiver Form.

4. Bathhouse Waiver Application – § 71.404(b).

5. Citations and Orders - Section 109(c).

6. Emergency Medical Assistance Arrangements (Surface Mine) – § 77.1702(e).

7. Granted Petitions for Modification - § 44.5(b).

8. Mine Map (Posted or Available) – § 77.1202.

9. Non-Final Petitions for Modification – § 44.9 (at mines with no representative of miners).

10. Pattern of Violation Notice – § 104.4(d).

11. Proposed Health and Safety Standards or Regulations Posted – Section 101(e).

12. Representative of Miners – § 40.4.

13. Respirable Dust Sample Results (Surface) – § 71.210(b).

14. Safety Program Instructions – § 77.1708.

15. Training Plans (with no miners' representative) – § 48.23(d).

16. Training Plans – § 48.23(n).

D. Surface Areas of Underground Mines, Surface Facilities, or Surface Mines.

1. **Aerial Tramways**. An inspection shall be conducted of all aerial tramways for existing and potential hazards, including structure condition, guarding, accumulations, lighting, electrical installation, and fire protection.

2. **Auger Openings and Highwall Mining**. Auger openings and highwall mining shall be inspected for compliance with applicable standards.

3. **Coal Stock Pile**. Coal stockpiles shall be inspected for compliance with applicable standards including inspection for potential hazards such as fires, slope instability, or persons working in close proximity to active underground feeders.

4. **Communications Installations**. An inspection shall be conducted of all communication installations for compliance with applicable standards, including attention to the knowledge level of responsible persons when such persons are required by regulation or approved mine plans. The inspection should include attention to grounding, insulation, lightning protection, proper operation, compliance with the ERP and safe access.

5. **Draw-Off Tunnels.** An inspection shall be conducted of draw-off tunnels (including fire hazards, combustible accumulations, inadequate escapeways, air quality, guarding, and ventilation) for compliance with applicable standards.

6. **Drilling and Blasting. An inspection shall be conducted of any and all drilling or blasting operations on mine property for compliance with applicable standards and approved plans. The inspector should observe a complete drilling and blasting cycle to evaluate work practices if drilling or blasting is being conducted during the inspection.** Attention should be given to maintenance of equipment, dust control practices, handling and use of explosives, and examinations.

   Documentation Required: *Locations of inspections and observations of drilling and blasting practices shall be inspected and documented including the area(s) inspected.*

7. **Dumping Facilities.** An inspection shall be conducted of conditions and practices at all dumping facilities including the adequacy of illumination, safe access, stop blocks, berms, access road grades, warning signs, posted speed limits, and the presence of surface stress cracks for compliance with applicable standards and in accordance with guidance provided in the Dump Point Inspection Handbook.

Documentation Required: *Each dumping facility shall be inspected per the procedural requirement and documented, including the area(s) inspected.*

8. **Electrical Installations.** The inspector shall compare the mine operator's record of monthly examination to electrical installations that are in use and available for use. All electrical installations that are in use and available for use should be listed and maintained in the ITS. An inspection shall be conducted of all surface electrical installations for compliance including existing and potential hazards, such as structure condition, guarding, combustible accumulations, lighting, fire protection, safety devices, examinations, circuit breaker identification and capacity, danger signs, and safe access. If an inspector finds that wiring of electric equipment is in a rundown condition, with many violations existing on one unit of equipment and if there is evidence that thorough and complete examinations are not being made or that the required tests are not being made, a citation should be issued under § 77.502 (Electric equipment; examination, testing, and maintenance). Please refer to the Coal Electrical Inspection Handbook, Chapter 2, for more information. A regular inspector shall not attempt to perform inspections or tests that require the expertise of an electrical specialist.

   Documentation Required: Each electrical installation shall be inspected and documented including the area(s) inspected.

9. **Equipment (Other), Including Electrical Equipment**. The inspector should compare the mine operator's record of monthly examination to electrical equipment in use and available for use. All electrical equipment in use and available for use at the mine should be listed and maintained in the ITS. The inspector shall review the operator's examination records and inspect aerial tramways, and in use and available for use haulage, mobile, and portable equipment. Areas where these types of equipment are used, such as custom coal preparation facilities, shall be inspected for compliance with applicable standards and to determine if hazardous or potentially hazardous conditions exist. Attention should be given to safe access, guards, equipment condition, braking systems, audible warning devices, back-up alarms, cab windows, examinations, fire detection systems, combustible materials, fire protection, condition of electrical cables, wiring, and circuit protection. This procedure also applies to independent contractor equipment in service at the mine. Spare surface equipment as defined under this section only and not routinely used, such as those maintained on a ready line, tagged out of service and disabled (such as the battery being removed), do not have to be inspected.

   Documentation Required: Each piece of equipment inspected should be identified by equipment manufacturer, equipment type, and identifying number (serial number, company number, etc.). *All equipment inspected, regardless of*

whether the operator or an independent contractor owns it should be documented in the inspection notes. Equipment owned by the contractor is not required to be documented in the ITS (except for when the contractor is the operator as defined by Section 3(d) of the Mine Act). Small pieces of handheld electrical equipment are not required to be recorded or maintained in the ITS.

10. **Equipment (Pit).** The inspector shall review the examination records for all pit equipment in use and available for use at the mine. All pit equipment in use and available for use at the mine and all portable equipment shall be inspected for compliance with applicable standards and to determine if hazardous or potentially hazardous conditions exist. Attention will be given to safe access, guards, equipment condition, braking systems, audible warning device, back-up alarm, cab windows, examinations, fire detection systems, combustible materials, fire protection, condition of electrical cables, wiring, and circuit protection. This procedure will also apply to independent contractor equipment in service at the mine.

    Documentation Required: *Each piece of pit equipment inspected shall be identified by the equipment manufacturer, equipment type, and identifying number (serial number, company number, etc.). All equipment inspected, regardless of whether the operator or an independent contractor owns it should be documented in the inspection notes. Equipment owned by the contractor is not required to be documented in the ITS (except for when the contractor is the operator as defined by Section 3(d) of the Mine Act).*

11. **Escapeways.** An inspection shall be conducted of all work areas to determine if escapeways are adequate. Attention will be given to safe access, lighting, and escapeway maintenance. Inspections should include discussions with miners working in each area to determine compliance with applicable standards.

    Documentation Required: *Each escapeway shall be inspected per the procedural requirement and documented and include the location description.*

12. **Explosives Storage (Magazines).** An inspection shall be conducted of all areas where explosives are stored on mine property. An inspection should include observing storage security, the presence of combustible materials, the handling of explosives, and recordkeeping for compliance with applicable standards. The inspector shall complete the appropriate listed ATF forms when explosives are present on the mine property. The inspector shall issue to the mine operator a copy of the ATF form to be posted upon completion of inspection. (Refer to the ATF Federal Explosives Law and Regulations, ATF Publication 5400.7, 27 CFR Part 555; List of explosive Materials; (ATF E-Form 5030.5 or ATF Form 5030.5 (revised April 2005)); (ATF E-Form 5400.5 Report of Theft or Loss-Explosive Materials (revised March 2008)) and ATF Form 5400.5 for further guidance.)

***Documentation Required*: Each explosives storage area shall be inspected per the procedural requirement and documented including the location description.** *The appropriate ATF form(s) should be completed and included in the inspection report. Typed or printed names are acceptable on the form(s). If there are no explosives on property, document this in the notes and no form(s) are required to be completed.*

13. **Firefighting Equipment (Surface).** An inspection shall be conducted on all specialty or standalone firefighting equipment or apparatuses in use and available for use. Also refer to the National Fire Protection Association® (NFPA) Nos. NFPA 11A 1970 – High Expansion Foam Systems, NFPA 13 1969 – Installation of Sprinkler Systems, NFPA 13A 1971 – Care and Maintenance of Sprinkler Systems, NFPA 15 1969 – Water Spray Fixed Systems for Fire Protection, NFPA 17 1969 – Dry Chemical Extinguishing Systems, NFPA 72A 1967 – Local Protective Signaling Systems or NFPA 198 1969 – Care, Maintenance and Use of Fire Hose for further guidance.

    The electronic NFPA documents hyperlinked are being provided to serve as an additional resource to the electronic and hard copies you received previously. Do not distribute copies of these codes to non-MSHA persons, mines, and companies, because they are copyrighted by the NFPA.

    Again, it is being stressed that these are copyrighted documents and we have acquired them for only MSHA. Any further distribution outside of MSHA is a violation of MSHA's license.

    Documentation Required: *Inspection of specialty or standalone fire protection equipment should be documented and identify the location and type of fire protection provided (e.g., water line systems, 125-pound or greater multipurpose dry powder extinguishers, etc.). For the purpose of documentation for all handheld portable fire extinguishers associated with protection of a designated piece of equipment or a designated location shall be considered inspected with that piece of equipment or designated location and does not require separate documentation.*

14. **Fuel Storage.** An inspection shall be conducted of all areas where fuel is being stored including safe access, no smoking signs, combustible materials, handling, and fire protection for compliance with applicable standards.

    Documentation Required: *The location(s) of fuel storage should be documented.*

15. **Haulage Facilities (including belts).** An inspection shall be conducted of each haulage facility, including attention to safe access, handrails, guards, equipment condition, fire hazards, combustible materials, fire protection, and electrical installations for compliance with applicable standards.

As per § 77.1607(cc) (Loading and haulage equipment; operation), unguarded conveyors with walkways shall be equipped with emergency stop devices or cords along their full length. Emergency stop devices or cords are electrical equipment under § 77.502 (Electric equipment; examination, testing, and maintenance), and must be examined, tested, and maintained by a qualified person to assure safe operating condition. § 77.502-2 (Electric equipment; frequency of examination and testing) requires that such examination and testing be conducted at least monthly. The Program Policy Manual (PPM) states that MSHA considers control switches or devices to be electric equipment covered by § 77.502. An emergency stop device includes a pull cord switch and its activating mechanical arm which controls the operation of a conveyer belt.

Emergency pull cord switches and their mechanical arms must be visually examined for physical damage during the monthly examinations. Although examination of the emergency pull cord switches and mechanical arms does not have to be recorded during the monthly examinations of electric equipment, a record of defective switches and arms must be kept.

Documentation Required: *Documentation should include the location description.*

16. **Health and Safety Discussions.** The inspector shall discuss matters concerning health and safety and work practices with miners including recent accidents, accident history, mine-specific hazards, and occupation-specific health and safety concerns.

    Documentation Required: *Documentation should include the general location of discussions and number of miners present.*

17. **Highwalls, Spoil Banks and Ground Control Plans.** An inspection shall be conducted of all highwalls and spoil banks for compliance with applicable standards such as loose material, overhanging rock, or unstable spoil banks. The inspector shall also evaluate compliance with the current ground control plan. The inspector shall evaluate the adequacy of the plan with observed conditions and poll the operator and a representative number of miners as to their knowledge of the plan. Enforcement action shall be taken for all noncompliance with the ground control plan.

    Highwall Inspection Preparation
    Prior to beginning an inspection, the inspector should:

    a. Carefully review the UMF, including the ground control plan, and carry a copy of the ground control plan for reference during the inspection; and

    b. Review the accident and violation histories and consider them when issuing

enforcement actions.

Discussions with the Mine Operator and Foremen/Examiners

The inspector should discuss the following with the appropriate mine officials during an inspection:

a. Examination requirements of §§ 77.1713 (Daily inspection of surface coal mine; certified person; reports of inspection), 77.1004(a) (Ground control; inspection and maintenance; general), and, if applicable, 77.1501 (Auger mining; inspections), and recordkeeping;

b. Ground control plan requirements to evaluate their knowledge and implementation of its provisions;

c. Old underground workings that are depicted on the map required by § 77.1200 (Mine maps) to determine how an operator determined their presence and extent, and any other condition shown on the map that is or may need to be addressed in the ground control plan;

d. Reportable accidents at the mine and the methods used to prevent similar occurrences;

e. Known near-miss accidents at the mine and similar occurrences at other mines and prevention methods;

f. Rock falls, unstable and potentially hazardous conditions the mine is experiencing, and any changes that were made to the ground control plan or work practices;

g. Hazard abatement and mitigation methods;

h. Safety precautions specified in the ground control plan for working near highwalls and for compliance with § 77.1006(c) (Highwalls; men working);

i. Barricading methods used at the mine;

j. Communication of hazards to all miners;

k. Methods used to monitor ground movement; and

l. Methods used for stripping loose material and for sloping loose unconsolidated material as required by § 77.1001 (Filing of ground control plan).

Highwall and Pit Area Inspection

During an inspection of a highwall and pit area, the inspector shall inspect for and consider the items below. Appropriate enforcement action must be taken for any violative condition or practice or any condition posing an imminent danger.

a. Inspect for fallen material and fresh rubble in the pit as this may indicate highwall movement and instability.

b. Inspect for evidence of flyrock as this may be indicative of poor blasting practices.

c. Inspect highwalls and work activities for violative and potentially unstable and hazardous conditions that may be related to the following:
   1) Excessive fracturing;
   2) Overhangs;
   3) Loose rocks;
   4) Discontinuities such as joints, faults, and bedding planes;
   5) Cracks on the highwall face and on tops of highwalls and benches, when safely accessible;
   6) Old underground mine workings;
   7) Inadequate webs for auger/highwall mining;
   8) Water from the highwall;
   9) Highwall points and corners;
   10) Scaling methods; and Undercutting.

d. Inspect benches for stability and compliance with ground plan control provisions from a safe location.

e. Measure heights and slopes of highwalls, benches, and spoil piles, where safe to do so, for compliance with the ground control plan. Electronic measuring devices may be used to accomplish this.

f. Inspect for the safe operation of equipment in the pit area.

g. Inspect for safety of any person working near a highwall or bench.

h. Inspect for safe drilling and blasting work practices and coordination and communication prior to blasting.

i. Talk with miners about the following:
   1) Knowledge and awareness of potential rock falls;

2) Scaling issues and safety;
3) Effects of water and of freezing and thawing cycles on the highwall;
4) Recent accidents and near misses;
5) Unstable and potentially hazardous conditions;
6) Hazards of working near a highwall;
7) Limiting exposure to the highwall;
8) Ground control plan provisions and training;
9) Hazards they have observed;
10) Barricading techniques at the mine;
11) Using personal protective equipment;
12) Maintaining equipment in safe operating condition; and
13) Remaining focused on the task being performed and limiting distractions.

j. Inspect for the effectiveness of water management.

k. Inspect for loose material on the top of the highwall.

l. Inspect any monitoring equipment and instrumentation that is required by the ground control plan to ensure it is in proper working condition.

m. Inspect spoil piles to ensure safety of persons exposed and for compliance with ground control plan provisions.

n. Inspect dump points for compliance with regulations and ground control plan provisions.

Documentation Required: *Documentation should include the location description. In addition, the inspector should document in the remarks section, Item 17 of the Mine Activity Data sheet (MSHA Form 2000-22) that the Ground Control Plan in effect at the mine is adequate or otherwise note the deficiencies in the plan. This would serve as documentation that the Ground Control Plan was evaluated during this inspection.*

18. Hoisting Equipment. An inspection shall be conducted of all hoisting equipment, including structure condition, guarding, accumulations, lighting, electrical installations, rope condition, fire protection, safety devices, and safe access for compliance with applicable standards. The inspector should observe at least one complete cycle of operation of all hoisting equipment including emergency hoists.

Documentation Required: Hoisting equipment shall be inspected per the procedural requirement. Documentation should include the equipment description and the company number, serial number, approval number, or other identifying method.

19. **Illumination of Work Areas**. An inspection shall be conducted of all work areas to determine that they are sufficiently illuminated to provide safe working conditions including auger operations and highwall mining operations. The evaluation should include observation of lighting and information obtained from miners.

20. **Air Quality Tests in Required Locations (Surface).** The inspector shall test for methane in all structures and areas where there is a potential for a hazardous accumulation of methane. Test for carbon monoxide (CO), methane (CH_4), and oxygen (O_2) deficiency shall be conducted for compliance with applicable standards.

    Documentation Required: *Documentation should include the time the tests were conducted; the concentrations of carbon monoxide (CO) in parts-per-million, methane (CH_4) percentage, and oxygen (O_2) percentage; and the location of each test.*

21. **Mine Map (Surface).** An inspection shall be conducted of all mine maps for compliance with applicable standards. The inspector shall review the mine map for consistency with approved mining methods, mining in proximity to underground mines, electrical power lines, oil and gas wells, fuel transmission lines, mines located adjacent to or below active workings, and any danger that surface mining may present to underground miners.

22. **Other Places Where Miners Work or Travel.** Other work areas and travelways shall be inspected, including observations of work practices, illumination, safe access, combustible material accumulations, examinations, workplace maintenance, and air quality for compliance with applicable standards. (Refer to Q & As Tree Cutting on Mine Property for further guidance.)

    Fall Protection
    Backguards required by § 77.206(c) (Ladders; construction; installation and maintenance) for use with steep or vertical ladders may provide adequate fall protection if the backguard does not interfere with safe work methods of construction. The use of backguards may hinder safe work methods (such as the need to continually adjust scaffolding surrounding the ladders).

    Safety belts and lines shall be provided and are required to be worn where there is a danger of falling, including during construction activities. If backguards on ladders hinder safe work methods in constructing concrete storage silos, inspectors should determine if safety belts and lines provide adequate fall protection without the use of such backguards and apply § 77.1710(g) (Protective clothing), rather than § 77.206(c), at such construction sites. The use of full-body safety harnesses and lines will allow for greater freedom of

movement.

Training in accordance with the applicable portion(s) of 30 CFR Part 48 shall be provided by the mine operator and specifically address the use and maintenance of safety harnesses and lines.

23. **Potable Water (Surface).** The inspector shall determine if potable water is provided and available as required by §§ 71.600 (Drinking water; general) and 71.601 (Drinking water; quality). This evaluation should include information obtained from the miners and the operator.

24. **Preparation Plant**. All preparation plants, including structure condition, guarding, accumulations of combustible materials, lighting, electrical installations, air quality, fire protection, examinations (where required), and safe access shall be inspected for compliance with applicable standards.

25. **Refuse Piles and Impoundments**. Refuse piles and impoundments shall be inspected in accordance with the MSHA Coal Mine Impoundment Inspection and Plan Review Handbook to determine compliance with applicable standards and approved plans, including safe access, berms, proximity to underground mines, drainage, combustible materials around site, equipment condition, and fire protection. A comparison should be made between the operator's examination records and the inspector's observations. (Refer to MSHA Form 2000-34 and Impoundment Checklist for information.)

    Documentation Required: *Each refuse pile or impoundment shall be inspected per the procedural requirement. Documentation shall include the location description. The inspector shall also complete the information required by MSHA Form 2000-22, Items 12I and 12J. MSHA Form 2000-34 is required for all E01 inspections.*

26. **Sanitary Facilities (Bathhouse).** An inspection shall be conducted of all sanitary facilities for compliance with §§ 71.400 (Bathing facilities; change rooms; sanitary flush toilet facilities); 71.401 (Location of facilities); and 71.402 (Minimum requirements for bathing facilities, change rooms, and sanitary flush facilities). Special attention should be given to location, structure, cleanliness, safe access, and compliance with a bathing facilities waiver. (Refer to MSHA Form 2000-87 Bathhouse Waiver for form information.)

27. **Shop and Other Structures.** All shops and other structures shall be inspected for compliance with applicable standards. Special attention should be given to structure condition, guarding, accumulations of combustible materials, lighting, electrical installation, air quality, fire protection, safety devices, and safe access.

Documentation Required: *Each shop and other structure shall be inspected per the procedural requirement and identified by name and location.*

28. **Surface First–Aid Equipment.** The surface first-aid equipment shall be inspected for compliance with § 77.1707 (First aid equipment; location; minimum requirements).

    Documentation Required: *Inspections of first-aid equipment conducted per the procedural requirement and the general location of the equipment should be documented.*

29. **Thermal Dryer.** An inspection shall be conducted of all thermal dryers for compliance with §§ 77.307(a) to 77.315. Special attention should be given to structure condition, guarding, accumulations of combustible materials, lighting, electrical installation, air quality, fire protection, safety devices, and safe access.

30. **Travelways and Active Roadways.** An inspection shall be conducted of all travelways and active roadways for compliance with §§ 77.404(a), 77.807-1, 77.1000 to 77.1006(a), and 77.1600 to 77.1608(a). Special attention shall be given to berms, road grades and design, visibility, and traffic control. (Refer to the Haul Road Inspection Handbook for further guidance.)

    Documentation Required: *Each travelway and active roadway shall be inspected per the procedural requirement and identified by name and general location.*

31. **Ventilating Fan Installations.** An inspection shall be conducted of all ventilating fan installations for compliance with applicable standards. Special attention should be given to airway heaters, safe access, guards, equipment condition, fire detection systems, combustible material presence within 100 feet of the main mine fan installation, fire protection, condition of electrical cables, wiring and circuit capacity, pressure recording device, fan chart, and other monitoring devices installed in the fan house.

    Documentation Required: *Each ventilation fan installation shall be inspected per the procedural requirement and the location shall be documented.*

32. **Oil, Gas, and Coalbed Methane Wells.** Many oil and gas well activities are not directly connected to mining, do not occur on mine property, and are not subject to MSHA jurisdiction. Longwall gob wells are specifically developed to assist with methane extraction from active longwall panels and are typically under MSHA jurisdiction. Well plugging activities that occur near active mining may be under MSHA jurisdiction. Contact your supervisor if there is any question about jurisdiction and inspection requirements for the surface facilities and activities for oil, gas, and coalbed methane wells on or near mine

property. The § 75.1200 (Mine map) map should show all oil and gas wells within 500 feet of active mining areas. A petition for modification of § 75.1700 (Oil and gas wells) is needed to plug an oil, gas, or surface directionally drilled horizontal coalbed methane well that will be intersected by a coal mine.

Inspect the surface facilities and operation of wells under MSHA jurisdiction. This inspection should include a general safety inspection under Part 77. Inspect hoisting operations, personal protective equipment and machinery. Maintenance of wellhead equipment is inherently dangerous because explosive levels of methane may be present in piping and equipment. Before starting any maintenance activity that could result in an ignition, the well should be shut in and all piping and equipment that will be affected should be purged with inert gas. Tests for methane (CH_4) leakage conducted by a qualified person should be made prior to any work on the wellhead and associated equipment. Verify that wellhead equipment (valves, blowers, stacks, etc.) corresponds to specifications in the mine ventilation plan.

(Refer to Informational Report 1346 – Consideration for Underground Coal Mines That Operate Near Coalbed Methane Wells for further guidance.)

Documentation Required: *Gas and oil well maintenance and plugging inspections should be documented in the inspection notes, including the location description.*

E. Underground Outby Areas.

1. **Aircourses (including Escapeways).** During each regular inspection, the inspector should compare the mine operator's weekly examination records of aircourses to the mine map to assure that the mine operator is examining the mine in its entirety. The inspector will assure that all aircourses required to be examined are maintained in the ITS by name and identified with an intake or return designation. If the aircourse is also an escapeway, it should be so identified with the aircourse name.

   When aircourses cannot be examined weekly in their entirety, appropriate enforcement action shall be taken under § 75.364(b) (7 day examination). Rehabilitation or clean-up of the affected portion of the airway should be the primary focus in regard to termination of the citation with appropriate abatement time given considering the scope of the work involved. When rehabilitation or clean-up of the affected area is determined to be impracticable, the mine must submit a petition for modification and propose an alternate method that provides at least the same degree of safety as conducting an examination of the entire aircourse. The inspector shall give primary consideration to the health and safety of miners in establishing abatement times.

If a 104(b) order is issued, the affected portion of the mine must be closed, which may result in the closure of a working section or possibly the entire mine.

At least one entry in each intake and return aircourse shall be inspected in its entirety for compliance with applicable standards and approved plans. Special attention should be given to ventilation controls, personnel door conditions and spacing, personnel door static pressures (refer to Mandoor Static Force and Calculation of Static Force: 73 Fed. Reg. 80580 (Dec. 31, 2008) for further guidance), mine roof conditions, rock dust application, examination certifications, escape facilities, and any equipment operated in the aircourses. Additional entries and/or crosscuts within a multiple entry aircourse may need to be traveled to fully evaluate operator compliance with applicable standards and approved ventilation plans.

When inspecting escapeways, conduct a function test of the post-accident communication and tracking system by contacting the responsible person using the post-accident untethered communication device and requesting that the responsible person identify the location of a miner in the escapeway, who is at a location known to the inspector.

Inspectors shall evaluate the carrying capacity of escape capsules to determine if all miners underground could be evacuated in a swift and timely manner, including disabled miners. Inspectors shall also determine if each escapeway is maintained in a safe condition to always assure passage of miners and disabled miners using an escape capsule to evacuate to the surface.

Documentation Required: *The aircourse should be identified in the inspection notes as it appears in the ITS. The inspector should document the complete inspection of aircourses by checking the completion box in the ITS. The inspector should clearly mark the extent of daily travels that contribute to the E01 inspection by date and initials on the mine tracking map, including any approved evaluation or measurement point locations associated with the aircourse and the beginning and ending point of each day's travel until each intake or return aircourse is fully inspected (this does not apply to routine travel of or incidental travel through an aircourse). If an aircourse is inspected in its entirety, no additional documentation in the notes is required.*
If an aircourse is not inspected in its entirety, the starting and stopping points, as correlated to a permanent reference point, such as a crosscut number or spad number, should be recorded on the mine map and in the inspection notes. The points may also be recorded in the comments of the ITS.

2. **Atmospheric Monitoring Systems (AMS).** The inspector shall examine AMS components **and observe the operator making a required calibration of system sensors.** Data and times obtained during the inspection should be

compared with information recorded by the system on the surface. Additionally, an evaluation should be made concerning the knowledge of the responsible person(s) about the system display, the actions required for any alert and alarm, and appropriate notification of miners and mine management when an alert or alarm occurs. The most recent records should also be reviewed to determine if proper notifications and corrective actions have been taken to address previous alerts, alarms, or system failures.

AMS Inspection Check Sheet

An AMS is a network consisting of hardware and software meeting the requirements of §§ 75.351 (Atmospheric monitoring systems) and 75.1103-2 (Automatic fire sensors; approved components; installation) that are capable of measuring atmospheric parameters; transmitting the measurements to a designated surface location; providing alert, alarm, or warning signals; processing and cataloging atmospheric data; and providing reports.

Enforcement authority depends on the purpose of the installation. An AMS may be required: under § 75.323(d)(1)(ii) (Actions for excessive methane) to monitor for methane (CH_4) in the return split alternative; under § 75.340(a)(1)(ii) and (a)(2)(ii) (Underground electrical installations), to monitor intake air used to ventilate electrical installations; under § 75.350(b) (Belt air course ventilation) to use air from the belt entry to ventilate working sections or areas where mechanized mining equipment is being installed or removed; under § 75.350(d) (Belt air course ventilation), to monitor point-feed regulators; or § 75.362(f) (On-shift examination), to continuously monitor for methane (CH_4) in return splits. Where an AMS is used to meet the above requirements, the AMS must meet the requirements contained in § 75.351 (Atmospheric monitoring systems).

An AMS can also be used as an automatic fire sensor and warning device system that uses carbon monoxide (CO) sensors to provide identification of fire along belt conveyors. Where an AMS system is used as an automatic fire sensor and warning device system, the AMS must meet the requirements in §§ 75.1103-1 through 75.1103-8 (regarding automatic fire sensors).

Additional details of the AMS are contained in the approved mine ventilation plans. Failure to follow requirements set forth in that plan should be cited under § 75.371 (Mine ventilation plan; contents).

The Approval and Certification Center (A&CC) evaluates AMS systems to ensure that the electric circuit feeding the sensors will not ignite methane (CH_4). Components installed in areas where permissible equipment is required must be intrinsically safe or in explosion-proof enclosures. Systems evaluated and

accepted by A&CC must be installed and maintained as evaluated and must have an MSHA acceptance label attached to the blue outstations, classified sensors, and classified barriers. The failure to use systems maintained in permissible condition should be cited under §§ 75.503 (Permissible electric face equipment; maintenance), 75.507 (Power connection points), or 75.1002 (Installation of electric equipment and conductors; permissibility) as appropriate.

The following checklist details the salient parts of an inspection of an AMS network. (Refer to Carbon Monoxide and Atmospheric Monitoring Systems Inspection Procedure Handbook for further guidance.)

a. Surface Inspection

1. Review records of sensor calibrations and records of alert, alarm and malfunction signals;
2. Review records of weekly functional test; and
3. Verify the names of designated AMS operators and other appropriate personnel.

Review the map or schematic

1. Determine if the schematic and other maps are properly displayed and are properly updated.

Observe operation of system

1. Determine the operational status of CO sensors;
2. Review the AMS printout to determine any unusual history of sensors' malfunctions, alert and alarm signals, and abnormal readings; and
3. Determine the means of disconnecting the data line.

Visual and audible alarms on the surface

1. Verify that the AMS signals can be seen or heard by the AMS operator;
2. Determine if the visual and audible alarm signals are distinguishable from the alert signals; and
3. Observe the operation of the manual reset for automatic warning devices.

Communications

1. Determine if the designated system operator has means of two-way communication with all working sections.

b. Underground Inspection

Air currents

1. Check the velocity (minimum and maximum) and direction of the air.

Air velocities

1. Verify that sensor spacing does not exceed allowable limits specified in the applicable regulation, plans, or petition for modification.

Installations of sensors

1. Verify that sensors are installed near the center of the entry, at a location where miners are not exposed to unnecessary hazards when maintaining, testing, or calibrating the sensor.

Locations of sensors

1. Determine if sensors are installed at the locations identified on the mine maps; and
2. Assure belt drives are properly monitored in belt entries (primary escapeway, and return air splits if applicable).

Inspection/Calibration of sensors

1. Visually check sensors for damage and assure air flow patterns are not blocked;
2. Compare sensor readings with handheld detector readings, if applicable;
3. Have the agent of the operator simulate a malfunction at a sensor unit. Verify that malfunctions are recorded at the designated surface location;
4. Check permissibility of AMS sensors and alarm units, where applicable. Each barrier classification must match associated component classification; and
5. Ensure that the manufacturer calibration procedures are used. Check calibration of at least 10 percent, but no less than five CO sensors.

Outstations

1. Verify that all outstations are located in intake air;
2. Verify that outstations are identified as "red" or "blue";
3. Verify sensors located in an area where permissible equipment is required are connected to a blue outstation;
4. Verify compliance with the requirements of § 75.313 (Main mine fan stoppage with persons underground); and
5. Verify compliance with the requirements of § 75.1103-7 (Electrical components; permissibility requirements).

Alarm units

1. Verify that underground alarm units are installed at locations where they can be seen or heard by miners working in those areas.

c. <u>Response to alerts, alarms, warnings, and malfunctions</u>

1. Verify the actions taken by the system operator when an alert, alarm, warning, or malfunction signal is received; and
2. Verify that proper procedures are followed during a malfunction when the belts are running.

d. Training

1. Verify that system operators have been adequately trained in accordance with their duties and responsibilities;
2. Verify that persons responsible for maintaining and installing components of the monitoring systems are trained in the requirements of these duties;
3. Verify that miners are trained in the evacuation requirements when an alarm is activated;
4. Verify that appropriate personnel required to be identified by § 75.351 (Atmospheric monitoring systems) are trained; and
5. Verify that persons monitoring for CO or smoke in the affected areas during a malfunction are trained.

Documentation Required: *Compliance with this procedure should be recorded in the inspection notes, including the AMS manufacturer and model.*

3. Belts, Skip Shaft Facilities, Bunkers. During each regular inspection, the inspector should compare the mine operator's examination of conveyor belt flights to the mine map to assure the mine operator is examining all conveyor belts. The inspector will assure all conveyor belt flights required to be examined are maintained and identified in the ITS. Each conveyor belt flight, skip shaft, or bunker and all associated equipment of each system shall be inspected for compliance with applicable standards, with attention to safe access, guards, fire detection systems, combustible materials, fire protection (determining whether or not the 50 psi/50 gpm of water is available in water lines at or near the working section and other locations as deemed necessary by the inspector), condition of electrical cables and wiring, power source capacity, and general operating condition. Inspectors shall inspect all belt take-up storage units to assure that adequate fire protection is afforded. Also refer to the National Fire Protection Association® (NFPA) Nos. NFPA 11A 1970 - High Expansion Foam Systems, NFPA 13 1969 - Installation of Sprinkler Systems, NFPA 13A 1971 - Care and Maintenance of Sprinkler Systems, NFPA 15 1969 - Water Spray Fixed Systems for Fire Protection, NFPA 17 1969 - Dry Chemical Extinguishing Systems NFPA 72A 1967 - Local Protective Signaling Systems or NFPA 198 1969 - Care, Maintenance and Use of Fire Hose. The weekly examination should conform to the checklist provided in MSHA Forms (not all inclusive) 2000-222, 2000-225, or 2000-234.

Inspectors should be mindful of any limitations included in the regulatory text of the following standards, which incorporate NFPA consensus codes: §§ 75.1101-7 (Installation of water sprinkler systems; requirements); 75.1101-8 (Water sprinkler systems; arrangement of sprinklers); 75.1107-3(b) (Fire suppression devices; approved components; installation requirements); 75.1107-4(b) (Automatic fire sensors and manual actuators; installation; minimum requirements); 75.1107-13(b) (Approval of other fire suppression devices); 75.1107-16(b) (Inspection of fire suppression devices); and 75.1107-17 (Incorporation by reference; availability of publications). For example, in accordance with § 75.1101-7(a), each sprinkler system must be installed, **as far as practicable**, in accordance with NFPA 13, "Installation of Sprinkler Systems." NFPA 13 is the NFPA consensus standard for installation of fire protection sprinkler systems. Among other things, this consensus standard provides guidance on locating sprinklers, dealing with horizontal or vertical obstructions to sprinkler discharge water, specifying allowable types of pipes and fittings, and presenting methods for determining minimum pipes sizes.

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The following check sheets may be used for inspector notes Form 2000-222 Deluge; Form 2000-225 Dry Powder; Form 2000-234 Water Sprinkler. (Refer to Belt Air: 69 Fed. Reg. 17480 (April 2, 2004); and Flame-Resistant Belts 73 Fed. Reg. 80580 (Dec. 31, 2008) for additional information.)

Documentation Required: *The belt flight, skip shaft facility, and bunker should be identified in the inspection notes as it appears in the ITS. The inspector should document the complete inspection by checking the completion box in the ITS. The inspector should clearly mark the extent of daily travels that contribute to the E01 inspection by date and initials on the mine tracking map and the beginning and ending point of each day's travel. If a belt flight, skip shaft facility, and bunker is inspected in its entirety, no additional documentation in the notes is required. If a belt flight is not inspected in its entirety, the starting and stopping points, as correlated to a permanent reference point, such as a crosscut number or spad location, should be recorded on the mine map and in the inspection notes. They may also be recorded in the comments of the ITS (this does not apply to routine travel of or incidental travel into the belt flight).*

The inspector shall record the completion of the 50 psi/50 gpm of water availability check in water lines at or near the working section in each ITS, MMU log. For the purpose of documentation, for all handheld portable firefighting extinguishers associated with protection for a designated piece of equipment or a designated location shall be inspected with that piece of equipment or designated location and does not require separate documentation.

4. **Blasting Practices.** An inspection for compliance with applicable standards and approved plans shall be conducted of all areas where explosives are observed being used in the mine. Observation of work practices and blasting cycle shall be conducted. Special attention shall be given to recordkeeping, the presence of combustible materials, and fire protection.

   Documentation Required: *The inspector's evaluation of blasting practices should be documented in the inspection notes to show the location where explosives being used were observed.*

5. **Bleeders, Including Each Check Point.** At the beginning of each regular inspection, the inspector should compare the mine operator's examination of bleeder entries to the mine map to assure the mine operator is examining all bleeders. The inspector will assure all locations of bleeder entries required to be examined are maintained and identified in the ITS. At least one entry in each set of bleeder entries shall be inspected in its entirety, including any required check points specified in the currently approved mine ventilation plan. At mines that are in 103(i) status, bleeder entries should be inspected during coal producing shifts. Special attention should be given to ventilation controls, roof conditions, rock dust application, examination certifications, and equipment being operated in the bleeder entries.

   Documentation Required: The bleeders should be identified in the inspection notes as it appears in the ITS. The inspector should document the complete inspection of the bleeder by checking the completion box in the ITS. The inspector should clearly mark the extent of daily travels that contribute to the E01 inspection event by date and initials on a mine tracking map, including any approved check points, evaluation points, or measurement point locations associated with the bleeder and the beginning and ending point of each day's travel until each bleeder is fully inspected*. If the bleeder is inspected in its entirety, no additional documentation in the notes is required.*

   If a bleeder is not inspected in its entirety, the starting and stopping points, as correlated to a permanent reference point, such as a crosscut number or spad location, should be recorded on the mine map and in the inspection notes. They may also be recorded in the comments of the ITS.

6. **Diesel Fuel Storage.** All areas where fuel is being stored underground shall be inspected, with attention to safe access, combustible materials, handling fuel, fire protection, safety alarms, and recordkeeping for compliance with applicable standards.

   Documentation Required: *The location of each diesel fuel storage area(s) inspected should be recorded in the inspection notes.*

7. **Fire Protection.** All specialty or standalone firefighting equipment in use or available for use outby the working section shall be inspected for compliance with approved programs, approved plans, and applicable standards (e.g., portable water cars, portable chemical cars, portable foam-generating machines, additional firefighting materials for conveyor belt flights exceeding 2,000 feet in length, and emergency materials within 2 miles of each working section). A fire extinguisher with a 2-A:10-B:C designation that contains approximately 4.25 pounds of dry powder meets the intent of the standard and provides an acceptable level of protection. Also refer to the National Fire Protection Association® (NFPA) Nos. NFPA 11A 1970 - High Expansion Foam Systems, NFPA 13 1969 - Installation of Sprinkler Systems, NFPA 13A 1971 - Care and Maintenance of Sprinkler Systems, NFPA 15 1969 - Water Spray Fixed Systems for Fire Protection, NFPA 17 1969 - Dry Chemical Extinguishing Systems, NFPA 72A 1967 - Local Protective Signaling Systems or NFPA 198 1969 - Care, Maintenance and Use of Fire Hose.

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   Documentation Required: *Inspection of specialty or standalone fire protection equipment should be documented in the inspection notes to show the location and type of fire protection provided. For purpose of documentation, for all handheld portable fire extinguishers associated with protection for a designated piece of equipment or a designated location shall be considered inspected with that piece of equipment or designated location and does not require separate documentation.*

8. **Haulage or Mobile Equipment.** The inspector shall review the operator examination records and inspect each piece of in use and available for use haulage, mobile, and portable equipment to determine if hazardous or potentially hazardous conditions exist, with attention to braking mechanisms,

batteries, audible warning devices, reflective devices, lights, tires, safe access, guards, equipment condition, fire suppression systems, combustible materials, fire protection, condition of trailing or inter-machine electrical cables, cable conduit, safety devices, and compliance with applicable standards. The inspector should assure that all in use and available for use haulage, mobile and portable equipment is documented and maintained in the ITS.

The inspector should evaluate the operator's policy on towing methods and conditions that assure equipment being towed is properly coupled to the tow vehicle. When hazardous conditions are identified the inspector shall issue safeguard notices under § 75.1403 (Other safeguards). This procedure will also apply to independent contractor equipment encountered in service at the mine.

Documentation Required: *Each piece of equipment inspected should be entered in the inspection notes, including the equipment manufacturer, equipment type, an identifying number (e.g., serial number, company number, etc.), and the general location of the equipment when inspected. Inspection of equipment operated and maintained by independent contractors is not required to be documented in the ITS.*

9. **Longwall Tailgate Entry.** The inspector shall evaluate the mine operator's examination of the longwall tailgate entry. The inspector will assure the longwall tailgate entry is maintained and identified in the ITS. Longwall tailgate travelways shall be inspected in their entirety, for compliance with applicable standards and approved plans, including attention to ventilation controls, man door location and placement, approaches to worked-out areas, mine roof conditions, rock dust application, examination certifications, and any equipment being operated in the tailgate travelway.

Documentation Required: *The longwall tailgate entry should be identified in the inspection notes as it appears in the ITS. The inspector should document the complete inspection of the longwall tailgate entry by checking the completion box in the ITS.* ***The inspector should clearly mark the extent of daily travels that contribute to the E01 inspection by date and initials on a mine tracking map and the beginning and ending point of each day's travel in the tailgate entry until each tailgate entry is fully inspected. If the longwall tailgate is inspected in its entirety, no additional documentation in the notes is required.***

If a longwall tailgate entry is not inspected in its entirety, the starting and stopping points, as correlated to a permanent reference point, such as a crosscut number or spad location, should be recorded on the mine map and in the inspection notes. They may also be recorded in the comments of the ITS.

10. **Non-Pillared Worked Out Areas.** The inspector shall evaluate the mine operator's examination of non-pillared worked-out areas. The inspector will assure all non-pillared locations of worked-out areas required to be examined are maintained and identified in the ITS. Non-pillared worked-out areas shall be inspected to the point of deepest penetration or to alternative evaluation locations approved in the mine ventilation plan, to determine compliance with applicable standards and approved plans, including attention to ventilation controls, mine roof conditions, rock dust application, examination certifications, and any equipment being operated in the worked-out area.

    Documentation Required:* Non –pillared worked out areas should be identified in the inspection notes as it appears in the ITS.** *The inspector should document the complete inspection of non-pillared worked out areas by checking the completion box in the ITS.* ***The inspector should clearly mark the extent of daily travels that contribute to the E01 inspection by date and initials on a mine tracking map and the beginning and ending point of each day's travel for worked-out areas until each non-pillared worked-out area is fully inspected. If the non-pillared worked out area is inspected in its entirety, no additional documentation in the notes is required.

    If a ***non-pillared worked out area*** *is not inspected in its entirety, the starting and stopping points, as correlated to a permanent reference point, such as a crosscut number or spad location, should be recorded on the mine map and in the inspection notes. They may also be recorded in the comments of the ITS.*

11. **Other Places Where Miners Work or Travel (Underground).** The inspector shall evaluate the mine operator's examination of other areas where miners work or travel. The inspector will assure all areas where miners are required to work or travel are examined in accordance with applicable standards. Locations of other areas where miners work or travel shall be maintained and identified in the ITS. Other work areas and travelways should be inspected for compliance with applicable standards (example: high-voltage cable entries that are not located in regular travelways and other areas normally traveled by the mine personnel on a daily or weekly basis). **The inspector shall look for evidence of examinations in the outby areas traveled and determine if the mine examiner had certified with dates, times, and initials (DTIs) that the required examinations were conducted for each area of travel. At least one test for oxygen (O_2) deficiency and methane** (CH_4) **content shall be conducted in each outby area inspected.**

    Documentation Required: *Other Places Where Miners Work or Travel (Underground)* ***should be identified in the inspection notes as it appears in the ITS.****The* ***presence of the mine examiner's dates, times, and initials, should be recorded in the inspection notes. The test results of methane*** *(CH_4),* ***and oxygen***

(O_2) should be recorded in the inspection notes as a percentage). *The inspector should document the complete inspection of other areas where miners work or travel by checking the completion box in the ITS.* ***The inspector should clearly mark the extent of daily travels that contribute to the E01 inspection on a mine tracking map and the beginning and ending point of each day's travel for other places where miners work or travel, including the inspector's initials, and date of inspection until each other place where miners work or travel is fully inspected****.*

12. **Outby Electrical Equipment.** The inspector shall compare the mine operator's record of weekly examination of electrical equipment to all electrical equipment in use and available for use at the mine. The inspector shall also ensure that permanent electrical installations are identified on the electrical map required to be maintained by § 75.508. A list of all electrical equipment in use and available for use should be maintained in the ITS. An inspection shall be conducted of each piece of in use and available for use permanent electrical equipment as listed in the operator examination records or observed in use by the inspector to determine compliance with applicable standards and to determine if hazardous or potentially hazardous conditions exist, with attention to safe access, guards, equipment condition, fire suppression systems, combustible materials, fire protection, condition of trailing or power cables, circuit breaker settings, cable conduit, braking mechanisms, reflective materials, and safety devices. If an inspector finds that wiring of electric equipment is in a rundown condition, with many violations existing on one unit of equipment, and if there is evidence that thorough and complete examinations are not being made or that the required tests are not being made, a citation should be issued under § 75.512 (Electric equipment; examination, maintenance and testing). Please refer to the Electrical Inspection Handbook, Chapter 2, for more information. Inspectors shall not attempt to perform inspections or tests that require the expertise of an electrical specialist.

Documentation Required: *Each piece of in-use and available-for-use outby permanent or portable electrical equipment, including the equipment description and company number, serial number, approval number, or other positive identification, inspected under this procedure should be listed in the inspection notes. Small pieces of handheld electrical equipment are not required to be listed in the ITS. The inspector should document the complete inspection of the outby permanent or portable electrical equipment by checking the completion box in the ITS. The location of such equipment may also be recorded in the ITS.*

13. **Seals**. All seals must be inspected each quarter, including new seals and seals being constructed, except seals determined by MSHA to be gob isolation seals in an approved spontaneous combustion plan (§ 75.334(f) (Worked-out areas and areas where pillars are being recovered)). Seals that are constructed as

part of an approved spontaneous combustion plan that are accessible, such as those outby the face on the tailgate or inby the face on the headgate, also need to be inspected. It may also be necessary to inspect seals during spot inspections under Section 103(i) of the Mine Act. All mine seals shall be inspected for compliance with applicable standards and approved plans, including their condition and seals under construction, water traps, test pipes, examination certifications, and seal ventilation. MSHA seal sampling procedures shall be followed during inspection of mine seals. (Refer to MSHA Form 7000-10U; Q & A's Sealing Abandoned Areas 12-2008; Seals: 73 Fed. Reg. 21182 (April 18, 2008); and Seal Correction Notice: 73 Fed. Reg. 27729 (May 14, 2008) for additional information.)

During the inspections, the following evaluations must be conducted:

1. Review examination record books concerning seals and adjacent aircourses before going underground, including the sampling records under § 75.336(e) (Sampling and monitoring requirements). Any hazardous conditions noted by the seal examiners recorded in the weekly or preshift exam books should be investigated. Review seal construction records under §§ 75.335(c)(1) and (2) (Seal strengths, design applications, and installations); and 75.337(c)(5), (d), and (e) (Construction and repair of seals).

2. Inspect safe access for the examiner's route of travel to and from seals. Roof support must be maintained to provide safe access to the seals. Check for hazardous conditions, test for methane (CH_4) and oxygen (O_2) deficiency, and determine if the air is moving in the proper direction under §§ 75.360(b)(5) (Preshift examination at fixed intervals); and 75.364(b)(4) and 75.364(c)(3) (Weekly examination).

3. Verify the required operators' examinations by checking initials, dates, and times.

4. Inspect seals for deterioration and for damage such as cracking, spalling, or bulging. Inspect the base of the seal for deterioration due to mine water and floor heave. Although some spalling of ribs and sloughing from the roof may accumulate near the seal, enough of the seal must be kept clear to facilitate a reasonable visual examination.

5. Inspect the strata surrounding seals for rib sloughing, roof falls or floor deterioration that may affect the integrity of the seal. Ensure that the seal's convergence is being measured and that the threshold as per design has not been exceeded.

6. Evaluate rock dust around the seals and in adjacent aircourses.

7. Inspect sampling pipes and sample the atmosphere behind the seals. At a minimum, inspectors should sample at one location at each set of seals. Seals that have reached a design strength of at least 120 psi overpressure or greater do not have to be sampled. The determination of seal strength is based on the quality control test results specified in the seal design under § 75.335(b)(1)(i) (Seal strengths, design applications, and installations) and reported to the District Manager under § 75.337(e)(3) (Construction and repair of seals).

Sample the sealed atmosphere whether seals are outgassing or ingassing for seals with design strength less than 120 psi. Additional sampling locations may be specified in the approved ventilation plan.

Equipment that may be needed includes:
1. Permissible vacuum pump with sufficient power to pull a sample through a sampling pipe in seals that are ingassing;
2. Tubing, adapters, connectors, etc.;
3. High range methane detector;
4. Standard range methane detector (less than 5%);
5. Oxygen (O_2) detector;
6. Carbon dioxide (CO_2) detector, if an alternative method is approved under § 75.336(d) to determine the inert status of the sealed atmosphere;
7. Bags to collect samples;
8. Double pointed needle syringe; and
9. Gas sample tubes.

Multi-gas detectors should be used during regular inspections and bag samples should only be used to verify compliance if a detector indicates the atmosphere behind a seal may be non-inert. If the handheld detector indicates oxygen (O_2) levels of 8.5% or greater and methane (CH_4) levels between 2.5% and 23%, a bag sample should be taken. It is not necessary to collect bag samples at each set of seals during quarterly inspections.

Pumping must continue long enough to purge the sampling tube and line with six times the volume of the sample system prior to extracting the sample. Note: The typical handheld gas detector uses catalytic heat-of-combustion sensing technology. These sensors require oxygen to operate. The IEC standard for selection, installation, use, and maintenance of combustible gas detectors indicates that the minimum oxygen concentration for use of this type of sensor is 10%. The ATX 620 or its equivalent is typically used for sampling

areas with suspected oxygen content below normal ranges. This device has an infrared sensor that enables the instrument to properly measure methane content when oxygen levels are at or below 10%.

Inspect the water drainage system and check for lack of air exchange (test with chemical smoke). Examine the drainage pipe system and verify that seals do not impound water or slurry. If a drainage system includes a valve, it must be opened as part of the inspection.

Confirm that the certified persons conducting sampling have been trained in the use of the sampling equipment and sampling procedures. Check the required training records and certifications under § 75.338.

New seal installations must be inspected by MSHA during construction. Inspectors should examine both sides of seals during construction. Section 75.337(e)(1) (Construction and repair of seals) requires the mine operator to notify the District Manager between 2 and 14 days prior to commencement of seal construction. An inspection, which may coincide with a quarterly inspection, a Section 103(i) spot inspection, or other inspection type events must be conducted during construction of each set of seals. This construction inspection will assist in determining the mine operator's compliance with MSHA's existing seals standard and the mine's ventilation plan including:

1. Proper site preparation;
2. Sealed area preparation;
3. Seal construction;
4. Training;
5. Examinations;
6. Recordkeeping including certifications; and
7. Any other requirements specified in the approved ventilation plan.

§ 75.337(e)(2) (Construction and repair of seals) includes a requirement for the mine operator to notify the District Manager in writing within five days of completion of a set of seals. After construction is completed, seals must be inspected by MSHA during the next regular inspection. The focus of the inspection of newly completed seals should be to determine the mine operator's compliance with the requirements of MSHA's existing seals standard and the mine's ventilation plan, including:

1. Seal construction;
2. Quality control tests;
3. Certifications;
4. Examinations;

5. Post-sealing ventilation;
6. Rock-dusting;
7. Sampling pipes and water drainage system;
8. Roof support; and
9. Any other requirements specified in the approved ventilation plan.

Documentation Required: ***The inspector should record in the inspection notes each set of seals that is inspected. The seals shall be identified in the inspection notes as they appear in the ITS. This should*** *include the name, location, and the number of seals in the set. The inspector should document the complete inspection of the set of seals by marking the completion box in the ITS.*

14. Track and Off-Track Haulage Roads. The inspector shall review the mine operator's examination of track and off-track haulage roads to assure the mine operator is examining all haulage roads. The inspector will assure all haulage roads required to be examined are maintained and identified in the ITS. Each haulage road shall be inspected, for compliance with applicable standards, and to determine if hazardous or potentially hazardous conditions exist, including roadway conditions, clearance, switches, bonding, trolley guards, equipment, combustible materials, fire protection, and condition of electrical cables and wiring. The inspector shall compare information from examination records with observations made during the examination. Refer to the Electrical Inspection Handbook for additional track haulage and trolley wire information. A regular inspector shall not attempt to perform inspections or tests that require the expertise of an electrical specialist.

Documentation Required: *The haulage road should be identified in the inspection notes as it appears in the ITS. The inspector should document the complete inspection by checking the completion box in the ITS. The inspector should clearly mark the extent of daily travels that contribute to the E01 inspection by date and initials on the mine tracking map and the beginning and ending point of each day's travel. If a haulage road is inspected in its entirety, no additional documentation in the notes is required.*

If a haulage road is not inspected in its entirety, the starting and stopping points, as correlated to a permanent reference point, such as a crosscut number or spad location, should be recorded on the mine map and in the inspection notes. They may also be recorded in the comments of the ITS (this does not apply to routine travel of or incidental travel into the haulage road).

F. Underground Working Sections.

1. **Blasting Practices.** An inspection shall be conducted of all areas where explosives are being used on the section for compliance with applicable standards and approved plans. Observation of work practices and blasting cycle shall be conducted. Special attention shall be given to recordkeeping the presence of explosive storage practices, combustible materials, and fire protection.

   Documentation Required: *The inspectors evaluation of blasting practices should be documented in the inspection notes to show the location where explosives being used were observed.*

2. **Boreholes in Advance of Mining.** The operator's compliance with plans approved under §§ 75.388 (Boreholes in advance of mining) and 75.389 (Mining into inaccessible areas) shall be evaluated by the inspector. Boreholes in advance of mining shall be inspected for compliance with applicable standards and approved plans. Approved plans shall be evaluated by the inspector. Discussions shall be conducted with affected miners and mine supervisors to evaluate their familiarity with plan requirements.

3. **Communications.** An evaluation for compliance with applicable standards shall be conducted of all communication methods, including attention to grounding, insulation, proper operation, and safe access.

4. **Dust Control Parameters.** Dust controls used on the section shall be inspected to determine compliance with applicable standards and the approved mine ventilation plan. A representative number of miners shall be polled to determine if conditions observed represent normal mining conditions. The inspector shall not travel to the mine for the sole purpose of conducting a dust control parameter inspection with plans to return on the next inspection day with the intent to conduct respirable dust sampling (dust control parameters shall be conducted on the same day respirable dust sampling is conducted). At least once during each inspection, the inspector will determine if the mine operator performed an adequate on-shift examination of the dust controls (§ 75.362(a)(2)(On-shift examination)). **Respirable coal mine dust samples shall be collected pursuant to the Coal Mine Health Inspection Procedures Handbook; and Chapter 1 Revision. To assure dust data cards are properly completed, special attention needs to be given when documenting the assigned occupational code, DAs, and MMU assigned numbers.** (Refer to Coal Mine Occupations Form 2000-169 for further occupation information.)

   When inspectors are present on working sections evaluating dust control parameters, they should take air quantity measurements and assure that the

face ventilation control devices are installed and maintained in accordance with the approved ventilation plan under § 75.370(a)(1) (Mine ventilation plan; submission and approval). They should also discuss with section personnel the importance of maintaining face ventilation controls in accordance with the approved ventilation plan.

5. **Dates, Times, and Initials.** The inspector shall examine all working places on each working section and determine if the mine examiner had certified with dates, times, and initials that the required examinations were conducted.

6. **Escapeway Map.** The inspector shall determine if an up-to-date escapeway map is maintained on each working section and that the RA location and escapeway map coincide. Discussions shall be conducted with the miners to determine if they are familiar with the map location, the designated escape routes, and evacuation procedures.

7. **Fire Protection.** All firefighting equipment shall be inspected for compliance with applicable standards, including attention to equipment maintenance, placement for safe access, inspection record, and adequate capacity available for use on the section. Inspectors shall determine if the requirements of § 75.1100-1(a) (Type and quality of firefighting equipment) are being complied with. A fire extinguisher with a 2-A:10-B:C designation that contains approximately 4.25 pounds of dry powder meets the intent of the standard and provides an acceptable level of protection. Also refer to the National Fire Protection Association® (NFPA) Nos. NFPA 11A 1970 - High Expansion Foam Systems, NFPA 13 1969 - Installation of Sprinkler Systems, NFPA 13A 1971 - Care and Maintenance of Sprinkler Systems, NFPA 15 1969 - Water Spray Fixed Systems for Fire Protection, NFPA 17 1969 - Dry Chemical Extinguishing Systems, NFPA 72A 1967 - Local Protective Signaling Systems or NFPA 198 1969 - Care, Maintenance and Use of Fire Hose.

   The electronic NFPA documents hyperlinked are being provided to serve as an additional resource to the hard copies you received previously. Do not distribute copies of these codes to non-MSHA persons, mines, and companies, because they are copyrighted by the NFPA.

   Again, it is being stressed that these are copyrighted documents and we have acquired them for only MSHA. Any further distribution outside of MSHA is a violation of MSHA's license. (Refer to Fire Extinguishers: 73 Fed. Reg. 53124 (Sept. 15, 2008) for additional information.)

   Documentation Required: *Inspection of specialty or standalone fire protection equipment should be documented in the inspection notes to show the location and type of fire protection provided. For the purpose of documentation for all handheld portable*

fire extinguishers associated with protection for a designated piece of equipment or a designated location shall be considered inspected with that piece of equipment or designated location and does not require separate documentation.

8. **First-Aid Equipment.** An inspection shall be conducted of all underground working sections first-aid equipment for compliance with applicable standards.

9. **Health and Safety Discussions.** The inspector shall discuss matters concerning health and safety and work practices with the miners during inspection activities on a working section, including recent accidents, accident history, mine-specific hazards, and occupation-specific health and safety concerns.

   (Refer to Accident Rep: 74 Fed. Reg. 68918 (Dec. 29, 2009) and Part 50: 75 Fed. Reg. 21990 (April 27, 2010) for additional information.)

   Documentation Required: *Health and safety discussions by the inspector should be documented in the inspection notes to show the mechanized mining unit number.*

10. **Ventilation Plan Discussion.** The inspector should conduct the specific activities below to reinforce inspection and documentation elements related to ventilation plans. These activities are in addition to any other activities that are deemed necessary as part of the inspector's E01 Regular Safety and Health Inspections or during E21 Ventilation Technical Investigations by ventilation specialists.

    a. Discuss and question miners on current mining activities and conditions. Question the miners to determine whether their ventilation plan training is complete and adequate. Ten example questions are listed below. These or other questions may be asked to determine the miners' level of knowledge. These discussions should be documented.

       1) Were you trained on the contents of the ventilation plan?
       2) Do you know how far the ventilation control device set back should be?
       3) What is the required air quantity at the end of the ventilation control device?
       4) What is the scrubber quantity (if applicable)?
       5) What is required quantity at the last open cross cut?
       6) What are the required quantity and/or velocity at the headgate?
       7) What are the required quantity and/or velocity at the tailgate?

8) How often are you required to take gas checks?
9) Do you know what to do if the machine mounted methane monitor reaches 1%, 1.5%, or 2%?
10) Is belt air allowed to be used at the face?

b. All ventilation plans are to be reviewed on a six month basis, and necessary documentation of the plan reviews and evaluations, including MSHA Form 2000-204, is to be included with the E01 inspection report or the E21 investigation report.

c. Assistance may be requested from MSHA's Educational Field Services (EFS) to evaluate training on retreat mining.

These measures will serve to strengthen our inspection efforts to ascertain the adequacy of ventilation plans and to determine the effectiveness of miner training concerning ventilation plans.

Documentation Required: *A general statement that a discussion was held with a representative number of miners for each MMU inspected about current mining activities, conditions, and training with respect to ventilation plans will suffice.*

11. Location of Last Open Crosscut. The inspector shall determine the location of the last open crosscut on each working section identified by a permanent reference correlated to the mine map (e.g., survey spad number, crosscut number, etc.).

Installation of Permanent Stoppings on Working Sections
Inspectors shall determine if the requirements of §§ 75.333(b)(1), and (b)(3), 75.350(c), and 75.380(g) regarding the installation of these permanent ventilation controls and each standard states a specific location where they shall be built and maintained. Unless the mine operator can provide a valid justification for the District Manager to approve a greater number of open crosscuts in the mine's ventilation plan, permanent stoppings installed to separate intake and return aircourses must be completed in the third crosscut outby the face by the time the face crosscut is cleaned, bolted, and ready for travel. Permanent stoppings installed to separate an intake air course or the primary escapeway from the belt haulage way are to be completed as part of the belt move and prior to the resumption of mining.

Documentation Required: *The location of the last open crosscut of a MMU should be determined and documented in the inspection notes. The inspector should clearly mark only once the location of each MMU that contributes to the E01 inspection by date and initials on the mine tracking map. The documentation should be by MMU*

number and permanent reference to a location that will be included in the operator's mine map submitted to the District Manager.

12. **Mining/Work Cycle.** The inspector shall observe the complete mining cycle on each active producing working section. The physical condition of the working section (roof and rib conditions, cleanup/rock dusting, ventilation controls, haulage practices, approved plan compliance, etc.) shall be carefully evaluated during these inspection activities.

    The inspector shall measure the air quantity in the last open crosscut in each set of entries or rooms on each working section, the quantity of air reaching the intake end of a pillar line, at the end of the face ventilating device (if required) where equipment is being operated, the air velocity at each end of the longwall face and the quantities approved in the ventilation plan. The inspector will assure that the face ventilation control devices are installed and maintained in accordance with the approved ventilation plan and visually check that water sprays used for respirable dust suppression are properly maintained and functioning each time the mining/work cycle is observed. This evaluation is in addition to Item 4 of this chapter (Dust Control Parameters).

    Documentation Required: *Inspector observation of the complete mining/work cycle should be documented in the inspection notes to show the MMU number, the method of mining (continuous mining advance, continuous mining retreat, conventional mining advance, blasting from the solid advance, etc.) the date observation of the mining/work cycle was started, and the date this procedure was fully completed for that MMU. The inspector should document the results of air readings in the narrative portion of the inspection notes.*

13. **Operations Under Water.** The operator's compliance with plans approved under §§ 75.388(f) (Boreholes in advance of mining) or 75.1716 (Operations under water) shall be evaluated by the inspector for compliance with applicable standards and approved plans. Discussions shall be conducted with affected miners and mine supervisors to evaluate their familiarity with plan requirements. (Refer to Information Circular 8741 for further guidance.)

14. **Post-Accident Communication and Tracking System.** Conduct a functional test of the post-accident communication and tracking system by contacting the responsible person using the post-accident untethered communication device and requesting that the responsible person identify the location of a miner, who is at a location known to the inspector.

15. **Potable Water (Working Section).** The inspector shall determine if potable water is available and in compliance with §§ 75.1718 (Drinking water) and

75.1718-1 (Drinking water; quality). This evaluation shall include information obtained from the miners and the operator.

16. **Rock Dust Sampling.** The inspector should collect rock dust samples on each advancing and retreating active working section in the mine. Most rock dust samples will be collected between 40 feet outby the working faces and 1,000 feet outby the working faces. Rock dust samples should also be collected conducted in previously mined active areas. From 1,000 feet outby the working faces to the mouth of the section, inspectors will collect at least two band samples per air course.

    Note: Refer to chapter 5, Rock Dust Sampling section of this handbook for additional required procedures.

    Documentation Required*: The MMU number (Sampling Location Area), a description of the sampling area (Location In Mine), each sample collected identified by a permanent reference correlated to the mine map, e.g., survey spad number, crosscut number, etc.), and the percentage of methane detected on a handheld detector shall be documented in the inspection notes for each sample collected.*

17. **Roof and Rib Conditions.** The inspector shall observe roof and rib conditions on each active working section to determine compliance with applicable standards and approved plans. Special attention shall be given to roof control failures, roof control plan requirements, and information obtained from the miners installing the roof supports and the mine operator. Approved roof control plans for the first panel in a longwall district are often unique. Inspectors should review the roof control plans carefully and focus on compliance with the plan requirements during inspection of longwalls.

    Supplemental roof support materials and the tools and equipment necessary to install them should be regularly examined during mandatory inspections to assure that supplies have not been used, lost, or misplaced. These materials must be available in sufficient quantity and in a readily accessible location to support the roof if adverse roof conditions are encountered or a roof fall accident occurs.

    Roof Bolt Spacing
    When evaluating roof support spacing to determine compliance with an approved roof control plan, inspectors should measure the lengthwise and crosswise distances between roof bolts. Inspectors should use reasonable judgment in determining from these measurements whether enforcement action is appropriate.

The Agency recognizes that roof bolt spacing specified in a plan represents nominal dimensions and that reasonable tolerances for installation are permitted. To require roof bolt operators to reach inby and make exact measurements may introduce hazards. Therefore, an occasional inadvertent deviation that slightly increases the spacing of roof bolts but does not detrimentally affect support performance may not constitute a violation. Typically, roof bolt spacing that occasionally exceeds the approved spacing pattern by less than 6 inches at intermittent locations and does not create a specific hazard should not be cited.

Roof Support
No person shall proceed beyond the last full row of permanent supports except to:

1. install roof supports;

2. repair equipment according to procedures outlined in the roof-control plan; or

3. extend ventilation controls when these controls must be extended to repair equipment. In this case, the procedures outlined in the roof control plan must have been implemented. When ventilation controls are extended as part of the normal mining cycle, they should be extended remotely from under permanently supported roof.

Whenever a citation or order is written for violating § 75.202(b) (Protection from falls of roof, face and ribs), the issuing inspector should notify the roof control supervisor and the field office supervisor. A copy of the citation/order should be provided to the roof control supervisor as soon as practicable. (Refer to Methane Test Ext Cuts: 68 Fed. Reg. 40132 (July 7, 2003) for additional information.)

Documentation Required: *Roof and Rib observations should be documented in the inspection notes to show the MMU number, and that the roof and ribs appear adequately supported. If geological conditions that are abnormal to regular mining conditions (faults, interfaces, etc.) are observed, they should be noted.*

18. Roof Control Plan Discussion - The inspector should conduct the specific activities below to reinforce inspection and documentation elements related to roof control plans. These activities are in addition to any other activities that are deemed necessary, as part of the inspector's E01 Regular Safety and Health Inspections or during E20 Roof Control Technical Investigations by roof control specialists.

1. All sections where retreat mining is occurring must be inspected at least monthly. The inspection will be conducted by a roof control specialist, as resources permit, or by a regular inspector at a minimum. This requirement does not apply to longwall mining sections unless the mine has a history of bounce conditions or deep cover related issues.

2. Discuss and question miners on current mining activities and conditions. Question the miners to determine whether their level of knowledge and training on roof control plans is adequate, especially their training on retreat mining activities.

3. All roof control plans are to be reviewed on a six month basis, and necessary documentation of the plan reviews and evaluations, including MSHA Form 2000-204 (if applicable), must be included with the E01 inspection report or the E20 investigation report.

4. Assistance may be requested from MSHA's Educational Field Services (EFS) to evaluate training on retreat mining.

These measures will serve to strengthen our inspection efforts to ascertain the adequacy of roof control plans and to determine the effectiveness of miner training concerning roof control plans.
Documentation Required: *A general statement that a discussion was held with miners for each MMU inspected about current mining activities, conditions, and training with respect to the roof control plans is adequate. Training with respect to retreat mining activities will also be documented.*

19. **Sanitary Facilities.** Sanitary facilities located on a working section shall be inspected for compliance with §§ 75. 1712-6 (Underground sanitary facilities; installation and maintenance) and 75. 1712-10 (Underground sanitary facilities; maintenance). Special attention shall be given to the location and cleanness of these facilities. (Refer to Sanitary Toilets: 68 Fed. Reg. 37082 (June 23, 2003) for additional information.)

20. **Section Equipment.** The inspector shall compare the mine operator's record of weekly examination of electrical equipment to electrical equipment in use and available for use. All electrical equipment in use and available for use should be maintained and listed in the ITS. An inspection shall be conducted of each piece of in use and available for use electrical equipment as listed in the operator examination records or observed in use by the inspector to determine compliance with applicable standards and to determine if hazardous or potentially hazardous conditions exist, with attention to permissibility, safe access, guards, equipment condition, fire suppression systems, combustible

materials, fire protection, condition of trailing or inter-machine electrical cables, cable conduit, circuit breaker capacity and identification, methane monitor, and safety devices. Each piece of in use and available for use portable electrical equipment should be inspected. The inspector shall assure the circuit breaker, receptacle, and plug is labeled to be the same. On at least an annual basis electrical specialists or inspectors who hold a current MSHA electrical qualification card should conduct a complete permissibility inspection of each longwall system. If an inspector finds that wiring of electric equipment is in a rundown condition, with many violations existing on one unit of equipment and if there is evidence that thorough and complete examinations are not being made or that the required tests are not being made, a citation should be issued under § 75.512 (Electric equipment; examination, testing and maintenance). Please refer to the Coal Electrical Inspection Procedures Handbook, Chapter 2, for more information. Inspectors shall not attempt to perform inspections or tests that require the expertise of an electrical specialist. (Refer to Q&As High-Voltage Longwall; Q&A s High-Voltage Longwall Addendum 2002; Emerg. Parking Brake: 54 Fed. Reg. 12406 (March 24, 1989); HV Longwall: 67 Fed. Reg. 18822 (April 17, 2002); Part 18 Battery Powered Plugs: 68 Fed. Reg. 37077 (June 23, 2003); Elect. Motor-Drive Equip: 69 Fed. Reg. 68078 (Nov. 23, 2004); Explosion-Proof Encl: 71 Fed. Reg. 28581 (May 17, 2006); and High-Voltage Continuous Miners: 75 Fed. Reg. 17529 (April 6, 2010) for further guidance and additional information.)

Maintaining Methane Monitors in Proper Operating Condition for Mining Equipment. Under § 75.342 (Methane monitors), methane monitors on mining equipment must be maintained in permissible and proper operating condition. To eliminate potential hazards associated with methane liberation in the working places, it is imperative that equipment with methane monitors be operated only when the methane monitor is functioning properly.

At least once during each regular inspection, the inspector shall conduct a visual examination and functional test of mining equipment provided with a methane monitor to ensure that the monitors are operating properly, are not "bridged out," and do not have material covering the sensor head. The functional test may consist of activating a test circuit on the monitor or application of calibration gas. Inspectors shall test methane monitors with a known methane air test mixture when it is suspected that the monitor is defective or improperly calibrated. Enforcement action shall be taken for violation of § 75.342(a)(4) (Methane monitors) when a methane monitoring system gives a reading below 2.3% or above 2.7% when the typical 2.5% methane-in-air calibration gas is applied to the sensor head. Inspectors should also check the examination records to ensure the required calibration tests are

being performed at least once every 31 days or as approved in the Mine Ventilation Plan.

Documentation Required: *Inspection of each piece of in use and available for use section equipment should be documented in the inspector's notes and the ITS, including the MMU numbers, the company number, serial number, approval number, or other positive identifier. Documentation that the methane monitor was observed as being tested during the E01 inspection should be included in the inspection notes. Small pieces of handheld electrical equipment are not required to be recorded in the ITS.*

G. Ventilation (General Tests and Measurements).

During each E01 regular inspection, the inspector shall compare the mine operator's preshift and weekly examination records to assure the mine operator is properly evaluating the mine ventilation system. The inspector will assure the mine operator is obtaining air quality and quantity readings at all locations required by the standards and any approved plans. Additionally, the inspector shall determine the direction and quantity of airflow, and test for the presence of methane (CH_4) and oxygen (O_2) deficiency, at the following locations:

1. In the last open crosscut of each set of entries or rooms on each section;
2. Areas where mechanized mining equipment is being installed or removed;
3. On a longwall or shortwall, including areas where longwall or shortwall equipment is being installed or removed, in the intake entry or entries at the intake end of the longwall or shortwall. Approved ventilation plans for the first panel in a longwall district and the start up of each successive panel are often unique. Inspectors should review the ventilation plans carefully and focus on compliance with the plan requirements during inspection of longwalls;
4. At each end of the longwall or shortwall face at the locations specified in the approved ventilation plan;
5. At the intake end of any pillar line;
6. Where air enters the mine at each main intake;
7. In each intake split that ventilates a working section;
8. In the return of each split of air that ventilates a working section, immediately before it enters the main returns;
9. Where the air leaves the main returns;
10. The point immediately before the bleeder air enters a return;

11. In belt entries, for compliance with applicable standards and approved plans, such as belt air dumps, belt point feeds.

12. At least once on every E01 inspection of mines approved to use belt air to ventilate a working section at least 200 feet outby the tailpiece, but outby the point at which point feeding of air into the belt entry occurs;

13. At the measurement points specified in the mine ventilation plan for evaluating bleeders systems and worked-out areas, including where air enters and leaves the worked-out areas;

14. **In the entry nearest each set of seals, immediately after the air passes the seals** (airflow measurement not required);

15. In at least one location in each outby aircourse traveled during an inspection day (tests for presence of oxygen and methane only); and

16. In each face, the presence of oxygen and of methane only.

It should be noted that carbon dioxide (CO_2) and nitric oxide (NO) are produced during the combustion of diesel fuel. These gases may pose a hazard to anyone receiving short-term exposure to harmful quantities. See chart located in section H of this chapter for additional information.

In some cases, the air quantities or velocities specified in the mine ventilation plan or regulations may be inadequate to continuously dilute, render harmless, and carry away flammable, explosive, noxious, and harmful gases, dusts, smoke, and fumes. In those instances, or if the inspector determines the mine ventilation plan is not suitable to address mining conditions, the inspector should submit an MSHA Form 2000-204 (Plan Review Form) through their supervisor immediately.

When an inspector observes gas detectors in use at the mine, (s)he should physically examine a representative number of the instruments to determine whether the detector(s) is turned on and functions properly, and assess the worker's knowledge concerning their use. (Refer to Q&As 1992 Ventilation Handbook; 1996 Vent. Final Rule: 61 Fed. Reg. 9764 (March 11, 1996); and Corrections Notice 1996 Final Rule: 61 Fed. Reg. 29287 (June 10, 1996) for additional information.)

Documentation Required: *The results of Ventilation General Tests and Measurements (items 1 through 14 above) should be documented in the inspection notes. This includes the test location, the test and measurement results, and airflow direction in bleeders until each area of the ventilation general tests and measurements is*

fully inspected Methane (CH_4) and oxygen (O_2) tests should be taken at each required location and recorded as a percentage. The air velocity and area (height and width of location where the required measurement was taken) should be recorded with the air quantity calculated. In addition to completing this procedure for all outby areas, the inspector should only once clearly mark each working section air readings that contribute to the E01 inspection by date and initials on the mine tracking map, including the locations of any approved evaluation or measurement points associated with the aircourse.

H. Mine Gas Exposure Levels

Gas	TLV®	Excursion Limit	Explosive Range
Oxygen (O_2)	19.5% min.	Not Applicable	Not Applicable
Carbon Dioxide (CO_2)	0.5%	0.5%-statutory limit*	Not Applicable
Carbon Monoxide (CO)	50 ppm	400 ppm for 15 min.	12% - 75%
Nitric Oxide (NO)	25 ppm	37.5 ppm for 15 min.	Not Applicable
Nitrogen Dioxide (NO_2)	5 ppm-ceiling limit	5 ppm-ceiling limit	Not Applicable
Methane (CH_4)	Not Applicable	Not Applicable	5% - 15%

*Persons who work or travel in bleeders or worked-out areas may be exposed to up to 3.0% carbon dioxide (CO_2) for a time period not to exceed 15 minutes. Oxygen (O_2) and carbon dioxide (CO_2) limits are from § 75.321 (Air quality). Other limits are from ACGIH TLVs®, 1972 (§ 75.322 (Harmful quantities of noxious gases)).

I. Underground Diesel Equipment.

The inspector shall inspect all in use and available for use diesel equipment to determine compliance with applicable standards and the approved ventilation plan, including attention to: exhaust gas temperatures (for outby heavy-duty diesel equipment using non-ceramic paper/synthetic diesel particulate filters), diesel emissions compliance (in accordance with Chapter 5 Diesel Exhaust Gas Monitoring of the Coal Mine Health Inspection Procedures Handbook, § 75.322 harmful quantities of noxious gases, and § 70.1900 Exhaust Gas Monitoring when used on the working sections), and compare the data from inspection records with observations made during the physical inspection of diesel equipment. Items such as permissibility, safe access, guards, equipment condition, fire suppression systems, combustible materials, fire protection,

brakes, lighting, reflective devices, intake air systems, fuel system, electrical system, safety systems, hydraulic systems, audible warning devices, and other safety devices shall be evaluated as part of the inspection of diesel equipment. The data from the Diesel Inventory maintained by the mine operator on the MSHA Homepage, Online Tools, Online filing/forms Homepage/Diesel Inventory (provided by the supervisors at the beginning of each E01 regular inspection), should be compared to the equipment and records located at the mine site to determine if changes to the diesel inventory have been provided to MSHA within 7 calendar days after changes are made (§ 72.520(b) (Diesel equipment inventory)). A copy of the current MSHA Diesel Inventory Report for the subject mine should be included with each E01 completed inspection report and initialed by the inspector(s), indicating that the operator's records, physical inspection, and MSHA Diesel Inventory comparison was made. (Refer to Diesel Equipment Inventory Q&As; Diesel Compliance Guide Q&As; Q&As Diesel Regs 1999 Utah; Diesel 1996: 61 Fed. Reg. 55412 (Oct. 25, 1996); Diesel Exhaust: 63 Fed. Reg. 12647 (Mar. 16, 1998); and Diesel Part Generators: 70 Fed. Reg. 77728 (Dec. 30, 2005) for further guidance and additional information.)

The District Diesel Coordinator shall be made aware of any discrepancies found prior to issuance of any inventory-related citation and to ensure that the diesel inventory database is updated to maintain its accuracy.

Evaluation of Non-Permissible Heavy-Duty Diesel-Powered Equipment, Compressors, and Generators Using an Adequate Diesel Particulate Matter (DPM) After-treatment Device:

Inspectors will perform two specific evaluations to determine if an adequate DPM after-treatment device is being used. First, the operator's diesel inventory will be reviewed. This review will determine if the listed DPM after-treatment control for each piece of diesel equipment will provide sufficient collection efficiency to reduce the DPM emissions to the level of 2.5 grams per hour. If the diesel inventory indicates the use of an inadequate DPM after-treatment device, the affected machine must be inspected to confirm the use of the stated device prior to taking enforcement action for violation of § 72.501(c) (Emission limits for nonpermissible heavy-duty diesel-powered equipment, generators and compressors).

Second, inspectors, with adequate training and testing equipment, will measure the exhaust gas temperature of diesel-powered machines equipped with a non-ceramic particulate filter. This evaluation is to verify that the DPM after-treatment device is maintained in accordance with the manufacturer's specifications as required by § 72.503(d) (Determination of emissions; filter maintenance). These specifications include conditions of use that are necessary

to maintain the established collection efficiencies and are required to gain MSHA acceptance as a DPM after-treatment device.

Currently accepted high-temperature disposable particulate filters (HTDPFs) must be operated in a diesel exhaust stream that is 650 degrees Fahrenheit (°F) or less to provide the established collection efficiency (80 or 83 percent depending on the model of the DPM after-treatment device). Specification sheets are hyperlinked for the two currently accepted HTDPFs (High Temp Exhaust Filter Information). Paper/Synthetic diesel particulate filters are accepted with a collection efficiency of 95 percent at a maximum exhaust gas temperature of 302°F. Specifications for accepted non-ceramic filters may be found on MSHA's web page as additional information with the acceptance list of filters.

MSHA will determine the exhaust gas temperature of diesel-powered equipment using the following test procedure:

1. Conduct the test when the engine is producing the maximum exhaust gas temperature. This test condition should be the same as that established by the mine operator to conduct the undiluted exhaust emissions weekly test required under § 75.1914(g) (Maintenance of diesel-powered equipment). This test condition is normally produced using torque converter stall or hydrostatic transmission load.

2. Ensure that you are not exposed to undiluted exhaust gases or hot surfaces and that all persons participating in the test are aware of your location.

3. Measure the peak exhaust gas temperature in the undiluted exhaust using an electronic handheld thermocouple instrument with a maximum 6 inch, J-type thermocouple attached.

4. Place the thermocouple into the undiluted exhaust stream using an exhaust port near the inlet of the DPM exhaust filter and after any exhaust cooling device. The exhaust port must be located to permit measurement of the exhaust gas temperature before entering the DPM after-treatment device but after any exhaust cooling device. This may be the same port that the mine operator uses to determine the exhaust gas emissions concentrations for § 75.1914(g) (Maintenance of diesel-powered equipment). (Note: the thermocouple must not touch the wall of the exhaust pipe and should be as close as possible to the center of the exhaust pipe.) Run the test for a minimum of 60 seconds to a maximum of 120 seconds or until the exhaust gas temperature is reasonably stable, whichever is less.

5. Record the identification of the machine being tested, the engine's serial number and the peak exhaust gas temperature measured.

6. The following Exhaust Temperature Action Table summarizes the actions an inspector must take in response to peak temperature determinations and when additional testing is necessary.

Exhaust Temperature Action Table			
Test No.	**Peak Temperature Determination**		**Action To Be Taken**
	HTDPF Type (°F)	**Paper/Synthetic Type (°F)**	
1	≤ 650	≤ 302	DPM Control is Adequate
	≥ 700	≥ 325	DPM Control is Not Adequate, Citation under § 72.503(d)
	> 650 ≤ 699	> 302 ≤ 324	Retest according to items 1) – 6)
2	≥ 700	≥ 325	Control is Not Adequate, Citation under § 72.503(d) using Test 2 Peak Temp. as basis
	> 650 ≤ 699	> 302 ≤ 324	Average Test 1 + Test 2 Peak Temp., use as basis of Citation under § 72.503(d)
	≤ 650	≤ 302	Retest according to items 1) – 6)
3	≥ 700	≥ 325	Control is Not Adequate, Citation under § 70.503(d) using Test 3 Peak Temp. as basis
	> 650 ≤ 699	> 302 ≤ 324	Average Test 1 + Test 3 Peak Temp., use as basis of Citation under § 72.503(d)
	≤ 650	≤ 302	Average Test 2 + Test 3 Peak Temp., use as basis to determine control is adequate

The following paragraphs detail the enforcement actions and additional testing summarized in the Exhaust Temperature Action Table above:

Scenario 1
The DPM control is adequate if the exhaust gas temperature measured is less than or equal to 650°F for an HTDPF or less than or equal to 302°F for a Paper/Synthetic filter.

A citation shall be issued for violation of § 72.503(d) (Determination of emissions; filter maintenance) if the exhaust gas temperature measured is greater than or equal to 700°F for a HTDPF or greater than or equal to 325°F for a Paper/Synthetic filter. The violation of § 72.503(d) should state that the DPM control being relied on to remove DPM from the diesel emissions was not maintained in accordance with the manufacturer's specifications in that the filter was being operated at an exhaust gas temperature of XXX°F.

Scenario 2
If the exhaust gas temperature measured is 651°F to 699°F for an HTDPF or 303°F to 324°F for a Paper/Synthetic filter, the inspector will re-test the machine in accordance with exhaust gas temperature test procedures (1 – 6) above.

If the second temperature determination is greater than or equal to 700°F for HTDPF or greater than or equal to 325°F for a Paper/Synthetic filter, then this single determination shall be used as the basis of a citation for a violation of § 72.503(d) as stated above.

If the second temperature determination is 651°F to 699°F for HTDPF or 303°F to 324°F for a Paper/Synthetic filter, the inspector shall average the two peak temperature determinations and use this average as the basis of a citation for a violation of § 72.503(d) as stated above.

If the second temperature determination is less than or equal to 650°F for HTDPF or less than or equal to 302°F for a Paper/Synthetic filter, then the inspector shall conduct a third test of the machine in accordance with exhaust gas temperature test procedures (1 – 6) above.

Scenario 3
If the third temperature determination is greater than or equal to 700°F for HTDPF or greater than or equal to 325°F for a Paper/Synthetic filter, then this single determination shall be used as the basis of a citation for a violation of § 72.503(d) as stated above.

If the third temperature determination is 651°F to 699°F for HTDPF or 303°F to 324°F for a Paper/Synthetic filter, the inspector shall average the two peak

temperature determinations in this temperature range and use this average as the basis of a citation for a violation of § 72.503(d) as stated above.

If the third temperature determination is less than or equal to 650°F for HTDPF or less than or equal to 302°F for a Paper/Synthetic filter, the inspector shall average the two peak temperature determinations in this temperature range and use this average as the basis for determining that the DPM control is adequate. (Refer to High Temp Exhaust Filter Information for further guidance.)

Determination of Diesel Fuel Sulfur Content

§ 75.1901(a) (Diesel fuel requirements) specifies only diesel fuel having a sulfur content no greater than 0.05 percent and a flash point of 100°F or greater be used in equipment operated in underground coal mines. The rule further requires that, on request, the mine operator shall provide to an inspector evidence that the diesel fuel purchased for use in diesel-powered equipment underground meets these requirements. The color of diesel fuel cannot be used as evidence that the fuel meets the sulfur content limitation.

A mine operator may provide documentation from the fuel supplier to demonstrate that the fuel's sulfur content complies with the standard. However, in cases where there may be a reason to question this documentation offered by the mine operator, MSHA may elect to have the diesel fuel analyzed by a laboratory to confirm the actual sulfur concentration in a sample of the diesel fuel. If a diesel fuel sulfur content question arises, inspectors should request that their supervisor contact the Mechanical and Engineering Safety Division, A&CC, for assistance in locating a laboratory to perform a fuel sulfur analysis.

Ventilation (Diesel Equipment)

At underground mines where diesel equipment is being operated, tests for the presence of carbon monoxide (CO) and nitrogen dioxide (NO_2) shall be made at the following locations to determine compliance with applicable standards:

1. In the return of each working section where diesel equipment is used, at a location which represents the contribution of all diesel equipment on such section; In the area of the section loading point if diesel haulage equipment is operated on the working section;

2. At a point inby the last piece of diesel equipment on the longwall or shortwall face when mining equipment is being installed or removed;

3. In any other area designated by the District Manager as specified in the mine

operator's approved ventilation plan where diesel equipment is operated in a manner that can result in significant concentrations of diesel exhaust; and

4. Other areas where the diesel equipment is being operated.

(Refer to Diesel: 61 Fed. Reg. 55412 (Oct. 25, 1996); and Diesel-Powered Generators: 70 Fed. Reg. 77728 (Dec. 30, 2005) for additional information.)

Documentation Required: *The locations and results of Ventilation (Diesel Equipment) test for the presence of carbon monoxide (CO) and nitrogen dioxide (NO_2) should be documented in the inspection notes. Each piece of in use or available for use diesel equipment inspected should be entered in the inspection notes and ITS to include the equipment manufacturer, equipment type, and a positive identifying number (e.g., serial number, company number). The location of the equipment may be recorded in the ITS. The results of the diesel emissions test conducted (carbon monoxide (CO) and nitrogen dioxide (NO_2)) and gas temperature readings (where required for outby non-permissible heavy-duty diesel equipment using non-ceramic paper/synthetic diesel particulate filters) should also be in the inspection notes. The printed MSHA Diesel Inventory Report (provided by the supervisor at the beginning of each E01 regular inspection) submitted with each E01 inspection needs only to be initialed on the front page by the inspector(s) who conducted the inspection. The inspection notes must document that the inventory was reviewed and describe any discrepancy.*

J. Air Sample Locations.

The quantity of airflow shall be measured and samples of mine air collected for analysis to determine the quality of the air at the following locations:

1. In each of the working section immediate return entries, outby, and as close as practical to the last permanent stopping (to determine section face liberation); and
2. At all locations where air leaves the mine (to determine total mine methane liberation). On blowing ventilation systems this may include roadways, belt conveyor entries, and/or other areas where air leaves the mine.

Samples may also be collected at other locations deemed necessary to evaluate air quality.

Documentation Required: *The quantity of airflow measured (including velocity and area), the date and time collected, the handheld methane (CH_4) and oxygen (O_2) readings in percentage, the bottle number of samples collected, and the location of the measurement or collection, the type of sample (total liberation or other) and any special remarks concerning sample collected, should be documented in the inspection notes and entered into the applicable areas of the ITS.*

Chapter 4 – OTHER INSPECTION-RELATED ACTIVITIES

A. New Mines, Coal Facilities, and Other Sites. On the first visit to a new mining operation, the inspector should make the mine operator aware that the Act, the MINER Act of 2006, 30 CFR, and MSHA policy govern inspector actions at their mine.

The operator should be informed that these documents are available for viewing on MSHA's website (www.msha.gov). Some of these documents are available in hard copy from MSHA's National Mine Health and Safety Academy located at Beaver, WV. Additionally, a discussion should be conducted and the operator made aware of MSHA's role concerning enforcement, education and training, and technical assistance.

Key MSHA contact names, positions, and phone numbers within the field office and district office having inspection jurisdiction over the mine should also be made available to the mine operator should questions arise regarding health, safety, compliance, or other concerns at a later date.

B. Shaft or Slope Construction Sites. Shaft and slope construction operations shall be inspected monthly for compliance with applicable standards §§ 77.1900(a) to 77.1916(d) and approved plans. The inspection activity (normally conducted on an E18 inspection code) shall, to the extent possible, include an observation of all critical phases of the operation such as drilling and shooting, installation of water rings, operation of the hoisting rig lowering and raising materials and employees, etc. The inspector shall determine if adequate training has been given to all workers at these sites and that records of training are available (refer to Shaft and Slope Const: 70 Fed. Reg. 77716 (Dec. 30, 2005) for additional information). The provisions of Section 103(f) of the Mine Act apply, in that the representative of the miners shall be afforded the opportunity to participate in the inspection of shaft or slope construction sites.

Until all work regarding the project outlined in the approved shaft and/or slope sinking plan is completed, 30 CFR Part 77 standards shall apply to the shaft construction site. The shaft sinking plan required by 30 CFR Part 77 should indicate when the applicable provisions of 30 CFR Part 75 shall be met by the responsible organization that commences the mining cycle.

C. Other Major Construction Sites. Regular safety and health inspections of major construction sites at existing underground mines shall be conducted at least four times

per fiscal year, and at surface mines and facilities at least two times per fiscal year to determine compliance with applicable standards and approved plans. At the discretion of the District Manager, inspections may be conducted more often to address unusual hazards. The provisions of Section 103(f) of the Mine Act apply, in that a representative of the miners shall be afforded the opportunity to participate in the inspection of shaft or slope construction sites.

D. Interconnected Mines. Where adjacent mines are connected underground but are considered separate mines, the inspector shall issue an order to each mine if any imminent dangers are found in one mine that may affect the safety of the miners in the connected mine. The inspector shall implement this procedure regardless of whether these mines are controlled by the same or different operators.

E. Non-producing Mines. Regular safety and health inspections shall be conducted at non-producing mines at which persons are working and at mines where persons do not regularly work that are placed in a non-producing status due to the presence of an impoundment on mine property to determine compliance with standards applicable to the activities at the mine. At underground mines that are declared inactive by the operator, permanently closed, or abandoned for more than 90 days, inspections of surface areas should be scheduled and conducted to determine compliance with § 75.1711 (Sealing of mines).

F. Abandoned Mines. As long as there is an active impoundment associated with a mine, an abandoned or abandoned and sealed status should not be applied to the operator. In order for a mine operator to close and abandon a mine, the operator must submit appropriate documentation to MSHA (e.g., status change reports for dust sampling and underground mine abandonment and closure map). Once the notification has been submitted, the District Manager shall ensure that all impacted branches in the district (impoundment, roof control or ventilation departments) are notified that the mine is either being closed or abandoned. The District Manager shall also ensure that the underground mine openings are sealed in accordance with § 75.1711 (Sealing of mines). Inspections should not be conducted at abandoned mines with no coal production and no persons are working at the site. Enforcement personnel should work closely with supervisors when:

1. A mine's status is changed to "abandoned." Event reports for activities at mines found to be abandoned should be amended or revised;

2. Dates entered for mine status change, including abandonment. The status is determined by MSHA and not dictated solely by operator information. A mine is

abandoned for inspection purposes when MSHA determines the entity is no longer a mine, preparation plant, or facility; and

3. A mine, preparation plant, or facility with an active impoundment submits a request to abandon the mine. An impoundment not abandoned in conformance with an approved plan as specified in § 77.216-5 (Water, sediment, or slurry impoundments and impounding structures) is an active impoundment and its associated entity is an active mine. The mine status code must be maintained as active or the impoundment should be transferred to an active mine identity.

G. Reopening Inspections. A safety and health reopening inspection of the entire mine shall be conducted in accordance with § 75.373 (Reopening mines) before mining operations are resumed at mines that have been abandoned or declared inactive by the operator. The intent is to ensure the safety of miners at mines that have not been routinely examined during periods of inactivity. An exception is where there has only been a change of mine name or ownership and the mine has not actually been physically closed or abandoned. At underground mines, a safety and health inspection of the entire mine shall be conducted as soon as practical after notification from the operator that the mine is to be reopened.

The reopening inspector shall determine whether the provisions of §§ 75.1721 (Opening of new underground coal mines, or reopening of abandoned coal mines; notification by operator) or 77.1712 (Reopening mines; notification; inspection prior to mining) have been complied with in full. Any citation or order of withdrawal issued during the course of a reopening inspection should reflect that this inspection was made prior to reopening the mine. Any violations caused by or attributed to the negligence of the current operator shall be issued on a separate spot inspection event code. Any citations or orders issued under this separate spot inspection are to be processed under normal routing for penalty assessment.

Only rehabilitation work may be performed on the surface areas of underground mines by an operator prior to notifying MSHA. Surface rehabilitation work may occur prior to or during a reopening inspection, but production of coal shall not begin until the reopening inspection has been completed. This affords MSHA the opportunity to accurately assess the proposed mining systems and also to identify any potential problems that may present hazards to miners before mining operations commence. If the inspection can be performed safely inby the point where a new section is to be started, the area may be released. Areas that cannot be inspected will be sealed or ventilated in a manner that will not affect working sections. At underground mines, a

Regular safety and health inspection of the entire mine shall be started within 30 days after the mine begins production.

H. Spot Inspections. Spot inspections can be conducted for a variety of purposes. They include, but are not limited to, determining the status of citations, notices to provide safeguards, or other MSHA enforcement documents issued during a previous inspection; collecting additional samples; and monitoring potentially hazardous conditions not covered by Section 103(i). Section 103(i) of the Act defines the conditions in mines under which spot inspections are to be conducted at various time intervals. Section 103(i) inspections shall not constitute a part of any other category of inspections and shall be directed specifically to the problems, hazards, or conditions under which the mine was classified as a Section 103(i) mine.

Designations for 103(i) spot inspection status shall not be delayed until the start of a new underground mine inspection quarter. New spot inspection status designations shall be made as soon as it has been determined that any coal mine liberates more than the required limits of methane within 24 hours in accordance with the 1977 Mine Act with regards to 103(i) spot inspection designations.

The intervals of the 103(i) spot inspections are to be conducted in accordance with the Act that requires spot inspections at 5-, 10-, and 15-working-day intervals for mines liberating methane at certain rates. Using the 5-day language as an example with mines producing over 1,000,000 cfd of methane, the Act requires "...a minimum of one spot inspection by [an] authorized representative of all or part of such mine during every 5 working days at irregular intervals." (Mines working a 7 day-per-week schedule must have an inspection frequency of one day for each 5-day spot block maintained on the spot calendar – holidays will be considered as a working day). A 103(i) spot inspection should occur somewhere within each consecutive 5-day block of time. More than 5 days could pass between consecutive inspections so long as an inspection occurs within each block. This assures the required irregularity as well as meeting the frequency requirement. Over a 1-year period at the example mine, 73 103(i) spot inspections would be conducted. The same principle governs mines in 10- and 15-day status.

Mines with standard 5-day weeks and which are idle on weekends may adjust their spot calendars to exclude weekends. Holidays will be considered as a working day. Any type of work in any mine other than normal mine examinations and water pumping shall be considered a working day (e.g., belt moves, mine clean up, rock dusting, power moves, work during vacation shut downs, etc., shall be considered working days). Mines working more than 5 days per week must receive the

appropriate 103(i) spot inspection at intervals determined by the mine's actual working days. District Managers are to review the working status of mines subject to 103(i) inspections and ensure that spot inspections are conducted at the appropriate interval of mine working days.

When the mine is placed into a 103(i) status due to one (or more) of the conditions described below the information concerning the change shall be entered and submitted on a MSHA Form 2000-209 (2000-209 Instruction Sheet and 2000-209 Union Codes) immediately.

1. **Ignition –** The mine is in 103(i) status due to an ignition or explosion. (Having had an ignition or explosion that resulted in death or serious injury within the past 5 years.)

2. **Hazard** - The mine is in 103(i) status due to especially hazardous conditions.

3. **5 Day** - The mine is in 103(i) status due to methane liberation. (Liberates more than 1,000,000 cubic feet of methane or other explosive gases during a 24-hour period.)

4. **10 Day** - The mine is in 103(i) status due to methane liberation. (Liberates more than 500,000 cubic feet, but less than one million cubic feet of methane or other explosive gases during a 24-hour period.)

5. **15 Day** - The mine is in 103(i) status due to methane liberation. (Liberates more than 200,000 cubic feet, but less than 500,000 cubic feet of methane or other explosive gases during a 24-hour period.)

A limited on-site review of mine examination and/or ventilation records is considered essential to 103(i) inspection activities. The inspection shall pertain to the specific reason the mine was selected for a 103(i) inspection. For example, if a mine is included because it liberates excessive quantities of methane, 103(i) inspections should focus on working section ventilation, general mine ventilation, mining activities related to methane liberation, bleeder systems, seals (including new seal construction), or other areas where methane is likely to accumulate. This does not prevent another category of inspection or investigation from being conducted during the same visit to the mine. Subsequent actions on previously issued citations and orders are permitted as long as they are in the same general area and they do not interfere with the requirements of the 103(i) inspection. The original inspector notes should be distinct and separate for each type of inspection and subsequently filed with the respective inspection report.

The following guidelines shall be implemented for 103(i) spot mines:

1. **Supervisors shall set up calendars to track mines that are included in the 103(i) inspection requirements**. Section 103(i) spot inspections shall be conducted at irregular intervals, including off shifts and weekends, as resources and the budget permits.

2. An inspection shift shall be dedicated to 103(i) spot inspections. This means that a "normal" or standard inspection shift (a minimum of 8-hour shift) which includes travel and related inspection activities, will suffice to meet a full day's requirement. Thereafter, other inspection duties, primarily E01 activity, may be conducted at the same mine or another mine.

3. While conducting the 103(i) spot inspection, activities shall pertain to the specific reason the mine was selected for a 103(i) inspection. For example, if a mine is included because it liberates excessive quantities of methane, 103(i) inspections should focus on mining activities, bleeders, and seals. If an evaluation of the active section takes less than a standard day, the remainder of that day should be spent in the bleeder entries, returns, or evaluating seals. It may also be necessary to inspect seals during spot inspections under Section 103(i) of the Mine Act (including new seals and seals being constructed). Seals that are constructed as part of an approved spontaneous combustion plan that are accessible, such as those outby the face on the tailgate or inby the face on the headgate, also may be inspected.

When present on a working section, during 103(i) inspection (regarding liberation of excessive methane), the inspector should measure the air quantity in the last open crosscut in each set of entries or rooms on each working section, the quantity of air reaching the intake end of a pillar line, at the end of the face ventilating device (if required) where equipment is being operated, the air velocity at each end of the longwall face, and the quantities approved in the ventilation plan. The inspector will assure that the face ventilation control devices are installed and maintained in accordance with the approved ventilation plan and visually check that water sprays used for respirable dust suppression are properly maintained and functioning each time the producing working section is inspected.

Randomly, while conducting 103(i) inspections, the inspector should observe the mine operator calibrating the methane monitor of face equipment.

Checks may be randomly conducted for compliance with §§ 75.400 (Accumulation of combustible materials) and 75.403 (Maintenance of incombustible content of rock dust) during Section 103(i) spot inspections at mines selected for such inspections due to excessive methane liberation, methane hazards, or ignitions if the inspector decides such samples are necessary.

Documentation Required: *The inspector shall document the location and results of air readings in the narrative portion of the inspection notes.*

I. Accident Investigations. Procedures for formal reports of accident investigations are covered in the Accident/Illness Investigations Procedures Handbook. Reports required in addition to the formal report will contain the citations and orders issued during the accident investigation for violations that contributed to the cause of the accident. Also, Section 103(j) or 103(k) orders issued during the investigation are to be included in the accident report. All other citations and orders issued that are not pertinent to the cause of the accident shall be included in a separate report, usually a spot inspection report. (Refer to Part 50 Direct Final Rule: 74 Fed. Reg. 68918 (Dec. 29, 2009) for additional information.)

Issuance of Citations for Failure to Immediately Notify MSHA of an Accident Under § 50.10:

Violations for failure to immediately notify MSHA of accidents, as defined in § 50.2(h), may not be cited under § 50.10 alone. Instead, violations of § 50.10 must be cited using one of the following paragraphs:

1. § 50.10(a) for accidents involving death of an individual at the mine;

2. § 50.10(b) for accidents involving injury of an individual at the mine which has a reasonable potential to cause death;

3. § 50.10(c) for accidents involving entrapment of an individual at the mine which has a reasonable potential to cause death; or

4. § 50.10(d) for any other accident [which would include an entrapment of an individual at a mine for more than 30 minutes and accidents defined in § 50.2(h)(4) through (12)].

J. **Petitions for Modification Investigations.** The procedures for investigating and processing Section 101(c) petitions for modification are found in the Petitions for Modification Handbook.

K. **Special Investigations.** Procedures for special investigations are found in the Special Investigations Procedures Handbook. Instruction on filling out Possible Knowing/Willful Violation Review form, MSHA Form 7000-20, can be found in this handbook. (Refer to 7000-20 Possible Knowing/Willful Instructions for further guidance on filling out the form.)

Note: Only a violation of a mandatory health or safety standard or order issued under the Mine Act, or MINER Act of 2006 shall be reviewed for possible further action. **This includes violations of 30 CFR Parts 47, 48, 49, 50 (for 50.10 only), 62, 70, 71, 72, 75, 77, and 90.** The inspector and their supervisor shall first review each citation or order to ensure that the violation has been properly cited.

L. **Technical Investigations.** Technical investigations are similar to spot inspections because the investigations are directed to a specific purpose or subject. Detailed reports of tests, observations, and conditions must also be maintained in the UMF, Special Attention Areas, for as long as they are applicable.

Transmittal of Technical Support Reports with Recommendations for Mine Operators:

1. Immediately following a Technical Support investigation at a mine site resulting in recommendations for the mine operator, a close-out meeting will be held with mine management and the miners' representative to discuss the preliminary results.

2. Technical Support on-site investigation reports containing recommendations to the mine operator will be sent to the District Manager and the Chief of Safety, Coal. The District Manager will transmit the report to the mine operator and miners' representative. Delivery will be documented.

3. Requests for Technical Support investigations will come from the District Manager or the Chief of Safety, Coal to the appropriate Technical Support Center Chief. The District Manager will notify the Chief of Safety when Technical Support assistance has been requested.

4. A copy of the report will be placed in the mine file.

M. Electrical Inspections/Investigations. Electrical inspection and investigation procedures are found in the Coal Electrical Inspection Procedures Handbook. A regular inspector shall not attempt to perform inspections or tests that require the expertise of an electrical specialist.

N. Health Inspections/Investigations. Health inspection and investigation procedures are found in the Coal Mine Health Inspection Procedures Handbook, Chapter 1 Revision, Chapter 3 Revision, Chapter 5 Revision, Chapter 6 Revision, and Chapter 9 Revision. The inspector/specialist is not required to sign the dust sampling result on computer generated MSN 014 after the results are analyzed (only that there must be some type of identifier of who conducted the survey). A copy of MSN 014 should be maintained with the event inspection report on which it was conducted. The inspector /specialist should assure that all Respirable Dust Sampling and Monitoring Data MSHA Form 2000-86s are inserted in the event inspection report. MSHA Form 2000-146 is no longer to be used. (Refer to MSHA Form 2000-86 Respirable Dust Sampling and Monitoring Data; MSHA Form 2000-84 Noise; 2000-96 Designated Occupation Change Notice; Q&As Noise Exposure 2000; Coal Mine Occupations Form 2000-169; Noise: 64 Fed. Reg. 49548 (Sept. 13, 1999); Asbestos: 73 Fed. Reg. 11284 (Feb. 29, 2008); and Dust Sampling: 75 Fed. Reg. 17512 (April 6, 2010) for additional information and available forms.)

High Levels of Quartz: Each respirable dust sample that indicates quartz exposures that are determined to be greater than 100 μgm^3 based on MSHA and/or operator collected samples shall be investigated. For underground mines and surface sampling entities with a dust-control plan, these actions will be addressed by notifying the mine operator of MSHA's concerns about miners' exposure to high quartz levels and the need to address these concerns by modifying the dust-control parameters to reduce the quartz in the miners' work environment as measured by respirable dust samples.

O. Part 50 Audit Program. The District Manager shall be responsible for the audit program. Audits will be conducted under the inspection and investigation authority of Section 103 of the Mine Act and 30 CFR Part 50. Audits shall be conducted when necessary as determined by the District Manager. To accomplish these audits, auditors shall review and document information related to accidents, injuries, and occupational illnesses. They will also review the quarterly employment and coal production reports, which MSHA considers relevant and necessary to determine compliance with the reporting requirements. The auditors will be inspectors selected by the District Manager, and they should have a thorough understanding of Part 50 and audit procedures.

Responsibilities.

1. **District Manager**. The District Manager will:
   a) Direct the audit program and provide the Administrator with a report on the audit results;

   b) Initiate a Part 50 audit whenever circumstances indicate that it is appropriate. In all instances, however, a Part 50 audit will be required at mines at which a chargeable fatality occurred;

   c) Ensure that appropriate enforcement action is taken when required by audit results;

   d) Provide applicable data and guidance to the auditors; and

   e) Furnish to the auditors documentation that establishes MSHA policy or procedures concerning 30 CFR Part 50 and the audit program.

Auditors. Part 50 auditors will:

a) Request an audit package for the mine. There are two alternate methods for this:

1. The audit package can be obtained from the MSHA intranet website http://mshanet.msha.gov/ (hyperlink only accessible when connected to the MSHA network) by clicking on: 1) MSHA Report Center; 2) DW Production Reports; 3) Part 50 Reports; and 4) Part 50 Audit Checklist. Questions should be directed to the Office of Program Evaluation and Information Resources (PEIR), Information Technology Center (ITC), (303) 231-5475; or

2. The computer-generated audit forms can be obtained from ITC. The forms that cover the preceding 3 years must be requested at least 2 weeks prior to conducting the audit.

b) Coordinate the audit with the inspector conducting the regular inspection at the mine being audited;

c) Keep the District Manager informed of all changes in plans, schedules, problems that arise during each audit, and any other factors that could affect the progress of the audit; and

d) Have some latitude in determining how the audit will be conducted (e.g., number of days and scope of review).

Structuring and Conducting the Audit.

a. Consistency. Data collection, data analysis, and audit review should be as consistent as possible so that a National analysis can be based on the same type of data.

Data Collection and Verification. The purpose of data collection in these audits is to allow auditors to check, to the extent possible, all data necessary to determine operator compliance with Part 50. The auditors will review records and conduct interviews, as well as observe mine operator procedures and practices.

In all instances, MSHA Form 7000-1, MSHA Form 7000-2, and the mine operator accident investigation report (where applicable) must be compared against the employment, hours worked, and injury and occupational illness data obtained from Office of Injury and Employment Information (OIEI). Operators who refuse access to such records will be cited.

In addition, auditors should verify compliance by using other data sources. Such sources may include miners' representative and employee interviews and examination of other available records including state workers' compensation records. (Also see § 50.11.) If discrepancies are found, amended copies of forms shall be immediately submitted by the operator/contractor to OIEI.

Protection of Personal Information. Personal information collected in an audit shall be protected from public disclosure under the Freedom of Information Act, 5 U.S.C. § 552, and the Privacy Act, 5 U.S.C. § 552a, as applicable.

Procedures for Safeguarding Personally Identifiable Medical or Other Sensitive Information:

In conducting audits, it is often necessary for MSHA to collect personally identifiable medical information about miners-injuries or illnesses. Because, in general, access to personally identifiable medical or other sensitive information raises privacy concerns, the following procedures are being issued to protect the information collected. A copy of these procedures (HQ Memo dated Dec 13, 2010) shall be included in Part 50 audit files.

1. Filing of information. Part 50 audit information shall be kept in a file (electronic or manual) separate from the uniform mine file or any other inspection records, and shall be identified by the mine name and mine identification number. The cover of

the file shall have a label stating: "May contain personally identifiable medical or other sensitive information-- Authorized Users Only."

2. Storage of information. Information shall be stored in a locked file cabinet, safe, or secure room when not being reviewed.

3. Authorized users. Access to the information shall be limited to persons whose official duties require them to work with such information, but may include persons who have a need to know the information to perform related duties.

4. Access control system. A log or other method shall be used to identify persons who have access to the information and to account for removal of information from the stored area.

5. Safeguarding during transport. Persons shall maintain control of the information during transport and shall protect the information from unauthorized or unintentional access, disclosure, modification, or destruction.

Preparation and Distribution of Audit Results. The preparation of audit results and findings will include input and cooperation from all audit members. The auditors will furnish a copy of audit results to the District Manager. A review and discussion will be held if necessary. A copy of the audit results will be filed with background data and relevant documentation on the audit.

The District Manager will send a copy of the completed audit to the Chief, OIEI. (Refer to the PC-7014 Yellow Jacket Pt 50 Q&As; Part 50 Accident Rep.: 74 Fed. Reg. 68918 (Dec. 29, 2009); and Part 50: 75 Fed. Reg. 21990 (April 27, 2010) for further guidance and additional information.)

P. Hazardous Condition Complaint Inspections. Hazardous conditions complaints (HCC) whether classified as Section 103(g) or "Other" hazardous condition complaints are a necessary part of the safety and health effort and must be addressed in a manner consistent with the seriousness of the complaint. The Hazard Complaint Procedures Handbook establishes procedures for addressing hazardous condition complaints. Inspectors and specialists must follow the procedures established by the Hazard Complaint Procedures Handbook when investigating hazardous condition complaints.

The Mine Act and 30 CFR Part 43 require MSHA to perform an immediate inspection of a mine when any communication from a miner, representative of the miners, or other party alleging an imminent danger, a violation of a mandatory safety or health standard, or a violation of the Mine Act or the MINER Act of 2006 at a mine is

received. Activity codes E03 (for Section 103(g) complaints) and E04 (for complaints other than complaints made by a miner or representative of the miners) are designated for hazardous condition complaint investigations. The Act requires MSHA to initiate a separate investigation to determine whether the alleged violation or danger exists.

The Hazard Complaint Procedures Handbook instructs investigators to provide mine operators and miners representatives with a sanitized copy of the hazardous condition complaint allegations (version where all personal identifiable information has been removed), when investigating a Section 103(g) hazardous condition complaint. As described in the Hazard Complaint Procedures Handbook, the sanitized allegations must be written in a way that keeps the identity of complainants confidential. This sanitized notice shall be provided no later than at the time the investigator arrives at the site where the hazardous conditions allegedly exist. For example, if the hazard was alleged on No. 4 Belt the complaint notice should be given at the time the investigator arrives at the No. 4 Belt. If the hazardous condition complaint addresses more than one location or area of the mine, the written notice can be broken down in parts and each part issued to the operator at the time the investigator travels to the alleged site(s). For "Other" hazardous condition complaints, a copy of the complainant's allegations is not provided to the mine operator or any other party.

When an imminent danger is alleged, the mine operator shall be informed of the allegation and directed to investigate the hazard immediately. See Hazard Complaint Procedures Handbook for further discussion of allegations of imminent danger and the actions to be taken by MSHA.

For Section 103(g) complaints, when no violations are found or a special investigation is not warranted, the miner or representative of the miners shall be notified in writing of MSHA's negative findings. A copy of the notice shall also be given to the operator prior to leaving the mine premises on a MSHA Form 7000-3a (Mine Citation/Order Continuation Form) or MSHA Form 7000-35 (Complaint Allegations and Findings Form). Should the special investigation continue for more than one inspection day, the parties should be notified in writing that MSHA's investigation is ongoing and has not reached a conclusion. A copy of the notice shall be provided prior to leaving the mine premises on a MSHA Form 7000-3a or MSHA Form 7000-35. These requirements for notification relate only to hazardous condition complaints categorized as Section 103(g) complaints.

If the inspector observes violations, the inspector shall take appropriate enforcement action. When violations are observed during the investigation, they shall be cited on a separate event.

Filing Hazard Condition Complaints in the UMF On completion of all hazard condition complaint investigations, the sanitized version of the hazardous condition complaint shall be filed under the title "Miscellaneous" under subtitle "Hazard Complaints" in the appropriate mine file. All complaints received, with either a positive or negative finding, shall be filed in the UMF. The complaints are to be removed quarterly so that only one year of history is retained. Reports from the HCC application in MSIS should be used to meet this requirement. The HCC system is the official record of hazardous condition complaints received by MSHA. See the Hazard Complaint Procedures Handbook for more information on the HCC application. (Refer to 7000-33 Verbal Complaint Information; 7000-34 Notification of Hazard Conditions; 7000-35 Complaint Allegations and Findings; and One Call Does it All 1 800 Number for available forms and additional information.)

Q. Railroad Equipment. If an inspector encounters unsafe conditions involving railroad equipment owned by a railroad company (including trackbed, railroad cars, or other equipment) he/she should report the conditions to his or her immediate supervisor. The supervisor is to inform the District Manager of the unsafe conditions. If the issue involves a rail carrier and the carrier has responsibility over the track and/or equipment involved, then the District Manager shall contact the Federal Railroad Administration (FRA). This does not preclude appropriate actions taken by inspectors to protect the health and safety of miners exposed to the conditions in areas under MSHA jurisdiction. The inspector should gather the appropriate mine information, name of railroad company, the conditions or circumstances which are deemed unsafe, and any other relevant information.

If the unsafe trackbed, railroad cars, or equipment owned by the railroad company presents an imminent danger, a Section 107(a) imminent danger withdrawal order, with no underlying violation, shall also be issued to the mine operator, requiring that the mine operator's employees be removed from the unsafe area. If the above procedures have been followed and the hazard continues to exist, an appropriate citation or order may be issued to the railroad company requiring that the unsafe condition be corrected. The inspector should ensure that MSHA has jurisdiction over the unsafe equipment (i.e., the equipment is located on mine property).

When the mining company owns the railroad trackbed, railroad cars, or other equipment and any of these are found to be in violation of the Act or standards, an appropriate citation or order shall be issued to the mine operator. If warranted, a Section 107(a) imminent danger withdrawal order shall also be issued to the mining company.

R. ining Sites, Milling Operations and Plants. An MSHA/OSHA (Occupational Safety and Health Administration) Interagency Agreement regarding jurisdiction over milling is currently in effect. Inspection personnel should be familiar with the agreement. Should a question on jurisdiction develop, refer to MSHA's Program Policy Manual, PPM Volume 1, Section 4. If additional guidance is needed, the matter should be documented and brought to the attention of the immediate supervisor or District Manager.

S. Explosives. Compliance inspections of explosives storage facilities on mine property shall be conducted to determine if the facilities meet the requirements of the Commerce in Explosives standards (27 CFR Part 555, Subpart K – Storage). (Refer to the ATF Federal Explosives Law and Regulations Title 27 Part 555 ATF Publication 5400.7, List of explosive Materials, and ATF Telephone List for additional information.)

§§ 77.2(e)(4) (Definitions) and 77.1304(a) (Blasting agents; special provisions) reference the former Bureau of Mines Information Circular IC 8179 and IC 8746 (revision to IC 8179) "Safety Recommendations for Sensitized Ammonium Nitrate Blasting Agents."

Where surface mines are close to underground operations, an inspection shall be conducted for any danger surface mining may present to underground miners. This includes shaft and slope sinking operations connected to underground mines and surface blasting directly over or adjacent to underground mine workings.

The inspector shall:

1. Inspect records of licensees and permittees under MSHA jurisdiction;
2. Inspect storage facilities where explosive materials are stored;
3. Document noncompliance or compliance on ATF E-ATF Form 5030.5 or ATF 5030.5 (revised 2005) and (ATF E-ATF Form 5400.5 or ATF Form 5400.5 Report of Theft or Loss-Explosive Materials (revised March 2008)); and
4. Promptly notify a mine supervisor or manager of any noncompliance.

As a precaution against the use of deteriorated or damaged explosives, the inspector should check with mine operators concerning explosive materials they have purchased. If there is any indication that explosives recently purchased were in a deteriorated or damaged condition, obtain the name of the explosives supplier. In addition, determine that any deteriorated or damaged explosives encountered are being handled and disposed of properly by the mine operator.

Consider degraded explosives as non-permissible, as they can be unstable and unexpectedly detonate if mishandled. If degraded explosives are used, a misfire, hang-fire, or fire can occur. Therefore, special precautions shall be taken in their removal and disposal. They shall be transported in limited quantities and in proper containers, preferably with a sawdust bed for insulation and absorption qualities. Carefully consider and evaluate the following factors when dealing with degraded explosives: the amount of explosives, the location, the condition, the knowledge/capability of personnel, and mode of transportation. Whenever possible, allow the explosives supplier to remove degraded explosives.

ANFO-based Explosives – Ammonium Nitrate Fuel Oil (ANFO) is hygroscopic (readily absorbing and retaining moisture) due to a high percentage of ammonium nitrate as a constituent. For this reason, it is typically wrapped in plastic membrane. When deterioration occurs due to moisture, it is indicated by the wet or pasty condition of the powder usually at the machine-pack end. This condition renders the explosive useless for blasting and requires disposing the explosives following the manufacturer's instructions.

Nitroglycerin-based Explosives – Nitroglycerin (NG) leaks from explosives. Leakage is shown by the discoloration of the shell paper or by the presence of drops of nitroglycerin on the case liner and possible discoloration of the box. Leakage occurs over time when NG explosives are not rotated and gravity separates the NG from the inert stabilizing material that makes up the bulk of the explosive. The operator should consult the manufacturer if NG from degraded explosives has leaked onto the floor of the magazine. The floor should be washed thoroughly with an agent approved by the manufacturer for the purpose of desensitizing NG. If experienced personnel are not available for removal or disposal, or if there is any question about the safety of the undertaking, the handling and destruction of the explosives should not be attempted until a representative of the explosives manufacturer has been consulted.

The Memorandum of Understanding between MSHA and the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF MOU) currently in effect states that MSHA agrees to inspect explosive storage magazines for the ATF as part of normal E01 events. Specifically, MSHA has agreed to inspect explosives storage facilities (Subpart K, orange book) and explosives records and reports (Subpart G).

Violations of ATF regulations should be entered on ATF Form 5400.5 and distributed to the mine operator. All inspection results and all accidental or unintended detonations investigated by either MSHA or the mine operator must be reported to the appropriate ATF Regional Regulatory Administrator. Any theft of explosives or

suspicious activities concerning explosives must be immediately reported to the ATF on ATF Form 5400.5.

MSHA inspectors should use standard procedures when citing violations of §§ 75.1301(a) to 75.1328(c) or 77.1300(a) to 77.1304(d) (Explosives and blasting) pertaining to explosives. The ATF standards only apply to surface explosives storage and usage. All underground storage and usage is only covered by § 75.1300. For violations falling under 27 CFR (Subparts K and G), the inspector will document this violation on ATF Form 5030.5. Please note that the ATF storage and record regulations include items that are not included in 30 CFR. In those cases, the ATF violations will only be entered on ATF Form 5030.5 and no MSHA citation will be issued.

The Surface Mining Control and Reclamation Act of 1977 requires approval of an operator's blasting plan by MSHA and the Department of the Interior's Office of Surface Mining (OSM), or the appropriate state agency, when surface blasting activities are planned in close proximity to an active underground coal mine. Therefore, MSHA shall evaluate such plans when they are received from the operator, from the state regulatory authority, or from OSM. Joint approval with MSHA is also required when a coal mine operator proposes to discharge slurry, water, or other coal mining waste into active, inactive, or abandoned underground mine workings.

If the plans adequately address the health and safety of both surface and underground coal miners, MSHA must provide written notification to the originator of the plans and copies of the decisions must be mailed to the other concerned parties. Notification of disapprovals will be served in the same manner.

Document a violation or noncompliance on ATF E-Form 5030.5 or ATF Form 5030.5 (revised 2005), Report of Violations, and give the original to the licensee, permittee, or operator. The inspector shall make a recall inspection on a scheduled date, when necessary, and complete Part II of ATF E-Form 5030.5 or ATF Form 5030.5 at that time. If a second recall inspection is necessary, the inspector will complete Part III of ATF E-Form 5030.5 or ATF Form 5030.5.

If a condition is a violation of both 30 CFR and 27 CFR, issue a citation/order and document the action on the ATF E-Form 5030.5 or ATF Form 5030.5 (revised 2005). For further reference, consult ATF P 5400.7 (11/07), "ATF: Explosives Law and Regulations" and 27 CFR Part 555, "Commerce in Explosives."

Report each compliance inspection to the ATF Regional Regulatory Administrator and all copies of ATF Forms shall be forwarded to the District Manager who will retain a

copy and forward copies to the appropriate ATF regional office. A report showing no violations may be submitted on any appropriate form (ATF E-Form 5030.5 or ATF Form 5030.5), provided the name, address, and license or permit number, if any, of the proprietor and the date of inspection are shown.

Submit a copy of the applicable form(s) with all E01 inspection reports for mines that use explosives and with any other inspection report where an ATF standard is cited. A contractor working on mine property may have their own licenses and permits thus requiring MSHA to conduct inspections of explosive use and storage under the contractor's identification number.

If the mine operator or contractor on mine property does not use or store explosives and has no licenses and permits for explosives, the ATF Forms do not need to be filled out.

Below are three examples of completed reports of noncompliance with ATF standards:

ATF Form 5030.5 Example 1: Notice of noncompliance shall be issued even though the condition was corrected while the inspection was being made. This is a history of the total operation and could possibly be important in the future if the same condition is found. No recall is needed if the condition is corrected and future voluntary compliance is indicated.

ATF Form 5030.5 Example 2: Notice of noncompliance issued since the condition was not corrected while the inspection was being made. Recall date set and indicated when the operator would be in compliance. A recall inspection is similar to an inspection made by an MSHA inspector following the expiration of the abatement time granted when a citation is first issued.

ATF Form 5030.5 Example 3: Recall has been made and all violations apparent on August 22, 2011, have not been corrected and future voluntary compliance is not indicated. When a recall investigation is necessary a judgment must be made at this time to determine if the noncompliance is willful or non-willful. If some circumstances have prevented the compliance and the explanation is satisfactory, an additional recall can be made without further action. If the continuing violations are considered willful, the investigation should be referred to ATF for further investigation. If the inspector cannot get the form signed by the owner or his or her agent, then the inspector will write in the name of the individual involved and so state that this is not a signature. A copy of the completed form should still be given to the owner or his or her agent. Where the inspector is required to sign any of the ATF forms, the inspector should also

print his or her name in the same block as has been done in the past to determine the name of the person who signed the form.

Evaluating Applications to Become Qualified to Perform Blasting in Underground Coal Mines - Persons performing blasting in underground coal mines shall be either certified to perform blasting by the state in which the mine is located or be qualified by MSHA to perform blasting. To be qualified by MSHA, underground coal miners shall successfully demonstrate to an inspector their ability to safely use permissible explosives. In states lacking programs for certifying blasting personnel, MSHA is the qualifying agency and the District Managers have been delegated this responsibility.

The procedures listed below are to be used when evaluating applicants to become qualified to perform blasting in underground coal mines under provision of § 75.1301 (Qualified person). The basic approach is for each potential qualified blaster to answer a series of questions on the use of explosives and demonstrate critical tasks associated with the blasting operation. The demonstration may either be held underground at the coal face or on the surface using a simulated coal face. Either way, knowledge of the same critical tasks shall be demonstrated. General instructions for inspectors to conduct the evaluations are given below. Demonstration questions and answers, an answer sheet, and drawings of an acceptable simulated coal face are available in the District Office.

1. When the demonstration is held at a mine, the inspector should inform both mine management and the representative of the miners that he or she is there for a qualified blaster demonstration.
2. The inspector should briefly explain that the purpose of the demonstration is for the candidate to show the ability to use explosives under the provisions of 30 CFR Part 75, Subpart N, by answering questions and performing certain tasks.
3. To successfully demonstrate this ability, the candidate for qualified blaster needs to answer at least 80 percent of the questions correctly and demonstrate the ability to perform the critical tasks. Demonstration of the critical tasks should be permitted only after the required percentage of questions is correctly answered.
4. All questions or tasks not answered or performed properly should be thoroughly discussed with the candidate on completion of the demonstration to assure understanding of procedures necessary to safely perform blasting activities. Questions should be repeated as necessary.

Successful demonstrations will be documented on MSHA Form 5000-17 following Form 5000-17 Instructions (Certification/Qualification Examination Report), and

submitted to the Qualification and Certification Unit, P.O. Box 25367, Denver, Colorado 80225-0367. A "Qualified Person: Blasting" card will be issued by the Q & C Unit and mailed to the qualified person.

T. Mine Emergency Procedures.

Dispatching MSHA Personnel and Emergency Equipment to Mine Site - On notification of an emergency, the District Manager or other designated district official shall immediately dispatch inspectors to the mine site.

Initial On-Site Procedures - The first MSHA personnel arriving at a mine after notification of a mine emergency shall initiate the following actions:

1. Issue the appropriate Orders of Withdrawal necessary to ensure the health and safety of the miners.

2. Obtain the following information (i.e., the answers to these following questions) and promptly report it to the District Office:
   a) Are miners entrapped? Have they been communicated with?

   b) What is the nature and location of the emergency?

   c) Have mine rescue teams been alerted?

   d) Have firefighting or rescue and recovery operations started?

   e) Are the surface mine fans still operating?

   f) Is mine emergency assistance needed from the Office of Technical Support?

   g) Are MSHA's Mine Emergency Units needed?

3. Advise company officials that persons in contact with miners underground should determine if the miners are familiar with the emergency escapeway routes and the emergency evacuation procedures in effect at the mine. If the miners are not familiar with the routes and procedures, instructions or directions to the nearest escape route should be given.

4. Advise company officials to have the surface fans examined to determine their condition. If a fan is not operating, it should remain off until examinations are

made and it is determined that the fan should be restarted. All responsible agencies and company officials should be consulted before restarting a fan.

5. Advise company officials to have an attendant assigned to each operating surface fan to ensure continued operation.

6. Advise company officials to have qualified persons make carbon monoxide and methane tests at each exhausting surface fan and keep a log of the results obtained.

7. Notify officials at interconnected mines of the emergency and inform them that you are issuing them a verbal order of withdrawal.

8. Advise company officials to establish police lines to restrict entrance to mine property except to authorized personnel and to assign guards for the entrances to each mine opening.

9. Determine whether power is on in the mine and in what areas. Mine power available outside of the affected area should be used for transporting mine personnel to the surface and for transporting firefighting and rescue/recovery personnel and supplies to the affected area.

10. Advise company officials to have power disconnected from the affected area, unless the power is needed to transport personnel to safety or for rescue/ recovery operations. If power is needed to transport personnel to safety, power should be removed upon evacuation or retreat, unless it is needed for rescue and recovery operations. Also, advise company officials to have power switches locked out or attended by a qualified person.

11. Advise company officials to have a positive check-in and check-out system in addition to the one established at the mine. Each person going in and out of the mine shall sign in and out.

12. Advise company officials to implement a search program, in conjunction with the check-in and check-out system, to ensure that any person entering the underground area of the mine does not carry smoking materials, matches, or lighters.

13. Advise company officials to alert mine rescue teams, doctors, and hospitals, if needed.

14. Advise company officials that current mine maps or prints will be needed.

15. If another MSHA employee is not present at the mine, request that company officials assign someone on the surface to maintain a log of all rescue and recovery activities. As soon as another MSHA employee is available, he or she shall be assigned to maintain a separate log for MSHA.

16. After the above surface tasks have been completed, proceed underground if this can be done safely, to monitor the firefighting and rescue/recovery operations and look for additional information and causes. If two MSHA personnel are dispatched to the emergency site, one may proceed directly underground, if this can be done safely.

17. Relay all pertinent information to an MSHA person on the surface who shall relay this information to the District Office.

18. Upon arrival underground, check returns for methane, carbon monoxide, and other gases if this can be done safely and advise company officials to assign persons to continuously sample the returns and report the results.

19. All MSHA personnel shall keep complete notes on all activities performed in their work assignments. All such notes shall be submitted to the District Manager or other designated District official.

20. Report all gas readings and mine conditions to the MSHA person in charge of the log, and keep a record of time, location, and gas readings in a notebook. Make sure that the gas detecting devices are accurate.

(Refer to MSHA Form 7000-10A for pocket card information and Headquarters Mine Emergency Response Guidelines Handbook.)

U. Use of 103 (j) and (k) orders. As specified in Item T.1 above, on learning of a mine emergency, as soon as possible, MSHA shall issue a 103(j) or (k) order (depending on whether or not an inspector is present at the mine site) to the operator along with initial instructions. The order should be reduced to writing and served to the operator as quickly as practical. The order should be written so as to protect all persons engaged in the rescue and recovery operation as well as any other persons on site, and reduce the potential for miscommunication. Parties on site should be informed that any activities will be permitted through subsequent modifications of the 103(k) order.

The 103(k) order is intended to protect all persons involved in the emergency operation. As such, all parties on site are subject to the 103(k) order and its subsequent modifications. Each proposed action should be reviewed by the designated senior MSHA person on site before the 103(k) order is modified and before the action is commenced. Even though the 103(k) order is controlling, consistent with federal primacy, every effort should be made to gain consensus among the parties present in the command center to obtain the safest most effective outcome. (Refer to Accident/Illness Investigation Procedures Handbook for further guidance.)

First Response Air Sampling Units:

In addition to following the above guidance, the first MSHA personnel arriving on site should establish baseline air quality readings at the main return or exhaust fan after a mine fire or explosion has occurred. The following items for the units will be maintained in each district and field office, except where field offices are located within the same building as the district office:

a. 115 volt AC Vacuum Pump
b. Flame arrester
c. Two 500 ft. Rolls of ¼-inch inside diameter vinyl tubing
d. ATX-620 Multi-gas Detector with IR Sensor or equivalent
e. Tubing connectors

These air sampling units will permit MSHA to set up a system to monitor the atmosphere from a safe location at specific mine locations such as a mine fan or an exhaust entry. As a first response system for monitoring air, it is envisioned that MSHA personnel will place the vinyl tubing at a mine fan or inside an exhaust entry and then run the tubing to a location that will not subject personnel to potentially high concentrations of carbon monoxide (CO) or methane (CH_4). The vacuum pump will be attached to the tubing and operated by connecting to a 110 volt electrical source at the mine site. Connecting the vacuum pump, tubing, flame arrester and the ATX-620 detector or equivalent detector in the manner shown on the attached sketch will permit MSHA personnel to monitor the mine atmosphere until additional mine emergency equipment is available. In addition, it will be necessary to collect a bag sample for documentation of the mine air for analysis by Technical Support or MSHA's Air Lab. At least on an hourly basis, a bag sample will be collected and labeled with the date, time, person collecting the sample, and the mine location. The bag should be filled two times and emptied after each filling by rolling the bag to expel any air. This process ensures that the gas sample bag has been purged of any contaminate atmosphere. The gas sample bag should then be filled to approximately ¾ full or ½ full if the sample is to be shipped by air.

First response air sampling equipment is being placed in CMS&H offices so that a unit is within approximately 1 hour of any underground coal mine. This results in a complete set of the above equipment being located in each Coal office. The vacuum pump, flame arrester and tubing should be maintained for mine emergency use only. The ATX-620 detector or equivalent detector should be used for inspection activities such as evaluating the atmosphere behind seals. Each District Manager will designate one person (supervisor, if available) in the office where these units are located to be responsible for maintaining the readiness of the equipment, including the ATX-620 detector. Each set of equipment should be checked at least quarterly to determine that it is ready for use if a mine emergency were to occur. The quarterly checks should be documented and the records maintained for 3 years. This check should note when the monthly calibrations of the ATX-620 or equivalent detector were performed and who performed these checks.

Since the ATX-620 detector or equivalent detector will be used in inspection work, the use of this instrument must be tracked by a log maintained in the office. Tracking who is using the detector will permit the responsible person to make the necessary contacts to arrange for the detector to be moved to the site of the mine emergency in a timely manner. Using this detector for inspection activities will help ensure the unit is always checked for proper operation and the required "bump checks" and calibration checks are conducted. (Refer to Air Sample Schematic for further guidance.)

MSHA should ensure that only necessary and appropriate parties are granted access to the mine site and surface areas. Persons permitted onsite may include mine employees, necessary contractors or consultants, labor representatives, mine rescue teams and support personnel, state and local government officials who have some responsibility at the operation, law enforcement, ambulances and medical personnel, fire department personnel, vendors delivering necessary supplies, food suppliers, and others deemed necessary to the emergency operation. Other persons such as elected officials, clergy, etc., who have no direct role in the rescue and recovery may be permitted access on a case-by-case basis following consultation with MSHA Headquarters. High-level elected officials, such as a Governor or U.S. Congressional members, should be allowed onsite with immediate notification to Headquarters. Family members may be permitted in designated areas unless nearby facilities are provided off-site. Persons not allowed at the mine site should include: reporters, photographers, spectators, friends, curiosity seekers, and others not necessary to a safe and orderly emergency operation.

Access to underground areas of the mine is further restricted. Underground access should be restricted to only mine employees and contractors, state and federal mining officials, labor representatives, mine rescue teams, necessary consultants, and any others, only if approved on a case-by-case basis following consultation with Headquarters. No person should be allowed underground unless necessary to the safe and timely rescue or recovery efforts.

Section 103(j) and 103(k)

The term "accident" is defined in Section 3(k) of the Mine Act. Generally, the District Manager or District Accident Investigation Coordinator will determine which accidents will be investigated. On learning of an accident, unless MSHA is already present, enforcement personnel should verbally issue a Section 103(j) order to the operator, including initial instructions, as soon as possible. The order, including any instructions, should then be reduced to writing and transmitted to the operator as soon as practicable.

The order should also require the operator to prevent the destruction of evidence at the accident site. In the event that a mine accident is not a mine emergency (i.e., there are no ongoing rescue and recovery efforts), MSHA may issue a 103(j) order prohibiting activity at the accident site to prevent the destruction of evidence which would assist in investigating the cause or causes of the accident.

On MSHA's arrival on site and following assessment of conditions, MSHA may modify the Section 103(j) order, including all instructions, to reflect that MSHA is now proceeding under the authority of Section 103(k) of the Mine Act. MSHA should inform parties on site that any activities that are rescue or recovery related will be permitted through subsequent modifications of the Section 103(k) order. The Section 103(k) order is intended to protect all persons involved in the emergency operation or accident investigation. As such, all parties on site are subject to the Section 103(k) order and any subsequent modifications. Each proposed action should be reviewed by the designated MSHA person onsite before the Section 103(k) order is modified and before the action is commenced. MSHA has the authority to issue a Section 103(k) order unilaterally. However, every effort should be made to gain consensus among the parties involved to obtain the safest and most effective outcome. (Refer to 103(j) Sample Language for further guidance.)

In the event of a mine accident where rescue and recovery work is necessary, Section 103(j) of the Act grants the inspector broad authority to take whatever action, including the issuance of orders, that the representative deems appropriate to protect

the life of any person. Where appropriate, the inspector may supervise and direct the rescue and recovery activity.

Immediately on arrival at the mine accident scene, or later as mine rescue operations develop, the inspector may determine that direct control is necessary, either entirely or partially, particularly in situations where a less hazardous rescue procedure is desirable. Because of this broad authority, discretion and good judgment on the part of the inspector are imperative.

Under Section 103(k) of the Act, the inspector can issue any such order as deemed appropriate to ensure the safety of any person, including a Section 107(a) order if an imminent danger is found. Again, it is important to emphasize that the inspector must exercise discretion and good judgment when issuing a 103(k) order. The following instructions are provided to assist in exercising this discretion:

1. The Section 103(k) order is issued to ensure the safety of any person at the mine, and should apply to relevant areas of the mine to accomplish this. In some cases, the order will only apply to the accident site itself. In some accidents (for example, a fire, explosion, or inundation), the extent of the hazard may not immediately be known, and the order may apply to the entire underground mine until the extent of the hazard is clarified. Additionally, the inspector may apply the order to the entire underground portion of the mine if evidence reasonably indicates the same safety risks are present throughout the mine.

2. The Section 103(k) order should remain in effect until a systematic evaluation of the conditions and safety practices is conducted, and MSHA reasonably determines that hazards similar to those that caused or contributed to the accident have been eliminated. The evaluation can be made prior to the accident investigation or concurrent with it. After this evaluation and determination have been made, the Section 103(k) order may be modified to permit an area of the mine to resume operations, or terminated if appropriate, provided that such action will not pose a hazard to the miners.

3. In addition, Section 103(k) requires the operator to obtain the inspector's approval of any plan to recover any person in a mine, to recover the mine, or to return affected areas of the mine to normal.

Notwithstanding the instructions above, during rescue and recovery work, when it is determined by the inspector that an order is appropriate to protect the life of any person, or that supervision and direction of rescue and recovery activities is

appropriate, a Section 103(j) order shall be issued to the operator. When possible, the inspector should contact the District Manager or Assistant District Manager prior to issuing a Section 103(j) order.

An inspector, when present at the mine following an accident, may immediately determine that rescue and recovery work is necessary. In such a situation, the Section 103(k) order issued under this section will generally be appropriate. Section 103(k) orders are not to be terminated without approval of the District Manager or his or her designee.

V. Special Assessment. Special assessment is mandatory for the following violations: those for which the daily penalty has been invoked under Section 110(b) of the Mine Act, those cited to miners related to smoking or the carrying of smoking materials under Section 110(g) of the Mine Act, flagrant violations as defined in the MINER Act, violations involving personal liability under Section 110(c) of the Mine Act, and violations involving discrimination under Section 105(c) of the Mine Act.

Special assessment review is required for all violations that contribute to a fatality or serious injury. However, special assessment is not mandatory for those violations as they may involve circumstances for which MSHA determines, in its discretion, special assessment is not warranted.

An inspector may recommend any enforcement action for special assessment if unique and/or aggravating circumstances exist. After the issuing inspector and the inspector's supervisor review a violation, the District Manager shall make the final determination as to whether or not a special assessment is warranted.

Completion of a Special Assessment Review (SAR) Form, MSHA 7000-32 Special Assessment Review, is mandatory for any violation submitted for special assessment. SARs must describe the facts and circumstances justifying the recommendation for a special assessment. An SAR package (copies of inspector notes, conference worksheets, sketches or photographs, relevant portions of required plans, accident reports or memoranda and other information that would assist the Office of Assessments in determining an appropriate civil penalty) will be included with each citation or order of withdrawal. In fatal accident cases, the MSHA Legal Identity Form must also be included with the SAR package.

For review of special assessments of Rules to Live By (RTLB) I (March 15, 2010), Rules to Live By II (Jan. 1, 2011), or Rules to Live By III (Jan. 31, 2012) standards, the AR should properly evaluate each violation and keep in mind that the RTLB standards are

the standards that have and continue to contribute to serious accidents and fatalities. However, the pop-ups located in IPAL for the RTLB standards are merely reminders and should not dictate how the inspector evaluates the violation. Not every RTLB violation is significant and substantial or has high negligence associated with it.

When a RTLB standard is violated, the issuing inspector should continue to evaluate the violation for a special assessment review. If the inspector's evaluation of the condition is high negligence or higher, an SAR form should be filled out. If the inspector determined that the violation was moderate or below, a SAR form should only be completed when a special assessment is warranted.

Special Assessment Review of Violations for Requirements for Personal Protective Equipment (PPE).

The failure to provide, maintain, and use personal protection equipment (PPE), and train miners in its use continues to be a significant factor in injuries, illnesses, and fatalities in the mining industry. MSHA enforcement personnel are to take the following actions when PPE citations or orders of withdrawal are issued:

1. If negligence is elevated as at least "high" due to mine operator's failure to provide or maintain PPE, or train miners in its use, special assessment review is required;

2. If negligence is evaluated less than "high" because evidence indicates that a mine operator provided or maintained PPE, or trained miners in its use, special assessment review is not required except where required under other Agency criteria such as investigations and imminent danger situations.

(For additional information on special assessment matrix and guidance, refer to Part 100.5, Volume III of MSHAs Program Policy Manual and the Citation and Order Writing Handbook.)

W. Appearance as a Witness in Litigation Involving MSHA.

MSHA personnel who have been asked to participate in or expect to be called as a witness in litigation to which MSHA is a party should:

1. Thoroughly review all citations, orders, documents, investigative reports, and notes involved in the case, and provide legible copies to the attorney or Conference/Litigation Representative (CLR) handling the litigation;

2. Inform supervisory personnel of the litigation and their involvement therein, supervisory personnel will ensure that the affected employee is available to the attorney or CLR prior to deposition or trial to discuss the circumstances of the case and details of testimony;
3. Make necessary arrangements to attend any deposition or hearing and meet with the attorney or CLR prior to the deposition or hearing; and
4. Immediately inform the attorney or CLR handling the case of any changes in circumstances regarding the enforcement action, his or her availability to appear, and contacts with, or requests from, the opposing party or the opposing party's representative, or subpoenas requiring attendance at any meetings or proceedings. Under no circumstances communicate with an opposing party's representative without the knowledge and participation of the Solicitor's Office or the CLR assigned to the case. MSHA personnel should not divulge communications between SOL attorneys or the CLR assigned to a case to opposing parties or third parties. Also, MSHA personnel shall not provide any written materials to opposing parties or third parties without the knowledge and permission of SOL or the CLR assigned to the case.

During litigation, including deposition and trial, MSHA personnel called as witnesses should:

1. Dress neatly and conduct themselves in a professional manner;
2. Be cooperative, respectful, and attentive to the judge, participating attorneys, and other interested parties;
3. When testifying, truthfully answer questions asked and, if you do not know the answer, acknowledge that you do not know the answer;
4. Answer questions directly without volunteering extraneous information;
5. Be prepared to describe the facts and circumstances that support the finding of a violation for each citation or order;
6. Be able to define each level of negligence (none, low, moderate, high, and reckless disregard) and be prepared to describe the facts and circumstances that support the negligence level assigned for each citation and/or order;
7. With respect to citations/orders that are designated "significant and substantial" (S&S) and/or "unwarrantable," be able to define the elements of each designation and to describe the facts that support the S&S and/or unwarrantable finding for each citation and/or order; and
8. Promptly correct misstatements in testimony or clarify a point that has clearly been misunderstood.

X. Appearance as a Witness or Other Participation in Private Litigation. MSHA follows the guidelines for Department of Labor employee testimony found in 29 CFR § 2.20. Specifically, this policy relates to:

1. Subpoenas served on MSHA employees requiring them to either (1) produce documents or other written materials, or (2) appear and testify in administrative or judicial proceedings (including labor arbitrations and actions brought by individuals under Section 105(c)(3) of the Mine Act) to which MSHA is not a party; and
2. Written or oral requests to informally interview MSHA employees or to produce official MSHA documents or other material that may be used in administrative or judicial proceedings (including labor arbitrations and actions brought by individuals under Section 105(c)(3) of the Mine Act) to which MSHA is not a party.

When subpoenas and requests outlined above are received by an MSHA employee, the employee's supervisor shall be informed immediately. Field supervisors shall promptly refer the matter to the appropriate Regional Solicitor's office or the MSH Division, Office of the Solicitor. No further action shall be taken until authorized by the Office of the Solicitor. In particular, the substance of the case should not be discussed with the party's representative who issued the subpoena or made the informal request until the MSHA employee receives permission to do so. There should be no discussions with any outside parties about the substance of the requests. A copy of the subpoena or request, along with all available pertinent information, shall be forwarded to the appropriate Regional Solicitor's office or the MSH Division, Office of the Solicitor immediately upon receipt.

Note that requests for MSHA documents should be handled under the normal FOIA processing procedures, regardless of the identity of the requester or the purposes for which the documents may be used.

These procedures are not applicable when the matter is initiated by MSHA or at the request of the U.S. Attorney's office in an MSHA-related case. In these instances, the provisions of Section W above apply.

Y. Mine Information Form (MIF) MSHA Form 2000-209. The Mine Information Form, **MSHA Form 2000-209** and **2000-209 Instruction Sheet**, must be used whenever a change or update in the mine status occurs. (Refer to the **Union Abbreviation Codes** for further guidance if filling out line 26.) The form is completed when a mine opens or closes, or whenever it is necessary to enter or delete a mine from the system; to

change the status of a mine; or to provide or change descriptive information about a mine.

All other items on this form shall be reviewed for completeness and accuracy during each E01 inspection of the mine. However, it is not necessary to fill out the form completely during these reviews. Any time the information is being updated, it is necessary to complete the first four items plus the information that is being changed.

Mine operators are required by regulation to notify MSHA of certain changes to the operational status of each mine. However, **it is the responsibility of MSHA personnel to determine the correct operational and auxiliary status of each mine and ensure that this status is updated. The mine status should be changed as often as necessary, either on notification from mine operators or from personal observation**. If the operational and/or auxiliary status of a mine clearly differs from the status provided by the mine operator, MSHA personnel shall determine the correct status and update MSHA Form 2000-209 to reflect the actual mine status. At a minimum, both the operational status and the auxiliary status of each mine must be reviewed and, if necessary, changed by updating MSHA Form 2000-209 at the start of every inspection event (for mines with multipliable air samples to be conducted to calculate total methane liberation the form should be completed as soon as the analyses are received to determine such liberation). **Total mine employees on line 15 and methane liberation on line 22a often change each quarter and an updated MIF needs to reflect any changes. A copy of the completed Form 2000-209 should be immediately submitted to the immediate supervisor for review so the information can be entered in the MSIS system by the appropriate Mine Safety and Health Assistant. A copy shall be maintained with the inspection report. The information from Form 2000-209 should be entered in the MSIS system within 3 working days after it has been received by the Mine Safety and Health Assistant.**

Z. General Mine Status Information (MMU/DA/DWP Data). The status codes on MSHA Form 2000-142 are changed only when there are changes in the status of the complete mine. If there is a change in the status of a portion of a mine (MMU, DWP, DA) that does not apply to the complete mine, that change should be reported on the MMU/DA/DWP Data Form. The sampling requirements for the operator are based on the status of the individual sampling entities and not the mine itself. The general definition of a producing underground mine, as given in §§ 70.220 and 71.220, is one that has at least one producing MMU. Quality control reports will be generated to show those mines in AA and AB status that do not meet this requirement.

AA. Citation Disposition. Inspectors should track violation numbers issued to them from the MSIS terminal operator or person responsible for forms control on the Citation

Disposition Form used to track the use of violation numbers. On receipt of a bank of violation numbers, the numbers should be documented on the Mine Citation/Order Form Receipt and Disposition Record (MSHA Form 7000-3b located in IPAL), Part I completed, and a signed copy should be given to the Mine Safety and Health Assistant or person responsible for forms control. On use of the bank of violations numbers, Part II of the 7000-3b form shall be completed, and a signed copy should be given to the Mine Safety and Health Assistant or person responsible for forms control.

Part I – The inspector will complete this part at the time he/she receives the forms listed in Part II. The original signed copies of all voided citations should be attached to 7000-3b when filed and will be retained by the person responsible for forms control.

Part II – As the inspector uses the Mine Citation/Order forms, he/she will indicate the appropriate disposition of each form opposite the control number. When all forms have been used or otherwise accounted for, the inspector should authenticate and date the duplicate copy of the form at the bottom and return it to the person responsible for forms control.

(Refer to the IPAL User's Manual for further instructions guidance.)

Chapter 5 - SAMPLING PROCEDURES

A. Air Samples. The location of samples collected shall be no less than 12 inches from the roof, face, floor and ribs. Special collection media may be required to sample for the presence of dusts, fumes, mists, and vapors. The Pittsburgh Safety and Health Technology Center (PSHTC) should be contacted for guidance on special collection media. (Refer to the IPAL User's Manual for instructions on filling out MSHA Form 2000-43, Mine Atmosphere Sample Record.)

Air samples sent to the lab are routinely analyzed for five gases: carbon dioxide (CO_2), oxygen (O_2), methane (CH_4), ethane (C_2H_6), and nitrogen (N_2) (note: the results of nitrogen are not reported on the analysis of air sample report). The 10-milliliter (ml) air sample bottles or 'vac-u-tainers®' shall be used to collect this type of sample. Additionally, when collecting air samples in vac-u-tainers®, a plunger (needle) shall be used to prevent contamination. When transferring air samples from gas sampling bags to air sample bottles, a double-sided plunger (needle) shall be used to prevent contamination. Air samples sent to the lab for fire gas analysis/calculations are routinely acetylene (C_2H_2), argon (Ar), carbon dioxide (CO_2), carbon monoxide (CO), ethane (C_2H_6), ethylene (C_2H_4), hydrogen (H_2), methane (CH_4), nitrogen (N_2), and oxygen (O_2). For these gases and particularly for carbon monoxide (CO) and hydrogen (H_2) analysis, 50-ml air sample bottles or bag containers shall be used. When collected, bag samples will be labeled with the date, time, person collecting the sample and the mine location. The bag should be filled two times and emptied after each filling by rolling the bag to expel any air. This process ensures that the gas sample bag has been purged of any contaminate atmosphere. The gas sample bag should then be filled to approximately ¾ full or ½ full if the sample is to be shipped by air. If analysis for carbon monoxide (CO), hydrogen (H_2), or other constituents is needed, indicate the chemical by symbol in the remarks section of MSHA Form 2000-43. Do not use ordinary 10-ml or 50-ml bottles to sample for sulfur dioxide (SO_2), hydrogen sulfide (H_2S), oxides of nitrogen, or aldehydes; special testing tubes or vessels are needed. Contact Tech Support for appropriate sample media and techniques.

Air samples shall be collected to substantiate violations citing excessive methane (CH_4), carbon monoxide (CO), carbon dioxide (CO_2), and low oxygen (O_2). When special samples are collected in connection with a problem arising at a mine or to substantiate a violation (e.g., less than 19.5 volume per centum of oxygen (O_2), more than 0.5 volume per centum of carbon dioxide (CO_2), harmful quantities of other noxious or poisonous gases), inform laboratory personnel of the problem involved. Mark the Mine Atmosphere Sample Record for special samples with a conspicuous

red "S" on the front of the MSHA Form 2000-43, IPAL printout in the upper left corner and on the outside shipment holder/mailer. Such samples are given preference over other samples and the analytical results will be promptly reported to the appropriate office.

Procedures for Processing Air Samples taken to substantiate violations:

a. Describe in the citation or order the location where the air samples were taken to substantiate the violation.

b. Make a notation on the Mine Atmosphere Sample Record, in the "Remarks" section, stating the number of the citation or order, the initials of the inspector, and the date and time of issuance.

Determine the number of samples necessary to calculate total methane liberation (TL) for a mine - All total methane liberation bottle samples should be collected and submitted for analysis the first month, or at the beginning of a newly opened event of the inspection quarter at mines that are on mandated 103(i) spot inspections. If possible, all air samples collected to satisfy the mine TL calculations should be collected on the E01 event; this helps the laboratory with the data retrieval and tracking process. If duplicate samples are collected at any location for any reason during a Regular Safety and Health Inspection, both samples shall be sent to the lab immediately but only one sample should be marked for use in the calculation of total methane liberation for the mine if taken in a TL sample (do not hold duplicate samples). To the extent possible, TL samples should be collected during normal production times so an accurate TL calculation can be conducted. If major air changes are planned in the early part of the inspection that may seriously affect the TL calculation the inspector may wait until those changes are made as long as the TL samples can be collected in a timely fashion.

Where possible, mail the maximum number of samples that a holder/mailer will accommodate at one time. Send all air samples to the Gas Laboratory Dust Analysis Section within 3 working days (postmarked) of collection. Samples collected from more than one mine may be mailed in the same holder/mailer. A copy of the completed MSHA Form 2000-43 shall be included in the shipment holder/mailer, a copy submitted to the Mine Safety and Health Assistant, and a copy retained by the inspector until the analysis report is received. Mail all air samples (in accordance with postal regulations) to MSHA's Gas Laboratory Dust Analysis Section at 100 Bluestone Road, Mount Hope, WV 25880-1000. The results of all air samples sent to the MSHA laboratory for analysis will be emailed to the appropriate field and district office supervisor and assistant. The results should be included with the inspection

report. If the analysis of an air sample discloses a violation not determined with testing instruments during the inspection, the inspector shall issue the appropriate enforcement action.

B. Air Measurements.

Anemometer - Use a properly calibrated anemometer to measure the velocity when calculating the volume of air for compliance with the Act and for calculating the liberation of methane in, but not limited to, a return aircourse. When determining air velocities, take a traverse reading of the cross section that is measured. Use correction factors for the individual anemometers to determine the actual air velocity. When measuring air velocities less than 100 feet-per-minute, the use of chemical smoke may be necessary. However, if the instrument is calibrated for a lower velocity, it is acceptable.

Pitot Tube - The pitot tube is a primary standard instrument for determining velocities of 750 to 10,000 fpm. Velocities in excess of 2,000 fpm may crack the bearings of ordinary vane anemometers and thus prohibit their use in high velocities. High airflow velocity measurements are often required in auxiliary fan tubing or main fan ducts. For such measurements the pitot tube is often the most practical instrument. Commercial-type pitot tubes generally are accurate to within 1.0 percent and specially made types can be accurate to within .01 percent.

Use the pitot tube in conjunction with a differential pressure gauge, such as a manometer or water gauge, to determine the velocity pressure of the airflow. The pressure gauge most commonly used by MSHA is the "Magnehelic", which provides a reading in inches of water (in. wg.). Using the inches of water reading, determine the velocity and air quantity by calculation or by using conversion tables. Further information about the techniques for using anemometers/chemical smoke and pitot tubes is available in the 1960 Bureau of Mines Bulletin 589, "Introduction to Mine Ventilation Principles and Practices."

To convert inches of water to velocity, use the following formula:

$V = 4005 \sqrt{VP}$

Where V = velocity in feet-per-minute (fpm)

VP = velocity pressure in inches of water (in wg.)

NOTE: To correct centerline measurements, multiply velocity (V) by a method factor of 0.9. The true velocity is then multiplied by area (A) to obtain air quantity (Q).

Smoke Clouds - Do not use anemometers to measure velocity if the indicated velocity falls below the minimum shown on the anemometer's correction chart. Timed smoke clouds are commonly used to determine air velocities that are too low to be measured with anemometers. The proper procedures for making timed smoke cloud measurements follow.

Location and Calculation of the Measurement - Select a smooth, straight, unobstructed section of the airway so that the air current will not be disturbed. (Refer to Figure 5-1.)

Measure distance (d) from the selected beginning point to the end point. This measured distance will be determined by the degree to which the smoke cloud remains intact, how well it can be seen, and the airflow rate over the measured area. Greater distances increase accuracy if the smoke cloud can be seen clearly. Ten (10) feet is usually adequate. At low flow rates, the distance may be reduced to 5 feet.

Calculate the airway area. When calculating air quantity for shorter times and distances, the airway area is usually measured at two points – one near the release point and one near the timing point. Three area measurements are recommended for distances of 10 ft. or more. Use the average value of the measured areas to compute the air quantity. More than three area measurements may be used to obtain a more accurate measurement when required or when the cross-sectional area is very irregular.

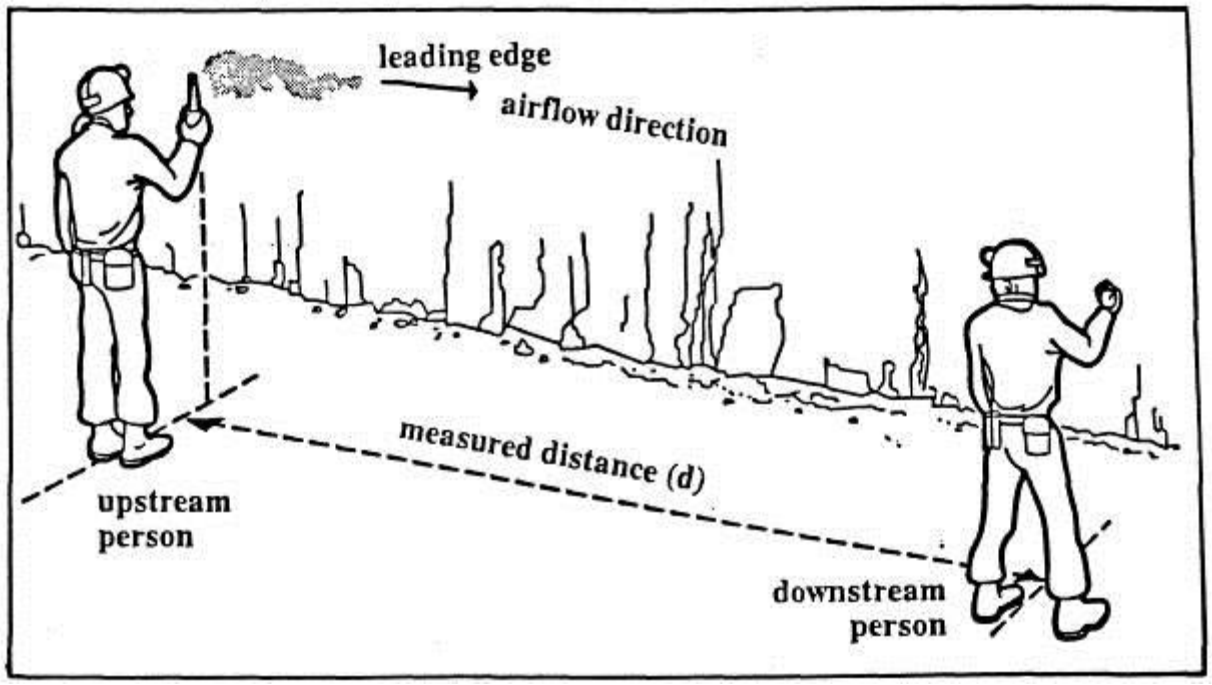


Figure 5-1: Taking Timed Smoke Cloud Readings

Taking Readings - For best results, two people should work together (one at each end of the measured distance).

a. The upstream person breaks off both ends of the chemical smoke tube and inserts one end into the rubber tubing of the aspirator bulb. Wear gloves when breaking off the tube ends and using smoke tubes to prevent serious cuts. Also wear eye protection when breaking off the ends of the smoke tube. Provisions are usually provided in the box or container to break tube ends cleanly. Do not dispose of used tubes in travelways.

b. The upstream person holds the aspirator bulb and smoke tube away from his/her body. Squeeze the aspirator bulb to force air through the glass tube which contains the smoke-generating chemical (only a small puff of smoke is necessary).

c. Release the smoke perpendicular to the airstream (facing the mine rib). When the upstream person signals release of the smoke cloud, the downstream person

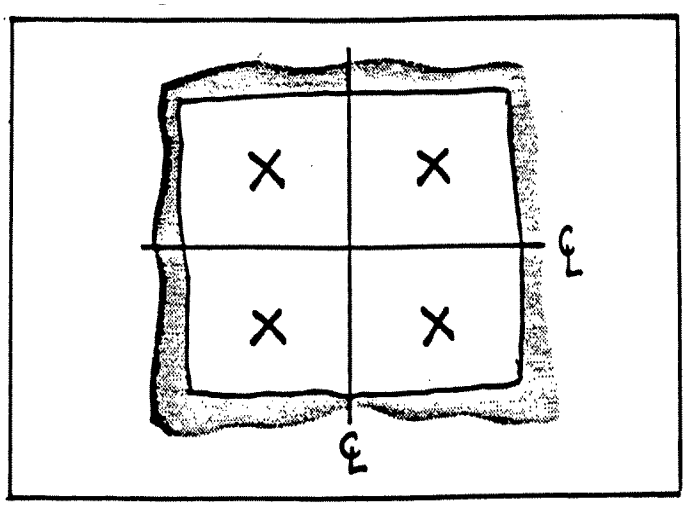
starts timing, with a stopwatch, how long the smoke cloud takes to travel over the specified distance.

d. If a stopwatch is not available, use a watch with a sweep second hand. In this case, the downstream person should signal for release of the smoke cloud when the second hand reaches a reference point.

e. Record the time interval from the release of the smoke until the leading edge (front) of the smoke cloud reaches the downstream person. The leading edge is used because the first part of the smoke should just be leaving the tube and starting to travel downstream in the air current when the timing begins.

f. Divide the airway cross section into four quadrants and time smoke clouds in each of the four quadrants. (Refer to Figure 5-2.) Make at least one measurement at the center point of each quadrant. Make several measurements in each quadrant for greater accuracy.

Figure 5-2: Section Showing Quadrants (below)



Calculating Air Quantities from Timed Smoke Cloud Measurements. Use the four steps covered in this section to calculate air quantity from timed smoke cloud measurements.

STEP 1 – AVERAGING READINGS

Assume that the following data were recorded during smoke cloud measurements:

Smoke Travel Time In Seconds

Quadrant	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Average
Upper Right	5	6	6	5	6	5.6
Lower Right	7	7	8	14*	8	7.5
Upper Left	7	7	6	7	6	6.6
Lower Left	6	6	7	8	6	6.6

* Throw this value out.

Times that are considerably longer or shorter than the others in a quadrant should not be used in figuring the average smoke cloud travel time. They probably result from a momentary fluctuation in velocity (e.g., someone opening a door, etc.). Such irregular times should be discarded (thrown out).

When calculating average times for each quadrant, do not use a zero for values that are "thrown out." Base the average only on the number of trials "kept in."

Example:

Average time (t_{avg}) for the lower right quadrant = $\frac{7 + 7 + 8 + 8}{4}$ = 7.5 seconds

t_{avg} (upper right) = $\frac{5 + 6 + 6 + 5 + 6}{5}$

t_{avg} (upper right) = 5.6 seconds

After calculating the average travel time (t_{avg}) in each quadrant, the final average for the entire airway is determined. Using the data from the table above, the final average travel time would be:

$$t_{avg} \text{ (final)} = \frac{\text{total of average quadrant times}}{\text{number of quadrants}}$$

$$t_{avg} \text{ (final)} = \frac{5.6 + 7.5 + 6.6 + 6.6}{4}$$

$$t_{avg} \text{ (final)} = 6.6 \text{ seconds}$$

STEP 2: CALCULATING AIR VELOCITY

Now use the average smoke cloud travel time and the measured distance to compute the air velocity by using the formula:

$$V = \frac{d}{t} \times 60 \frac{\text{sec}}{\text{min}}$$

Where V = calculated air velocity in feet per minute (fpm)
d = measured distance in feet (ft)
t = final average travel time over d in seconds (sec)

Example:
If the measured distance used to determine velocity is 10 feet, then

$$V = \frac{10 \text{ ft.}}{6.6 \text{ sec}} \times 60 \frac{\text{sec}}{\text{min}}$$

$$V = 90.0 \text{ fpm}$$

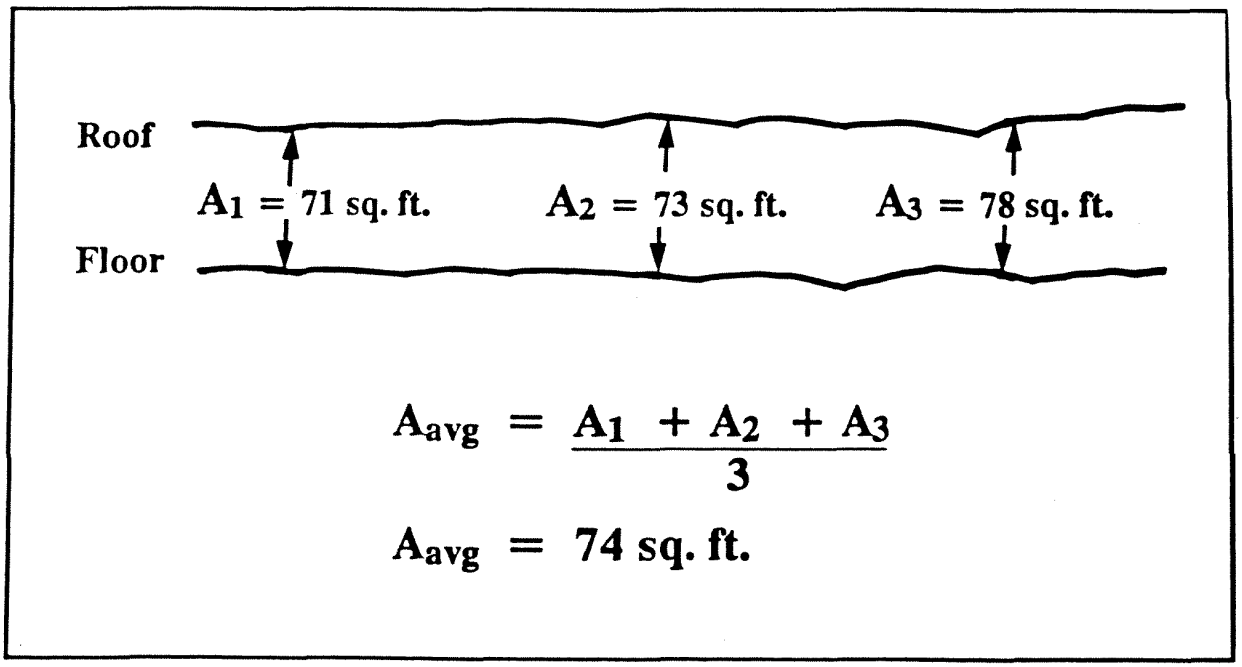
The average velocity obtained by the timed smoke cloud technique is about 10 percent higher than the true velocity when readings are taken at the centerline of four quadrants. Therefore, a correction called "method factor" should be applied. The method factor for smoke cloud measurements in four quadrants is equal to 0.9. This factor, when multiplied by the calculated velocity, yields the true velocity.

True Velocity = Calculated Velocity x Method Factor
True Velocity = 90.0 fpm x 0.9 = 81.0 fpm

STEP 3: CALCULATING AVERAGE AREA

The next step in determining air quantity is to calculate the average (A_{vg}) of the airway over the measured distance.

Example:



STEP 4: CALCULATING AIR QUANTITY

Air quantity can now be determined by using the formula Q = VA

Where: Q = air quantity in cfm
V = air velocity in fpm
A = airway cross-sectional area in square feet.
(height x width (in feet) = area in square feet.

Therefore: V = 81.0 fpm
A = 74 sq. ft.
Q = 6053 cfm

Using Air Velocity Table - The Air Velocity Table (Figure 5-3, MSHA Form 7000-10F) can be used as an alternative for calculating air velocity. When the final average time has been calculated (6.6 seconds in Step 1 above), locate the air velocity on the table.

Example:
Find 6.6 seconds in the "TIME SEC" column. For a measured distance of 10 ft., the air velocity equals 82 fpm.

MSHA Form 7000-10F, June 93 (revised)

SMOKE TUBE DATA CONVERTED TO VELOCITY BASED ON

$$V = \frac{\text{distance (feet)}}{\text{time (seconds)}} \times 60 \times 0.9 \text{ FROM BULLETIN 589}$$

TIME SEC	VELOCITY			TIME SEC	VELOCITY		
	10 ft.	15 ft.	20 ft.		10 ft.	15 ft.	20 ft.
5.0	108	162	216	15.0	36	54	72
5.2	104	156	208	15.2	36	53	71
5.4	100	150	200	15.4	35	53	70
5.6	96	145	193	15.6	35	52	69
5.8	93	140	186	15.8	34	51	68
6.0	90	135	180	16.0	34	51	68
6.2	87	131	174	16.2	33	50	67
6.4	84	127	169	16.4	33	49	66
6.6	82	123	164	16.6	33	49	65
6.8	79	119	159	16.8	32	48	64
7.0	77	115	154	17.0	32	48	64
7.2	75	113	150	17.2	31	47	63
7.4	73	109	146	17.4	31	47	62
7.6	71	107	142	17.6	31	46	61
7.8	69	104	138	17.8	30	46	61
8.0	68	101	135	18.0	30	45	60
8.2	66	99	132	18.2	30	45	59
8.4	64	96	129	18.4	29	44	59
8.6	63	94	126	18.6	29	44	58
8.8	61	92	123	18.8	29	43	57
9.0	60	90	120	19.0	28	43	57
9.2	59	88	117	19.2	28	42	56
9.4	57	86	115	19.4	28	42	56
9.6	56	84	113	19.6	28	41	55
9.8	55	83	110	19.8	27	41	55
10.0	54	81	108	20.0	27	41	54
10.2	53	79	106	20.2	27	40	53
10.4	52	78	104	20.4	27	40	53
10.6	51	76	102	20.6	26	39	52
10.8	50	75	100	20.8	26	39	52
11.0	49	74	98	21.0	26	39	51
11.2	48	72	96	21.2	25	38	51
11.4	47	71	95	21.4	25	38	50
11.6	47	70	93	21.6	25	38	50
11.8	46	69	92	21.8	25	37	50
12.0	45	68	90	22.0	25	37	49
12.2	44	66	89	22.2	24	36	49
12.4	44	65	87	22.4	24	36	48
12.6	43	64	86	22.6	24	36	48
12.8	42	63	84	22.8	24	36	47
13.0	42	62	83	23.0	23	35	47
13.2	41	61	82	23.2	23	35	47
13.4	40	60	81	23.4	23	35	46
13.6	40	60	79	23.6	23	34	46
13.8	39	59	78	23.8	23	34	45
14.0	39	58	77	24.0	23	34	45
14.2	38	57	76	24.2	22	33	45
14.4	38	56	75	24.4	22	33	44
14.6	37	55	74	24.6	22	33	44
14.8	36	55	73	24.8	22	33	44

Figure 5-3: Velocity Table for Smoke Cloud Measurements

C. **Rock Dust Samples.**

Mine Dust Sampling

Mine operators are responsible for maintaining the minimum incombustible content specified in § 75.403 (Maintenance of incombustible content of rock dust) for mine dust (mixtures of coal dust, float coal dust and rock dust). This incombustible content must be maintained throughout all accessible areas of the coal mine except for within 40 feet of working faces or where the dust is too wet or too high in incombustible content to propagate an explosion as specified in § 75.402. Completed crosscuts that are less than 40 feet from a working face must also be rock dusted. Accessible areas encompass travelable portions of the coal mine including bleeders and worked-out areas where pillars have not been removed. Areas that are unsafe to enter include areas with unsupported roof, subsiding areas, pillared areas and any other area that poses an identifiable risk to the examiner that cannot be reasonably mitigated (such as by deenergizing and locking out a belt drive). Accessible areas also include areas that are merely hard to access such as the area between a conveyor belt and an adjacent rib.

The incombustible content of rock dust will be evaluated during regular inspections and spot inspections. This evaluation will include the collection and analysis of mine dust samples. Samples will be sent to the National Air and Dust Laboratory (NADL).

MSHA's collection of mine dust samples and analysis of incombustible content is only for oversight and enforcement of the mine operators compliance with § 75.403. To evaluate compliance, mine dust samples should be collected from various locations within the coal mine. Sample locations should be chosen by the mine inspector based on visual identification of potentially non-compliant conditions and other factors such as the proximity to float coal dust sources. Band samples, which are comprised of mine dust from the roof, ribs, and floor, may be collected from crosscuts or entries. All significant accessible air courses in the mine should be periodically sampled. *A significant air course is of sufficient length to justify separate sampling. For example: near a return shaft bottom, several aircourses typically merge within a relatively short distance. Although each separate split that combines with another split starts a new air course, for mine dust sampling purposes, these short sections that merge should be treated as extension of the main aircourses.*

Likewise, a short split of air used to ventilate seals and is then directed to the return is not a significant air course. When evaluating the significance of an air course, the inspector should weigh the area involved and the potential for coal dust

accumulation. Sampling near advancing mining sections, retreat mining sections, belt transfers, and any other locations where coal dust is generated, or accumulates should be emphasized. Inspectors should collect enough samples to define problem areas. When collecting rock dust samples, inspectors should document in their notes the facts needed to evaluate negligence and gravity of potential § 75.403 violations. Visual confirmation that rock dust has been applied to the non-compliant area(s) may be used to terminate a violation. However, if fresh rock dust is not evident, inspectors should resample non-compliant locations before terminating any enforcement actions. A green reading by MSHAs coal dust explosibility meter (CDEM) may be used for termination of a citation or order.

Guidelines for sample areas, the minimum number of samples and the frequency of sampling are:

Quarterly Sampling

Working Sections

Continuous Miner and Conventional Working Sections

Mining coal generates an average of 0.1 pounds of float coal dust per ton of coal mined according to research published by the U.S. Bureau of Mines. Most of this float coal dust is deposited at or near the working sections. The likelihood of a methane ignition is greatest at the working faces due to the confluence of methane liberation during mining, frictional sparking from the mining process and potential permissibility problems. The effective control of coal dust on the working section is critical to prevent small methane ignitions at or near the working face from transitioning to a large coal dust explosion.

Inspectors should collect at least four band samples per air course between 40 feet outby the working faces and 1,000 feet outby the working faces. Samples may be collected from completed (and roof-bolted) crosscuts within 40 feet of working faces. If the section has advanced less than 1,000 feet from the mouth of the section (where the section has broken off from a main or submain), samples may be collected from the portion of the main or submain aircourses within 1,000 feet of the working faces. At least one sample per air course should be collected inby the section loading point including, air courses separated by temporary ventilation controls similar to the sampling process of those separated by permanent ventilation controls. The inspector has the authority to close the necessary entries to mobile haulage equipment in order to collect the rock dust samples on a working section.

Within the panel, advancing or retreating section, and gate road development, from 1,000 feet outby the working faces to the mouth of the section, inspectors should collect at least two band samples per air course.

Longwalls
Inspectors should collect at least two band samples per air course within 1,000 feet of the longwall face. Inspectors should collect at least four band samples from the immediate longwall return within 1,000 feet of the longwall face. From 1,000 feet of the longwall face to the mouth of the panel, inspectors should collect at least two band samples per air course, on both headgate and tailgate sides.

Bleeders
Inspectors should collect at least one band sample per significant accessible bleeder aircourse that is used as a return for a working section.

Outby (not including the area from the faces to the mouth of the section)

Returns
Inspectors should collect at least one band sample per significant return aircourse.

Haulageways (main track or rubber tired haulageways)
Inspectors should collect at least one band sample per haulageway aircourse.

Conveyor Belts/Conveyor Slopes
Inspectors should collect at least one band sample per belt flight.

Return Regulators from Belt Entries
Inspectors should collect at least one band sample downwind of each significant regulator.

Stageloader/Crusher, Glory Hole, Production Shafts, Inter Seam Shaft, Bunker, or Coal Storage Facility
Inspectors should collect at least one band sample per unit.

Annual Sampling
Inspectors should collect at least one band sample from each significant accessible air course and bleeder that is not sampled quarterly.

These sampling parameters are basic recommendations and should be re-evaluated each quarter by the field office supervisor and coal mine inspector(s) considering mine-specific conditions, the sources of float coal dust, the use of trickle dusters

and high pressure dusters, and the mine's compliance history. Potentially problematic areas of the mine identified in the quarterly review should be listed in the E01 inspection report and samples should be collected based on the re-evaluation. The Subpart E violation history for the mine, float coal dust sources, the cleanup program and other pertinent information should considered in this review. This review should include an examination of the effectiveness of the mine operator's cleanup program, identification of weaknesses in this program and formulation of a strategy to eliminate identified hazards and improve compliance. This quarterly review and any changes to sampling strategy, deficiencies in the cleanup program or Subpart E compliance issues should be documented in the E01 inspection report. The District Manager and staff should periodically review mines with persistent or unusual combustible dust issues.

At each sample location, collect mine dust from a band approximately six inches wide around the perimeter of the mine entry or crosscut. The results of large-scale dust explosion testing by NIOSH indicate that only the uppermost ⅛th to ¼-inch layer of mine dust contributes to an explosion. To get a representative sample of this potentially explosive mine dust, inspectors will collect the uppermost ⅛th inch (approximate depth) of mine dust from the surface of the band. By targeting a ⅛th inch depth, the ¼ inch limit should not be exceeded. The limited depth sample will be collected by gently brushing the surface of the floor mine dust into the pan. See Figure 5-4 below.

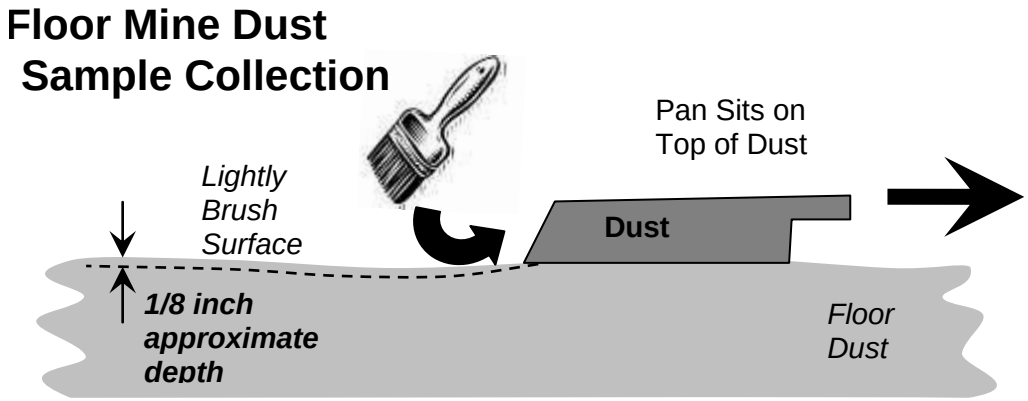


Figure 5-4

A dust explosion can propagate in an entry with a layer of pure rock dust on the floor if non-compliant mine dust is present on the roof, ribs, timbers, and

suspended items.

Where float coal dust has accumulated or near sources of float coal dust, inspectors will collect two samples from each band location, one sample from the mine floor and one sample with dust from both ribs and the mine roof.

Split Samples

Based on inspectors evaluation band samples may be split at any location where coal dust is visible on the roof, ribs, structures or suspended items. Issue a citation if either of these samples from a band are non-compliant with the incombustible content requirements in § 75.403. In areas where the roof/ribs/and mine floor are uniformly rock dusted only a single band sample is needed.

Collect the mine dust sample from the dust pan and/or scoop. The mine dust sample should be shaken through the 10 mesh sieve. Any oversize material should be discarded. If the amount of the -10 mesh sample is greater than one-half of a sample bag, reduce the sample volume by the coning and quartering method. To cone and quarter a sample, place all of the -10 mesh dust on a piece of brattice cloth and mix thoroughly by successively lifting opposite corners of the cloth. After thoroughly mixing the dust sample, gather the dust in a cone-shaped pile in the center of the brattice cloth. Using the dust pan, divide the cone into 4 quarters. Remove the dust from two diagonally opposite quarters. If the quantity of dust that remains on the brattice cloth is the volume required to fill a sample bag about one-half full, carefully transfer this dust to a plastic sample bag. If too much dust still remains further reduce the volume by mixing, coning and quartering until an acceptable sample volume is obtained. The minimum quantity of mine dust that can be analyzed by the NADL is approximately 3 ounces or a depth of 2 ½ inches. If the mine dust collected from the roof, ribs and suspended items is insufficient in quantity, a second 6-inch wide sample should be taken adjacent to the first strip. If the band sample is split between the floor and the roof/ribs, only the roof/ribs and suspended items portion of the band should be doubled.

A specialized tool may be required to collect dust samples from the roof, ribs and suspended items in high areas. An example of such a tool is shown in Figure 5-5.

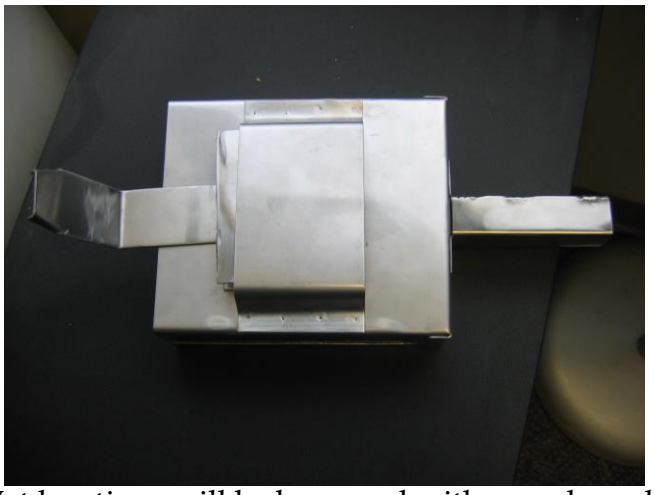


Figure 5-5

Wet locations will be bypassed with samples collected at bands from an adjacent dry area. In large areas with wet conditions, a dust sample from the roof, ribs and suspended items will be collected if possible. When wet areas dry out, band samples may be taken as a part of the periodic outby sampling protocol.

Tests for methane must be made at each rock dust sample location with a properly calibrated hand-held methane detector. The methane percentage measured will be used to determine compliance with § 75.403 (concerning additional incombustible content when methane is present in the ventilating current).

MSHA's policy for the issuance of citations and orders where there are multiple violations of the same standard which are observed in the course of an inspection and which are all related to the same piece of equipment or to the same area of the mine, such multiple violations should be treated as one violation, and one citation should be issued. Separate citations shall be issued for: violations of separate standards on one piece of equipment; violations of separate standards in a distinct area of a mine; identical violations on separate pieces of equipment; and, identical violations in distinct areas of a mine (MSHA Program Policy Manual, Vol. I). Combine non-compliant mine dust samples on a single citation for each separate aircourse, bleeder or worked-out area of the mine. The extent of the non-compliant area sampled should be considered in assessing the gravity and the negligence of the citation. Extensive or persistent § 75.403 violations indicate potential violations

of examination standards that should be probed by the inspector.

Sample bags are long enough to permit tying a knot in the open ends. Securely tie the string of the identifying tag within the formed knot of the sample bag. Each tag is pre-printed with a unique alphanumeric code that will be used to identify the sample. Inspectors may include additional handwritten information on the tag, provided it does not obscure the pre-printed identifier. In order to process the sample, the laboratory needs the pre-printed tag attached firmly to the sample.

It is the responsibility of the NADL supervisor to ensure that rock dust analysis reports and accompanying analysis data are promptly made available for use by the districts. Software tools allow supervisors and others to monitor for prompt issuance of citations/orders for non-compliance and to generate oversight reports.

The responsible supervisor must assure that all rock dust analysis reports returned from the NADL are included within the appropriate inspection report. A citation or order must be promptly issued for non-compliant rock dust samples.

Data Submittal and Mailing of Bagged Samples

Rock dust sampling data must be input into and submitted using the Inspectors Portable Application for Laptops (IPAL). Rock dust samples should be mailed to the NADL in accordance with postal regulations within 3 working days from when the samples were collected. Securely seal the shipping boxes to prevent loss of samples in transit. Include the return address on the shipping label. Place the return address of the office on the outside of the shipment box from which the samples are being mailed. Use a regular corrugated pasteboard carton, but fill voids around the bags with packing to keep the bags from breaking open from rough handling. Do not use crumpled manila envelopes, excelsior, paper towels, shredded paper, packing peanuts or tissues as packing. Dust Sampling Lab Report (MSHA Form 2000-156 – Rock Dust Sample Submission Form) must be prepared and uploaded to the NADL

Server using the IPAL. A copy of MSHA Form 2000-156 must be printed and shipped with the bagged sample(s). Compliance/noncompliance concerning rock dust samples will be determined at the NADL and the results returned electronically.

The NADL supervisor will notify the appropriate District Manager should boxed samples arrive at the lab and no accompanying MSHA Form 2000-156 data is available on the file server. Hard copies of MSHA Form 2000-156 will not be

accepted for submittal of rock dust samples to determine compliance with § 75.403.

When rock dust samples are collected, sufficient information to complete MSHA Form 2000-156 must be included in the inspection notes. For citations issued, sample results should be attached to the citation. A rock dust sample is not required to be submitted and MSHA Form 2000-156 is not required to be filled out if a citation is issued for violation of § 75.400 based on visual observation.

Map

A map of each mine will be maintained at the field office showing ventilation air courses, float coal dust sources, sample locations, sample collection dates, dust violations and other pertinent information. This map will be used in the E01 regular inspection rock dust review and may be used in discussions with the mine operator. The previous E01 rock dust map(s) should be maintained with the affected E01 inspection report.

Review of Compliance History

Each E01 regular inspection, field office supervisors are to review each mine's compliance with Subpart E, *Combustible Materials and Rock Dusting*, including locations sampled, sources of float coal dust, trickle dusters, rock dust application methods and the mine's cleanup program. Sample frequencies and locations are to be adjusted as necessary. Non-producing mines will be sampled up to date. Further sampling will not be necessary until production resumes or mine conditions warrant further sampling. For example, when the entire mine is idle for two consecutive quarters no sampling will be necessary. Deficiencies of the cleanup program are to be noted and targeted enforcement methods are to be used, if necessary, to achieve compliance.

Float Coal Dust

Float coal dust consists of extremely fine coal particles that will pass through a No. 200 sieve (§ 75.400-1(b)). The generation of float coal dust occurs whenever coal is cut or crushed. Float coal dust is generated in underground coal mines by continuous miners, longwall shearers, feeder breakers, stage loaders and the tires or wheels of mine equipment rolling over loose coal. The liberation of float coal dust occurs wherever coal is transferred, dumped or loaded. Float coal dust becomes airborne and may be transported long distances by ventilation air currents.

Float coal dust is one of the greatest potential hazards to underground coal miners today. Most reports of historic coal mine explosions list float coal dust as a contributing factor.

The following are proven techniques to reduce float coal dust accumulations and hazards:

1. Minimize the production of float coal dust by maintaining sharp cutting bits on continuous miners and longwall shearers and by using and maintaining dust suppression sprays and scrubbers whenever coal is mined.

2. Use a hand-held wash down hose or jet-type water sprays on the continuous miner that is directed at the roof and ribs to clean the fine coal dust generated by mining prior to leaving the working face. The fine coal dust washed to the mine floor is easily diluted and rendered harmless with rock dust. The wet roof and ribs helps rock dust adhere to these surfaces. Shields, hoses and other areas where float coal dust accumulates on a longwall should be washed off at least once per shift or more often as necessary.

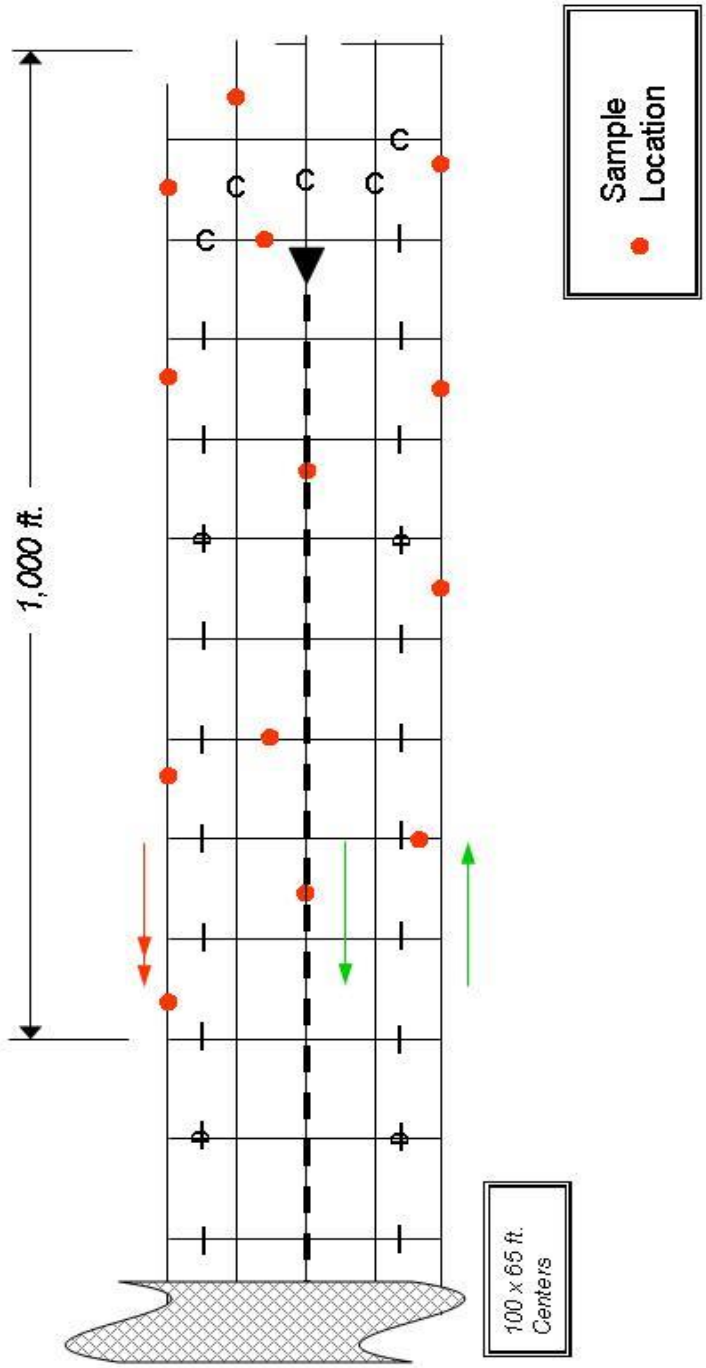
3. Minimize the liberation of float coal dust at belt transfers, where coal is crushed and where coal is dumped through the use of water sprays, enclosed transfers and dust collection systems. Use belt scrapers and water sprays to prevent float dust liberation from the return side of conveyor belts.

4. Use trickle dusters or high-pressure rock dusters in the returns from working sections, the tailgate return of longwalls, in pillaring areas and down wind of belt transfers to dilute float coal dust. Areas where large quantities of float coal dust is generated or liberated may require that a trickle duster run continuously and other areas may only need trickle dusting a few hours per shift.

Periodically apply rock dust to areas where float coal dust may accumulate.

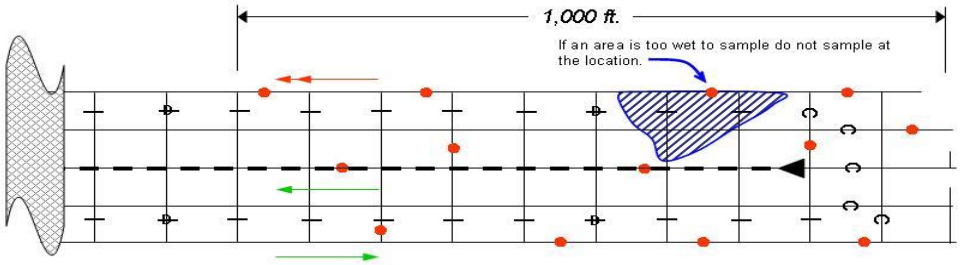
Note: Refer to chapter 3 of this handbook for additional information and required documentation on the evaluation of the mine operator's Cleanup Program.

MINE DUST SAMPLE LOCATIONS
Advancing Miner Section

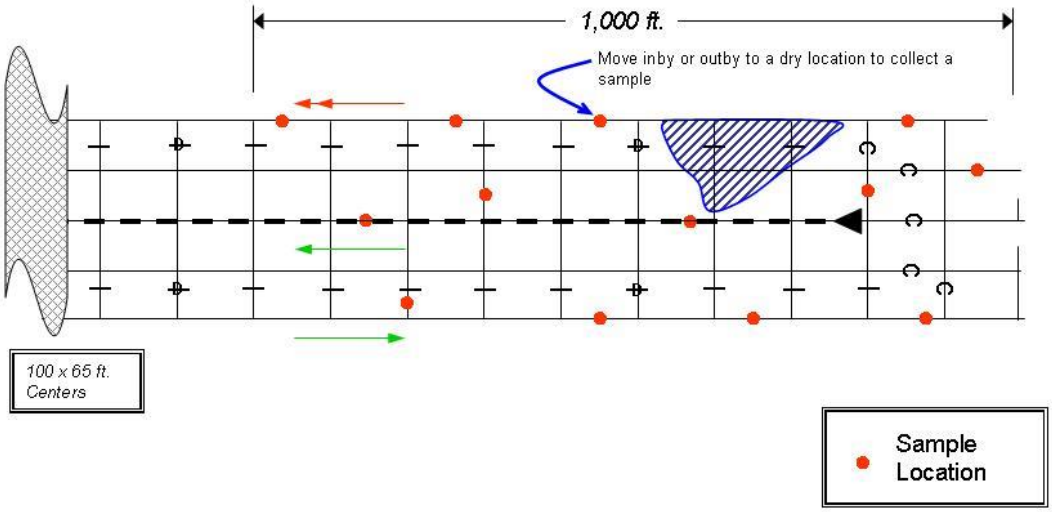


Sample locations are minimums, inspectors may collect additional samples at their discretion.

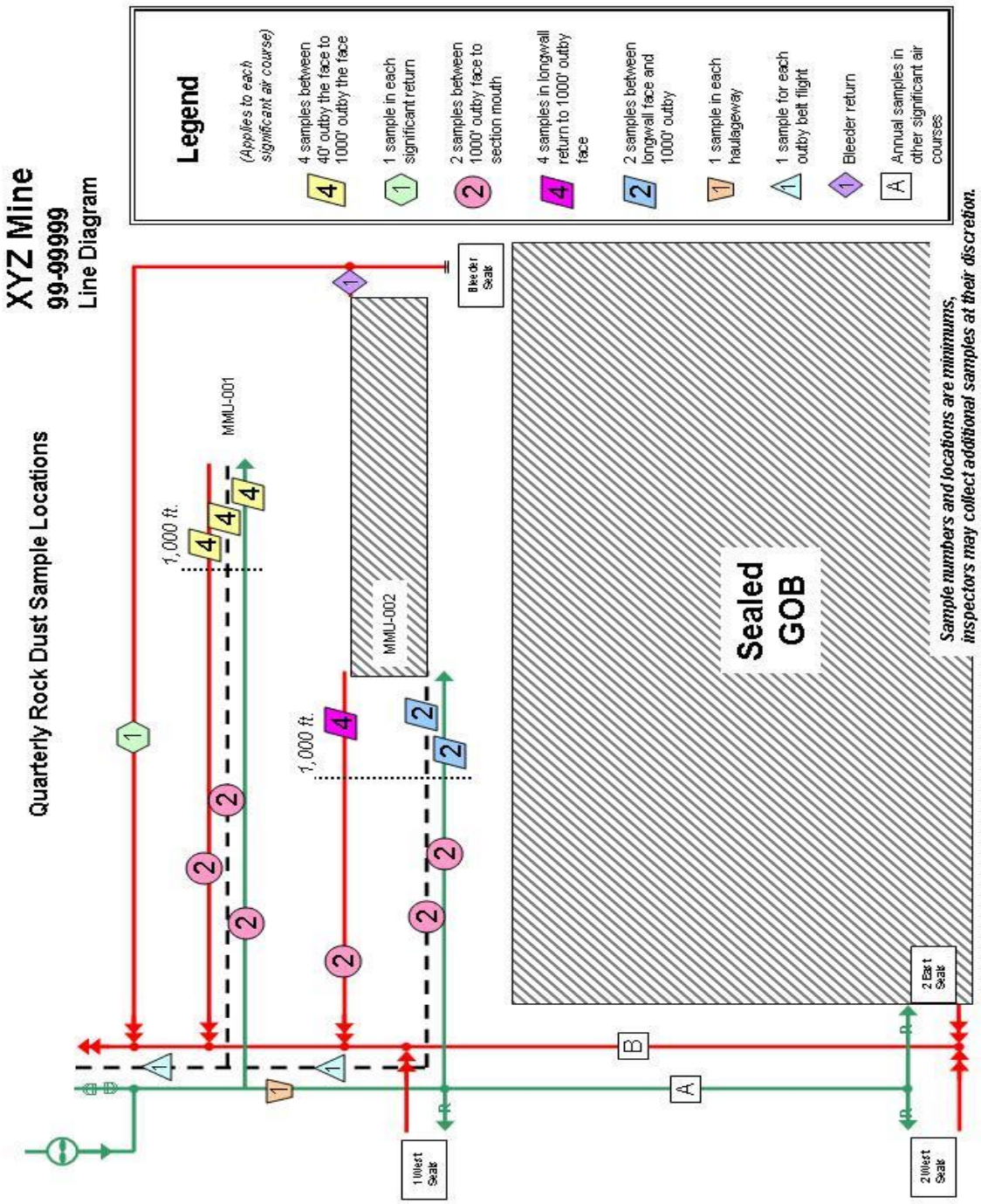
MINE DUST SAMPLE LOCATIONS
Limited Wet Areas (Map 1/2)



MINE DUST SAMPLE LOCATIONS
Limited Wet Areas (Map 2/2)



Sample locations are minimums, inspectors may collect additional samples at their discretion.


XYZ Mine
99-99999
Line Diagram
Quarterly Rock Dust Sample Locations
Legend
(Applies to each significant air course)
4 samples between 40' outby the face to 1000' outby the face
1 sample in each significant return
2 samples between 1000' outby face to section mouth
4 samples in longwall return to 1000' outby face
2 samples between longwall face and 1000' outby
1 sample in each haulageway
1 sample for each outby belt flight
Bleeder return
Annual samples in other significant air courses
MMU-001
MMU-002
1,000 ft.
1,000 ft.
Bleeder Seals
Sealed GOB
2 East Seals
1 West Seals
2 West Seals
Sample numbers and locations are minimums, inspectors may collect additional samples at their discretion.

Chapter 6 - APPENDICES

A. **Other Miscellaneous Forms and Related Information**.
Other miscellaneous forms and related information not found in this Handbook are hyperlinked on the next 2 pages of this chapter.

B. Supervisor Certification.
The first-line supervisor responsible for E01 inspections at the mine shall review each Inspection Mine Postings and Records and Inspection Procedure Documentation page contained within the ITS and certify their review by dating and initialing in the bottom margin area of the front page. Additionally, the First-Line Supervisor E01 Certification (included in these appendices) shall be completed by the supervisor. This certification shall be filed and maintained with the inspection report.

C. Inspection Equipment and Supplies.
A list of inspection equipment and supplies has been generated to help indicate what equipment and supplies are needed for inspectors to conduct their duties. All of the equipment and supplies may or may not be applicable to all inspectors and the type of mines they inspect.

1. Inspector's Equipment and Supplies.
2. Field Office Equipment and Supplies.

D. Forms and Information Needed in an E01 Inspection Report.
A list of forms has been generated to help indicate what forms may be needed to complete an E01 inspection report. All of the forms may or may not be applicable to all E01 inspection reports.

E. Inspector Tracking System.
The documentation pages contained in the ITS as illustrated in the appendices of this Handbook may be printed by the inspector and used as inspection notes. These pages apply only to regular (E01) inspections and are not required to be used on other event codes. The pages are designed to provide a complete listing and documentation of the Mine Postings and Records and the Inspection Procedures that may or may not be applicable at a mine. The use of these pages will lessen the chance of inspection or documentation error by an inspector.

A. Other Miscellaneous Forms and Related Information.

MSHA Form 7000 and 2000 series note pages to assist inspectors with their notetaking during inspections and investigations are provided as follows:

Form 2000-169 Coal Mining Occupations

Form 2000-208 (revised 2010)

Form 2000-222 Deluge-Type Water Spray Systems

Form 2000-225 Dry Powder Chemical Systems

Form 2000-234 Water Sprinkler Systems

Form 7000-9 Closure Notice

Form 7000-10A Guidelines in the Event of a Mine Disaster

Form 7000-10B Documentation Required in Inspector's Notes

Form 7000-10C Record and Training List (Partial)

Form 7000-10D Electrical Breaker Settings

Form 7000-10E Electrical Magnetic Trip Range

Form 7000-10F Smoke Tube Data Converted to Velocity

Form 7000-10G Ventilation Qavg for Tubing Size

Form 7000-10H , 7000-10HH General Information Cover Sheet

Form 7000-10I ; 7000-10II Daily Cover Sheet

Form 7000-10J ; 7000-10JJ Pre-printed Grid Pages

Form 7000-10K ; 7000-10KK Pre-printed Line Pages

Form 7000-10L ; 7000-10LL Line Diagram

Form 7000-10M ; 7000-10MM Air Reading

Form 7000-10N ; 7000-10NN Respirable Dust

Form 7000-10P ; 7000-10PP Noise

Form 7000-10R Glossary for Electrical Equipment

Form 7000-10S Glossary for Diesel Equipment

Form 7000-10T Roof Bolt Head Mks-ASTM F432-95 (two pages)

Form 7000-10U Seal Recordkeeping Requirements 75.339(a)

Form 7000-10V Static Force Req to Open a Mandoor (two pages)

Form 7000-10W Area of Circular Ducts

Form 7000-59 Pitot Card (two pages)

2000-7 Legal Identity Report; 2000-7 Legal Identity Report Instructions

2000-222 SCSR Operators' Inventory Form; 2000-222 SCSR Operators' Inventory Form Instructions

5000-1 Certificate of Electrical Training

5000-23 Certificate of Training

5000-13 Instructor's File Update

5000-41 Certificate of Hoisting Engineer Request

5000-46 MSHA MIIN

7000-51 Mine Operator ID Request

MESA-MSHA Informational Report Index

Experienced Miners and Supervisors Training: 63 Fed. Reg. 53750 (Oct. 6, 1998)

Education & Training Handbook Procedures

Miners Rights

Rules to Live By I

Rules to Live By II

Rules to Live By III

18 U.S.C. § 111

MSHA Form 2000-238 Miners Rep

Notice on 103(f) of the Act: 43 Fed. Reg. 17546 (April 25, 1978)

B. First-Line Supervisor E01 Certification.

I certify that to the best of my knowledge and belief this inspection is thorough, based on a review of the information provided for Event No._____ and through discussions with inspector(s). If it is determined that there are inspection deficiencies, the event will be reopened and corrective actions taken prior to counting this inspection event complete for the official count of completed statutory E01 inspections at the end of the fiscal year.

Supervisor's Signature:_____ Date:_____

Note: This certification should be filed and maintained with the inspection report.

C. <u>Inspection Equipment and Supplies</u>.

1. **THE FOLLOWING EQUIPMENT AND SUPPLIES SHOULD BE PROVIDED TO EACH UNDERGROUND INSPECTOR AND EACH SURFACE INSPECTOR AS NEEDED (INCLUDING INSPECTORS-IN-TRAINING).**

Credentials and identification check tag
Self-contained self-rescuer (SCSR)
Permissible electric cap lamp
Lamp belt with attached identification check
Light meter (photometer)
Portable water pressure gauge (to measure spray nozzle pressure)
Protective hat
Knee pads
Eye protection
Hearing protection - ear plugs or ear muffs (whichever provides the needed protection)
Gloves
Leg bands
Footwear (safety shoes or boots)
Coveralls
Clothes bag
Respirator with appropriate cartridge (fit test required)
Carrying case for equipment
Copies of the Act, 30 CFR, Inspection Procedures Handbooks, and Program Policy Manual
Citation/order and continuation forms (7000-3 & 7000-3a)
Appropriate notebook (with informational inserts as needed), pencil, and ballpoint pen
Laptop computer/printer
Digital camera/memory card (in unrestricted areas)
Field equipment bag
Permissible multi-gas detector
Dust collecting equipment and sample containers -incombustible (Bituminous Coal and Lignite Mines)
Magnehelic gage(s) and pitot tube
Anemometer, a watch with a second hand or a stop watch, measuring tape, measuring rule, smoke tubes, and aspirator bulb
6-foot wooden rule
Hammer
Air sample bottles-10cc (and proper plunger needle assemblies)

Feeler gauges – flat/radial (appropriate sizes)
1/8-inch Precision Key Stock for Packing Gland
Roof testing device (required for underground inspections)

2. THE FOLLOWING EQUIPMENT SHOULD BE AVAILABLE TO EACH INSPECTOR AS NEEDED IN EACH FIELD OFFICE

Noise dosimeters and calibrator
Approved respirable dust sampling pumps, battery chargers, volt meter, sampling head assemblies, and filter cassettes
Calibrators for respirable dust pumps
Cap lamp chargers
Forms
Mechanical in-line flow meter
Belt speed indicator (rpm indicator) (as needed)
Roof bolt torque wrench and roof bolt finishing bit gauge
Permissible multi-gas detector for air quality of seals (and pump as needed)
High speed anemometer
10-inch magnehelic gage
Fire Hydrants 50/50 gauge and appropriate adapters
National Fire Protection Association® (NFPA) Nos. 11A, 13, 13A, 15, 17, 72A, and 198
Air sample bottles (10cc & 50cc) (and proper plunger needle assemblies)
Air sample bags
Pin gauges (appropriate sizes for measuring diametrical clearances of cylindrical joints)
Extendable probes for permissible multi-gas detector (as needed)
Electronic handheld thermocouple instrument (measure diesel exhaust temperatures)

Emergency Response Box: 10cc and 50cc air sample bottles, List of Emergency Phone Numbers, Up-to-date Inspection Procedures, Citation and Order Writing, Program Policy, Electrical Inspection Manuals, 30 CFR, and Pocket Underground and Surface CFRs, Smoke Tubes and an Aspirator Bulb, Large High-Powered Hand Spot Light, Magnehelic Gage with Pitot Tube (Size appropriate to need), Supply of Inspection Note Blanks and Notebooks (Pocket and Letter Size), Measuring Tapes, 100-, 50-, 25- ft. and Wooden 6-Foot Rule, Numbered Master Log Book, Evidence Tags, Chain-of Custody-Tags, and Itemized Receipt Tags, Pad Locks, Ziplock® Bags, Complete Copies of all Form 50 Accident Reports and Preliminary Forms, Mechanical Pencils, Pens, and Legal Pads, Hand-issued Form 7000-3 and Form 7000-3a, MSHA Form 7000-9 Closure Notices, Glowsticks and Reflective Tape, Chalk and Spray Paint, and Set of Feeler Gauges – flat and radial.

First Response Kit/Air Sampling Unit: 115VAC vacuum pump, flame arrester, two 500-ft. rolls of ¼-inch ID vinyl tubing, ¼-inch tubing connectors (straight and tees), Plastic ties on clamps and tie tools, 24 AR sample bags and stick on labels, Pinch cock clamp or hose clamp, 1 extension cord, GFCI electrical switch, water trap, reducer bushing (as required to connect multi-gas detector), and ATX-620 multi-gas detector or its equivalent.

D. Forms and Information Needed in an E01 Inspection Report.

E01 Inspection Report and Requested Order of Filing

(all of the below forms may not be applicable for all inspection reports, which do not have to be maintained in any particular order in the files)

_____ 2000-22 Mine Activity Data (if applicable with SCSR Plan, Cleanup Program, and Ground Control Plan statements, documented on line No. 17-Remarks).

_____ Citations, Orders, and Safeguards (7000-3) with any photo mounting worksheets (4000-125), with all subsequent actions (7000-3a) including any vacated issuances and vacate memorandums if applicable, elevated enforcement actions paperwork (7000-32 SAR). Citations and orders organized by date with the last issuance being up front in the report. Previous issued citations, orders, and safeguard subsequent actions shall be maintained in the event that the original enforcement action was generated from.

_____ General Inspection Cover Sheet (7000-10H), Daily Cover Sheets (7000-10I) if applicable with all notes including any preprinted listings documented as notes taken on the event.

_____ 2000-204 Roof & Vent Plan Evaluation. (Inspector signatures are not required, a printed name or Authorized Representative number is sufficient).

_____ 2000-209 Mine Information Form (one copy must be submitted to health clerk or supervisor immediately upon completion and one copy maintained in report).

_____ 2000-223 ERP Plan Review Form.

_____ Air Bottle Results for Each Sample Taken (Analytical Report).

_____ 2000-43 Mine Atmosphere Sampling Print Out (only if result not yet received, then a copy of the submitted form showing that analytical report not yet received).

_____ 2000-156 Rock Dust Sample Submission Form(s), sample forms with analysis results (if results not yet received by close date of inspection a copy of the submitted 2000-156 showing that analysis results not yet received.

_____ 2000-86 Respirable Dust Form.

_____ MSN 014 Respirable Dust Results with Blue Cards Attached (not mandatory that they be signed, but must have a positive identifier of who conducted the sample).

_____ 2000-84 Noise Survey Results.

_____ Results of other samples taken (asbestos, etc.).

_____ 2000-207 Independent Contractor Form (only if new or updated).

_____ 2000-208 Independent Contractor Form (for contractors on mine site).

_____ Impoundment Inspection Forms. (MSHA form number is currently being assigned)

_____ 2000-34 Coal Refuse Pile Periodic Inspection Form.

_____ ATF 5030.5 and/or ATF 5400.5 ATF Inspection Form.

_____ Diesel Equipment Inventory Records (print out).

_____ SCSRs Inventory Records (print out). Note: 2000-220 form is discontinued.

_____ Part 49 Checklist (Mine Rescue Station).

_____ ITS Tracking (print out).

_____ Mine Tracking Map(s).

_____First-Line Supervisors E01 Certification Sheet

E. Inspection Tracking System.

1. Inspection Tracking System (ITS) – Surface Facilities

Mine ID: Event #: Period: Mine Name:

MINE INFORMATION

MINE ID:		**CHECKLIST TYPE:**	Facility
EVENT NO:			
COMPANY:			
MINE:			
HALF:			

Information Log

TOTAL EMPLOYEES (MIF ITEM 15):	
NO. OF PRODUCTION PITS (MIF ITEM	
AVERAGE DAILY PRODUCTION:	
CHAIRMAN SAFETY COMMITTEE:	
CHAIRMAN ADDRESS:	
RECORDING SECRETARY:	
SECRETARY ADDRESS:	
MINE PHONE NUMBER:	

104(d) Status

104(d)1 Citation:

NUMBER:	
SECTION/LAW	
DATE:	
BY:	

104(d)1 Order:

NUMBER:	
SECTION/LAW	
DATE:	
BY:	

104(d) Orders:

DATE	ISSUANCE #	INSPECTOR	SECTION OF LAW

Facility Log

Start	Complete	Topic	N/A	Reserved For	Start Date	Start Initials	Complete Date	Complete Initials
[ ]	[ ]	NOISE	[ ]					
[ ]	[ ]	RESPIRABLE DUST	[ ]					
[ ]	[ ]	COAL STORAGE	[ ]					
[ ]	[ ]	EQUIPMENT	[ ]					
[ ]	[ ]	POTABLE WATER	[ ]					
[ ]	[ ]	SANITARY TOILET	[ ]					
[ ]	[ ]	WORK CYCLE	[ ]					
[ ]	[ ]	EXAMINATION RECORD	[ ]					
[ ]	[ ]	OFF-SHIFT'S (REPRESENTATIVE	[ ]					
[ ]	[ ]	COMMUNICATIONS	[ ]					
[ ]	[ ]	HEALTH AND SAFETY DISCUSSION	[ ]					
[ ]	[ ]	GROUND CONTROL PLAN (ADEQUACY & POLL MINERS)	[ ]					
[ ]	[ ]	FIRST-AID EQUIPMENT	[ ]					

General

	General	N/A	Reserved For	Date Inspection Completed	Inspection Initials
[ ]	First Day Arrival in Advance of Starting Time	[ ]			
[ ]	Mine Map Review (First day of Hazards)	[ ]			
[ ]	Independent Contractors	[ ]			
[ ]	Travel with Mine Examiners	[ ]	Header***		Header***
[ ]	a. On-Shift Examiner	[ ]			
[ ]	Inspection Shifts	[ ]	Header***		Header***
[ ]	a. Day Shift	[ ]			
[ ]	b. Afternoon Shift	[ ]			
[ ]	c. Midnight Shift	[ ]			
[ ]	d. Weekend Shift	[ ]			
[ ]	Part 47 Hazard Communication	[ ]			
[ ]	Petition of Modification	[ ]			
[ ]	Inspection for Training Plans Compliance and Training Records	[ ]			
[ ]	Observation of Multi-Gas Detector Calibration	[ ]			

Surface Facility

Aerial Tramways; Coal Stock Piles; Communications Installations

Aerial Tramways

	Aerial Tramways	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Coal Stock Piles

	Coal Stock Piles	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]	-					[ ]

Communications Installations

	Communications Installations	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Draw-Off Tunnels; Dumping Facilities; Electrical / Substations Installations

Draw-Off Tunnels

	Draw-Off Tunnels	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Dumping Facilities

	Dumping Facilities	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Electrical / Substations Installations

	Electrical / Substations	Location	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Equipment (Other) Including Electrical Equipment

	Equipment Description	CO#	Serial#	Location	Reserved For	Equpmnt Status	Date	Initials
[ ]								

Escapeways; Fire Fighting Equipment; Fuel Storage; Haulage Facilities (Including Belts)

Escapeways

	Escapeways	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Fire Fighting Equipment

	Fire Fighting Equipment	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Fuel Storage

	Fuel Storage	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Haulage Facilities (Including Belts)

	Haulage Facilities (Including	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Illumination of Work Areas; Highwall, Spoil Banks and Ground Control Plans; Air Quality Test in Required Locations; Mine Map

Illumination of Work Areas

	Illumination of Work Areas	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Highwall, Spoil Banks and Ground Control Plans

	Highwall, Spoil Banks, and Ground Control Plans	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Air Quality Test in Required Locations

	Air Quality Test in Required	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Mine Map

	Mine Map	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Other Places Where Miners Work or Travel; Preparation Plants

Other Places Where Miners Work or Travel

	Other Places Where Miners Work or	Location	Reserved For	Date	Initials	Remove Next Qtr/Half
[						[ ]

Preparation Plants

	Preparation Plants (Floors) Including Elevators / Records	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Refuse Piles and Impoundments

	Refuse Piles and Impoundments (Name)	Refuse Piles and Impoundment #	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]							[ ]

Sanitary Facilities (Bathhouse); Shops and Other Structures; Thermal Dryer

Sanitary Facilities (Bathhouse)

	Sanitary Facilities (Bathhouse)	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Shops and Other Structures

	Shops and Other Structures	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Thermal Dryer

	Thermal Dryer	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Travelways and Active Roadways; Ventilating Fan Installations

Travelways and Active Roadways

	Travelways and Active Roadways	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Ventilating Fan Installations

	Ventilating Fan Installations	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Surface Facility Records and Postings

Postings

	Section / 30 CFR	Posting Description	N/A	Reserved For	Date	Initials
[	§101(e)	Proposed Health and Standards or New Regulations Posted	[ ]			
[	§104.4(d)	Pattern of Violation Notice Posted	[ ]			
[	§109(c)	Citations and Orders	[ ]			
[	40.4	Representative Miners	[ ]			
[	44.5(b)	Granted Petition for Modification	[ ]			
[ ]	44.9	Non-Final Petitions for Modification (at mines with no Representative of Miners)	[ ]			
[	48.23(d)	Training Plans (with no Miner's Representative)	[ ]			
[	48.23(n)	Training Plans	[ ]			
[	62.130(a)	Administrative Noise Control Procedures	[ ]			
[	71.210(b)	Respirable Dust Sample Results (Surface)	[ ]			
[	71.301(d)	Approved Respirable Dust Control Plan (Surface)	[ ]			
[	71.403(c)	Bathhouse Waiver	[ ]			
[	71.404(b)	Bathhouse Waiver Application	[ ]			
[	77.1202	Mine Map (Posted or Available)	[ ]			
[	77.1702(e)	Emergency Medical Assistance Arrangements (Surface	[ ]			
[	77.1708	Safety Program Instructions	[ ]			

Records

	30 CFR	Record Description	N/A	Reserved For	Date	Initials
[	27 CFR Part	Record of Explosive Materials Part 555.125(b) and 555.127	[ ]			
[	41.12	Legal Identity Changes within 30 days	[ ]			
[	45.4(a)&(b)	Contractor Register	[ ]			
[	47.31	HazCom Program	[ ]			
[	47.51	Material Safety Data Sheets	[ ]			
[	48.29(a)	Training & Retraining of Surface Miners (Form 5000-23)	[ ]			
[	48.31(d)	Hazard Training Records	[ ]			
[	50.20(a)	Mine Accident, Injury and Illness Reports(Form 7000-1)	[ ]			
[	50.30(b)	Quarterly Employment and Coal Production Reports (Form	[ ]			
[	50.40(a)&(b)	Investigation and Accident Reports - 5 Years	[ ]			
[	62.110(e)	Miner Notification and Noise Exposure	[ ]			
[	62.171(c)	Audiometric Test Records	[ ]			
[	62.180(b)	Hearing Conversation Program Training	[ ]			
[	77.106	Certified and Qualified Persons	[ ]			
[	77.107-1	Annual Training for Certified and Qualified Persons	[ ]			
[	77.216-3(c)	Impoundment Inspection	[ ]			
[	77.314(c)	Thermal Dryer Examination	[ ]			
[	77.403-1(d)	Certification for ROPS	[ ]			
[	77.502	Monthly Examination of Electrical Equipment	[ ]			
[	77.704-3	Working on Energized HV Lines	[ ]			
[	77.800-2	Monthly Examination of High Voltage Circuit Breakers	[ ]			
[	77.900-2	Monthly Examination of Low & Medium Voltage Circuit	[ ]			
[	77.1404	Daily Hoist Examination	[ ]			
[	77.1432	Hoist Rope Initial Measurement	[ ]			
[	77.1433(d)&(	Hoist Rope Examination and Tests	[ ]			
[	77.1501(a)&(	Auger Mining Inspections	[ ]			
[	77.1606(a)	Record of Equipment Pre-Operational Check	[ ]			
[	77.1703	First Aid Training for Supervisors	[ ]			
[	77.1705	First Aid Re-Training for Supervisors	[ ]			
[	77.1712(f)	Reopening of Mines	[ ]			
[	77.1713(c)	Daily Examination of Active Areas of Mines	[ ]			
[	77.1901(f)	Daily Examination of Slope and Shaft Projects	[ ]			
[	77.1906(c)	Daily Examination of Hoist at Shaft and Slope Sinking	[ ]			
[	77.1911(a)	Ventilation of Shaft and Slope	[ ]			

Removed Equipment

Equipment Description	CO#	Serial#	Location	Remove Next Qtr/Half

2. **Inspection Tracking System (ITS) – Surface Mines**

Mine ID: Event #: Period: Mine Name:

MINE INFORMATION

MINE ID:		**CHECKLIST TYPE:**	Surface
EVENT NO:			
COMPANY:			
MINE:			
HALF:			

Information Log

TOTAL EMPLOYEES (MIF ITEM 15):	
NO. OF PRODUCTION PITS (MIF ITEM	
AVERAGE DAILY PRODUCTION:	
CHAIRMAN SAFETY COMMITTEE:	
CHAIRMAN ADDRESS:	
RECORDING SECRETARY:	
SECRETARY ADDRESS:	
MINE PHONE NUMBER:	

104(d) Status

104(d)1 Citation:

NUMBER:	
SECTION/LAW	
DATE:	
BY:	

104(d)1 Order:

NUMBER:	
SECTION/LAW	
DATE:	
BY:	

104(d) Orders:

DATE	ISSUANCE #	INSPECTOR	SECTION OF LAW

PITS

Pit 001-0 Log

Start	Complete	Topic	N/A	Reserved For	Start Date	Start Initials	Complete Date	Complete Initials
[ ]	[ ]	NOISE	[ ]					
[ ]	[ ]	RESPIRABLE DUST	[ ]					
[ ]	[ ]	HIGHWALL / SPOIL BANKS	[ ]					
[ ]	[ ]	COAL STORAGE(PIT AREA)	[ ]					
[ ]	[ ]	EQUIPMENT	[ ]					
[ ]	[ ]	POTABLE WATER	[ ]					
[ ]	[ ]	SANITARY TOILET	[ ]					
[ ]	[ ]	WORK CYCLE	[ ]					
[ ]	[ ]	EXAMINATION RECORD	[ ]					
[ ]	[ ]	OFF-SHIFT'S (REPRESENTATIVE	[ ]					
[ ]	[ ]	COMMUNICATIONS	[ ]					
[ ]	[ ]	FIRE FIGHTING EQUIPMENT	[ ]					
[ ]	[ ]	HEALTH AND SAFETY	[ ]					
[ ]	[ ]	GROUND CONTROL PLAN (ADEQUACY & POLL MINERS)	[ ]					
[ ]	[ ]	FIRST-AID EQUIPMENT (PIT	[ ]					

Equipment (Pit)

	Equipment Description	CO#	Serial#	Approval #	Location	Reserved For	Equpmnt Status	Date Inspection Completed	Inspection Initials
[									

General

	General	N/A	Reserved For	Date Inspection Completed	Inspection Initials
[ ]	First Day Arrival in Advance of Starting Time	[ ]			
[ ]	Mine Map Review (First day of Hazards)	[ ]			
[ ]	Independent Contractors	[ ]			
[ ]	Travel with Mine Examiners	[ ]	Header***		Header***
[ ]	a. On-Shift Examiner	[ ]			
[ ]	Inspection Shifts	[ ]	Header***		Header***
[ ]	a. Day Shift	[ ]			
[ ]	b. Afternoon Shift	[ ]			
[ ]	c. Midnight Shift	[ ]			
[ ]	d. Weekend Shift	[ ]			
[ ]	Part 47 Hazard Communication	[ ]			
[ ]	Petition for Modification	[ ]			
[ ]	Inspection of Training Plans Compliance and Training Records	[ ]			
[ ]	Observation of Multi-Gas Detector Calibration	[ ]			

Aerial Tramways; Auger / Highwall Mining; Coal Stock Piles; Communications Installations

Aerial Tramways

	Aerial Tramways	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Auger / Highwall Mining

	Auger / Highwall Mining	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Coal Stock Piles

	Coal Stock Piles	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Communications Installations

	Communications Installations	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Draw-Off Tunnels; Drilling and Blasting; Dumping Facilities; Electrical / Substations Installations

Draw-Off Tunnels

	Draw-Off Tunnels	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Drilling and Blasting

	Drilling and Blasting (Should Observe Drilling & Blasting Cycle)	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Dumping Facilities

	Dumping Facilities	Location	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Electrical / Substations Installations

	Electrical / Substations	Location	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Equipment (Other) Including Electrical Equipment

	Equipment Description	CO	Serial#	Location	Reserved For	Equpmnt Status	Date	Initials
[ ]								

Escapeways; Explosives Storage (Magazines); Fire Fighting Equipment; Fuel Storage

Escapeways

	Escapeways	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Explosives Storage (Magazines)

	Explosive Storage (Magazines)	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Fire Fighting Equipment

	Fire Fighting Equipment	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Fuel Storage

	Fuel Storage	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Haulage Equipment (Including Belts); Hoisting Equipment; Illumination of Work Areas; Air Quality Test in Required Locations

Haulage Equipment (Including Belts)

	Haulage Equipment (Including Belts)	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Hoisting Equipment

	Hoisting Equipment/Records	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Illumination of Work Areas

	Illumination of Work Areas	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Air Quality Test in Required Locations

	Air Quality Test Description of Locations	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Mine Map; Other Places Where Miners Work or Travel

Mine Map

	Mine Map	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Other Places Where Miners Work or Travel

	Other Places Where Miners Work or Travel	Location	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Preparations Plants; Refuse Piles and Impoundments

Preparations Plants

	Preparation Plants (Floors) Elevator / Records	Location	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Refuse Piles and Impoundments

	Refuse Piles and Impoundment (Name)	Refuse Piles and Impoundments #	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]							[ ]

Sanitary Facilities (Bathhouse); Shops and Other Structures; Surface First-Aid Equipment; Thermal Dryer

Sanitary Facilities (Bathhouse)

	Sanitary Facilities (Bathhouse)	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Shops and Other Structures

	Shops and Other Structures	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Surface First-Aid Equipment

	Surface First-Aid	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Thermal Dryer

	Thermal Dryer	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Travelways and Roadways; Ventilating Fan Installations

Travelways and Roadways

	Travelways and Roadways	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Ventilating Fan Installations

	Ventilating Fan Installations	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Surface Facility Records & Postings

Postings

	Section / 30 CFR	Posting Description	N/A	Reserved For	Date	Initials
[ ]	§101(e)	Proposed Health and Standards or New Regulations Posted	[ ]			
[ ]	§104.4(d)	Pattern of Violation Notice Posted	[ ]			
[ ]	§109(c)	Citations and Orders	[ ]			
[ ]	40.4	Representative of Miners	[ ]			
[ ]	44.5(b)	Granted Petitions for Modification	[ ]			
[ ]	44.9	Non-Final Petitions for Modification (at mines with no Representative of Miners)	[ ]			
[ ]	48.23(d)	Training Plans (with no Miners' Representative)	[ ]			
[ ]	48.23(n)	Training Plans	[ ]			
[ ]	62.130(a)	Administrative Noise Control Procedures	[ ]			
[ ]	71.210(b)	Respirable Dust Sample Results (Surface)	[ ]			
[ ]	71.301(d)	Approved Respirable Dust Control Plan (Surface)	[ ]			
[ ]	71.403(c)	Bathhouse Waiver	[ ]			
[ ]	71.404(b)	Bathhouse Waiver Application	[ ]			
[ ]	77.1202	Mine Map (Posted or Available)	[ ]			
[ ]	77.1702(e)	Emergency Medical Assistance Arrangements (Surface	[ ]			
[ ]	77.1708	Safety Program Instructions	[ ]			

Records

	30 CFR	Record Description	N/A	Reserved For	Date	Initials
[ ]	27 CFR Part	Record of Explosive Materials Part 555.125(b) and 555.127	[ ]			
[ ]	41.12	Legal Identity Changes within 30 days	[ ]			
[ ]	45.4(a)&(b	Contractor Register	[ ]			
[ ]	47.31(a)	HazCom Program	[ ]			
[ ]	47.51	Material Safety Data Sheets	[ ]			
[ ]	48.29(a)	Training & Retraining of Surface Miners (Form 5000-23)	[ ]			
[ ]	48.31(d)	Hazard Training Records	[ ]			
[ ]	50.20(a)	Mine Accident, Injury and Illness Reports(Form 7000-1)	[ ]			
[ ]	50.30(b)	Quarterly Employment and coal Production Reports	[ ]			
[ ]	50.40(a)&(b)	Investigation and Accident Reports - 5 Years	[ ]			
[ ]	62.110(e)	Miner Notification of Noise Exposure	[ ]			
[ ]	62.171(c)	Audiometric Test Records	[ ]			
[ ]	62.180(b)	Hearing Conversation Program Training	[ ]			
[ ]	77.106	Qualified & Certified Persons	[ ]			
[ ]	77.107-1	Annual Training for Certified and Qualified Persons	[ ]			
[ ]	77.216-3(c)	Impoundment Examination	[ ]			
[ ]	77.314(c)	Thermal Dryer Examination	[ ]			
[ ]	77.403-1(d)	Certification for ROPS	[ ]			
[ ]	77.502	Monthly Examination of Electrical Equipment	[ ]			
[ ]	77.704-3	Working on Energized HV Lines	[ ]			
[ ]	77.800-2	Monthly Examination of High Voltage Circuit Breakers	[ ]			
[ ]	77.900-2	Monthly Examination of Low & Medium Voltage Circuit	[ ]			
[ ]	77.1404	Daily Hoist Examination	[ ]			
[ ]	77.1432	Hoist Rope Initial Measurement	[ ]			
[ ]	77.1433(d)&	Hoist Rope Examination and Tests	[ ]			
[ ]	77.1501(a)&(	Auger Mining Inspections	[ ]			
[ ]	77.1606(a)	Record of Equipment Pre-Operational Check	[ ]			
[ ]	77.1703	First Aid Training for Supervisors	[ ]			
[ ]	77.1705	First Aid Re-Training for Supervisors	[ ]			
[ ]	77.1713(c)	Daily Examination of Active Areas of Mines	[ ]			
[ ]	77.1901(f)	Daily Examination of Slope and Shaft Projects	[ ]			
[ ]	77.1906(c)	Daily Examination of Hoist at Shaft and Slope Sinking	[ ]			
[ ]	77.1911(a)	Ventilation of Shaft and Slope	[ ]			

Removed Equipment

Equipment Description	CO#	Serial#	Location	Remove Next Qtr/Half

3. **Inspection Tracking System (ITS) – Underground and Surface of U/G Mine**

Mine ID: Event #: Period: Mine Name:

MINE INFORMATION

MINE ID:		**CHECKLIST TYPE:**	Underground
EVENT NO:			
COMPANY:			
MINE:			
QUARTER:			

Information Log

SURFACE EMPLOYEES:	
UNDERGROUND EMPLOYEES:	
NUMBER OF AIR SHAFTS:	
NUMBER OF AIR SLOPES:	
NUMBER OF AIR DRIFTS:	
AVERAGE DAILY PRODUCTION:	
CHAIRMAN SAFETY COMMITTEE:	
CHAIRMAN ADDRESS:	
RECORDING SECRETARY:	
SECRETARY ADDRESS:	
MINE PHONE NUMBER:	

104(d) Status

104(d)1 Citation:

NUMBER:	
SECTION/LAW	
DATE:	
BY:	

104(d)1 Order:

NUMBER:	
SECTION/LAW	
DATE:	
BY:	

104(d) Orders:

DATE	ISSUANCE #	INSPECTOR	SECTION OF LAW

Air Samples for Total Liberation

	Bottle # for Total	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Air Samples Collected (Non-TL)

	Bottle # for Non-TL	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Intake Drift, Shaft, Slope Openings

	Location Description	Vent Map ID	Air Quantity	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]							[ ]

MMU's

MMU 001-0

Log

Start	Complete	Topic	N/A	Reserved For	Start Date	Start Initials	Complete Date	Complete Initials
[ ]	[ ]	NOISE	[ ]					
[ ]	[ ]	RESPIRABLE DUST	[ ]					
[ ]	[ ]	FACES	[ ]					
[ ]	[ ]	IMMEDIATE RETURN AIR SAMPLE	[ ]					
[ ]	[ ]	BLASTING PRACTICES	[ ]					
[ ]	[ ]	BOREHOLES IN ADVANCE OF	[ ]					
[ ]	[ ]	COMMUNICATIONS	[ ]					
[ ]	[ ]	DUST CONTROLS PARAMETERS	[ ]					
[ ]	[ ]	DATES,TIMES, AND INITIALS	[ ]					
[ ]	[ ]	ESCAPEWAY MAP	[ ]					
[ ]	[ ]	FIRE PROTECTION	[ ]					
[ ]	[ ]	FIRST-AID EQUIPMENT	[ ]					
[ ]	[ ]	HEALTH AND SAFETY DISCUSSION	[ ]					
[ ]	[ ]	MINING WORK CYCLE	[ ]					
[ ]	[ ]	OPERATIONS UNDER WATER	[ ]					
[ ]	[ ]	POTABLE WATER (WORKING	[ ]					
[ ]	[ ]	POST ACCIDENT COMMUNICATION AND TRACKING SYSTEM (SECTION)	[ ]					
[ ]	[ ]	ROCK DUST SAMPLING	[ ]					
[ ]	[ ]	ROOF AND RIBS CONDITITIONS	[ ]					
[ ]	[ ]	SANITARY FACILITIES	[ ]					
[ ]	[ ]	SECTION EQUIPMENT	[ ]					
[ ]	[ ]	SCSR'S DEVICES (WORKING SECTION- STORED AND CARRIED)	[ ]					
[ ]	[ ]	OFF-SHIFT'S (REPRESENTATIVE	[ ]					
[ ]	[ ]	TRAVEL WITH EXAMINER	[ ]					
[ ]	[ ]	MANTRIP OBSERVATION	[ ]					
Start	Complete	Topic	N/A	Reserved For	Start Date	Start Initials	Complete Date	Complete Initials
[ ]	[ ]	SUPPLEMENTAL (ROOF) SUPPORT MATERIALS, EQUIPMENT, AND	[ ]					

[ ]	[ ]	50PSI/50GPM OF WATER AVAILABILITY IN WATER LINES	[ ]					
[ ]	[ ]	LOCATION OF LAST OPEN CROSSCUT (SPAD	[ ]					

Equipment

	Equipment	CO#	Serial#	Approval	Location	Reserved For	Equpmnt Status	Date	Initials
[ ]									

Diesel Equipment

	Equipment	CO#	Serial#	Approval	Location	Reserved For	Equpmnt Status	Date	Initials
[ ]									

General

	General	N/A	Reserved For	Date Inspection Completed	Inspection Initials
[ ]	First Day Arrival in Advance of Starting Time	[ ]			
[ ]	Mine Map Review (First day of Hazards)	[ ]			
[ ]	Check In and Out System	[ ]			
[ ]	Cleanup Program	[ ]			
[ ]	Communication and Tracking Surface Facility	[ ]			
[ ]	Refuge Alternatives	[ ]			
[ ]	Independent Contractors	[ ]			
[ ]	Travel with Mine Examiners	[ ]	Header***		Header***
[ ]	a. Pre-Shift Examiner	[ ]			
[ ]	b. On-Shift Examiner	[ ]			
[ ]	c. Weekly Examiner	[ ]			
[ ]	Inspection Shifts	[ ]	Header***		Header***
[ ]	a. Day Shift or 1st Shift	[ ]			
[ ]	b. Afternoon Shift or 2nd Shift	[ ]			
[ ]	c. Midnight Shift of 3rd Shift	[ ]			
[ ]	Weekend E01 Inspections	[ ]			
[ ]	Part 47 Hazard Communication	[ ]			
[ ]	Man-Trip Operations	[ ]			
[ ]	Mine Rescue	[ ]			
[ ]	Smoking Program	[ ]			
[ ]	Petition for Modification	[ ]			
[ ]	Inspection of Training Plans Compliance and Training Records	[ ]			
[ ]	Observation of Multi-Gas Detector Calibration	[ ]			

Surface Areas of Underground Mines

Aerial Tramways; Auger / Highwall Mining; Coal Stock Piles; Communications Installations

Aerial Tramways

	Aerial Tramways	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Auger / Highwall Mining

	Auger/Highwall Mining	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Coal Stock Piles

	Coal Stock Piles	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Communications Installations

	Communications Installations	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Draw-Off Tunnels; Dumping Facilities; Electrical / Substations Installations (Including Mine Fans)

Draw-Off Tunnels

	Draw-Off Tunnels	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Dumping Facilities

	Dumping Facilities	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Electrical / Substations Installations (Including Mine Fans)

	Electrical / Substations Installations (Including Mine Fans)	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Equipment (Other) Including Electrical Equipment (Surface)

	Equipment Description	CO#	Serial#	Location	Reserved For	Equpmnt Status	Date	Initials
[ ]								

Escapeways; Explosives Storage (Magazines); Fire Fighting Equipment; Fuel Storage

Escapeways

	Escapeways (Surface)	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Explosives Storage (Magazines)

	Explosive Storage (Magazines)	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Fire Fighting Equipment

	Fire Fighting Equipment	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Fuel Storage

	Fuel Storage	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Haulage Equipment (Including Belts); Health and Safety Discussions (General); Highwall of Portals (Ground Control if Applicable)

Haulage Equipment (Including Belts)

	Haulage Equipment (Including	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Health and Safety Discussions (General)

	Health and Safety Discussions	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Highwall of Portals (Ground Control if Applicable)

	Highwall and Portal Openings (Ground Control Plan if Applicable)	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Hoisting Equipment; Illumination of Work Areas; Air Quality Test in Required Locations; Non- Major Construction Sites

Hoisting Equipment

	Man / Material Hoisting, Elevators Equipment (For U/G) -	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Illumination of Work Areas

	Illumination of Work Areas	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Air Quality Test in Required Locations

	Air Quality Test in Required	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Non-Major Construction Sites

	Non-Major Construction Sites	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Other Places Where Miners Work or Travel (Surface Areas); Potable Water; Preparation Plants

Other Places Where Miners Work or Travel (Surface Areas)

	Other Places Where Miners Work or Travel (Surface Areas)	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Potable Water

	Potable Water	Location Description	Reserved	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Preparation Plants

	Preparation Plants (Floors) (Including Elevators/Records)	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Refuse Piles and Impoundments; Sanitary Facilities (Bathhouse)

Refuse Piles and Impoundments

	Refuse Piles and Impoundments (Name)	Refuse Piles and Impoundments #	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]							[ ]

Sanitary Facilities (Bathhouse)

	Sanitary Facilities (Bathhouse)	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Shops and Other Structures; Surface First-Aid

Shops and Other Structures

	Shops and Other Structures	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Surface First-Aid

	Surface First-Aid	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Thermal Dryer; Travelways and Roadways; Ventilating Fan Installations; Oil, Gas and Coalbed Methane Wells

Thermal Dryer

	Thermal Dryer	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Travelways and Roadways

	Travelways and	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Ventilating Fan Installations

	Ventilating Fan Installations (Preparation Plants)	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Oil, Gas and Coalbed Methane Wells

	Oil, Gas and Coalbed Methane	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Underground Outby Areas

Aircourses (Including Escapeways)

	Aircourses (Including Escapeways)	Intake / Return	Reserved For	Date	Initials	Remove Next Qtr/Half
[						[ ]

Automatic Fire Sensor and Warning Devices System That Use Carbon Monoxide Sensors and AMS Systems

	Atmospheric Monitoring Systems	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Belts, Skip Shaft Facilities, Bunkers; Blasting Practices

Belts, Skip Shaft Facilities, Bunkers

	Belts, Skip, Bunkers	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Blasting Practices

	Blasting Practices	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Bleeders (Including Each Check Point)

	Bleeders (Including Each	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Diesel Fuel Storage (U/G); Fire Protection (Water / Chemical Cars, Foam Generators, Fire Fighting Equipment, Emergency Materials, Additional Fire Fighting Equipment for Belts Over 2000 ft in Length)

Diesel Fuel Storage (U/G)

	Diesel Fuel Storage	Location	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Fire Protection (Water/Chemical Cars, Foam Generators, Fire Fighting Equipment, Emergency Materials, Additional Fire Fighting Equipment for Belts Over 2000 Ft In Length)

	Fire Protection (Water/Chemical Cars, Foam Generators, Fire Fighting Equipment Emergency Materials, Additional Fire Fighting Equipment for Belts Over 2000 FT in length, etc.)	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Haulage or Mobile Equipment (UG)

	Equipment	CO#	Serial	Approval	Location	Reserved For	Equpmnt Status	Date	Initials
[ ]									

Longwall Tailgate Entry; Non-Pillared Worked Out Areas

Longwall Tailgate Entry

	Longwall Tailgate	Location	Reserved	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Non-Pillared Worked Out Areas

	Non-Pillared Worked Out	Location	Reserved	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Other Places Miners Work or Travel

	Other Places Miners Work or	Location	Reserved	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Outby Electrical Equipment

	Equipment Description	CO#	Serial#	Location	Reserved For	Equpment Status	Date	Initials
[ ]								

Seals

	Sets of Seals (Name)	Location Description	Number of Seals	Type of Seals	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]								[ ]

Track and Off-Track Haulage Roads

	Track and Off-Track Haulage	Location	Reserved	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Underground Diesel Equipment (Outby)

	Annual Surve	Equipment Description	CO #	Serial #	Exhaust Gas and Emissions Temperature	Location	Reserved For	Equpmnt Status	Date	Initials	Annual Survey date	Annual Survey Initials
[ ]	[ ]											

Outby SCSR's (Storage Caches)

	SCSR'S Caches (Located in Outby Storage Areas)	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Post-Accident Communications and Tracking System (Outby); Refuge Alternatives

Post-Accident Communications and Tracking System (Outby)

	Post-Accident Communications and Tracking System (Outby)	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Refuge Alternatives

	Refuge Alternatives	Location Description	Reserved For	Date	Initials	Remove Next Qtr/Half
[ ]						[ ]

Underground Mine Records and Postings

Postings

	Section / 30 CFR	Posting Description	N/A	Reserved For	Date	Initials
[ ]	§101(e)	Proposed Health and Standards or New Regulations Posted	[ ]			
[ ]	§104.4(d)	Pattern of Violation Posted	[ ]			
[ ]	§109.(a)	Citations and Orders	[ ]			
[ ]	203(a)	X-Ray Plan	[ ]			
[ ]	40.4	Representative Miners	[ ]			
[ ]	44.5(b)	Granted Petitions for Modification	[ ]			
[ ]	44.9	Non-Final Petitions for Modification (at mines with no representative of miners)	[ ]			
[ ]	48.3(d)	Training Plans (with no Miners' Representative)	[ ]			
[ ]	48.3 (n)	Training Plans	[ ]			
[ ]	48.23(d)	Training Plans (with no Miners' Representative)	[ ]			
[ ]	48.23(n)	Training Plans	[ ]			
[ ]	49.12(h)	Mine Rescue Availability	[ ]			
[ ]	49.13(d)	Mine Rescue (Alternative Capability Small and Remote	[ ]			
[ ]	49.19(b)	Copy of Mine Rescue Notification Plan	[ ]			
[ ]	62.130(a)	Administrative Noise Control Procedures	[ ]			
[ ]	70.210(b)	Respirable Dust Sample Results (Underground)	[ ]			
[ ]	71.210(b)	Respirable Dust Sample Results (Surface)	[ ]			
[ ]	71.301(d)	Approved Respirable Dust Control Plan (Surface)	[ ]			
[ ]	71.403(c)	Bathhouse Waiver	[ ]			
[ ]	71.404(b)	Bathhouse Waiver Application	[ ]			
[ ]	75.220(e)	Roof Control Plan Available	[ ]			
[ ]	75.351(a)(3)	AMS Map or Schematic	[ ]			
[ ]	75.351(a)(4)	Contact Information for AMS Operators and Designated Responsible Persons	[ ]			
[ ]	75.370(a)(3)(iii)	Proposed Ventilation Plan and Revisions	[ ]			
[ ]	75.370(f)(3)	Approved Ventilation Plan and Revisions	[ ]			
[ ]	75.1505 (a)(4)	Escapeway Map Posted at a Surface Location Where Miners Congregate	[ ]			
[ ]	75.1713-1(e	Emergency Medical Assistance Arrangements (Underground	[ ]			

Records

	30 CFR	Record Description	N/A	Reserved For	Date	Initials
[ ]	27 CFR Pt 555	Record of Explosive Materials Part 555.125(b) and 555.127 (surface area)	[ ]			
[ ]	41.12	Legal Identity Changes (within 30 days)	[ ]			
[ ]	45.4(a)&(b)	Contractor Register	[ ]			
[ ]	47.31	HazCom Program	[ ]			
[ ]	47.51	Material Safety Data Sheets	[ ]			
[ ]	48.29(a)	Training & Retraining of Surface Miners (Form 5000-23)	[ ]			
[ ]	48.9	Training & Retraining of Underground Miners (Form	[ ]			
[ ]	49.17(c)	Annual Mine Rescue Physical	[ ]			
[ ]	49.18(g)	Training of Mine Rescue Team Members	[ ]			
[ ]	50.20(a)	Mine Accident, Injury and Illness Reports (Form 7000-1)	[ ]			
[ ]	50.30(a)	Quarterly Employment and Coal Production Reports	[ ]			
[ ]	50.40(a)&(b)	Investigation and Accident Reports (Maintained for 5	[ ]			
[ ]	62.110(e)	Miner Notification and Noise Exposure	[ ]			
[ ]	62.171(c)	Audiometric Test Records	[ ]			
[ ]	62.180(b)	Hearing Conversation Program Training	[ ]			
[ ]	62.190	Access to all Part 62 Records	[ ]			
[ ]	70.1900(d)	Diesel Exhaust Gas Samples Exceeding TLV® Action Levels for CO & NO2	[ ]			
[ ]	71.202	Certification of Certified Person Sampling	[ ]			
[ ]	71.203	Certification of Certified Person Maintenance and	[ ]			
[ ]	72.520(a) &	Diesel Equipment Inventory (updated within 7 days of	[ ]			
[ ]	75.151	Qualified Persons to Test Methane	[ ]			
[ ]	75.159	List of Certified and Qualified Person for Part 75 Duties	[ ]			
[ ]	75.161	Annual Training for Certified and Qualified Persons	[ ]			
[ ]	75.204(a)(2)	Roof Bolt Manufacturer's Certification	[ ]			
[ ]	75.204(f)(6)	Measurements of Tensioned Roof Bolt Torque	[ ]			
[ ]	75.209(f)	ATRS Certification	[ ]			
[ ]	75.220(e)	Roof Control Plan Availability	[ ]			
[ ]	75.223(b)&(c)	Map of Roof Falls	[ ]			
[ ]	75.310(a)(4)	Main Mine Fan Pressure Recordings	[ ]			
[ ]	75.312(g)(1)&(h)	Daily and Monthly Main Mine Fan Examinations	[ ]			
[ ]	75.333(e)	Seal Sampling and Monitoring	[ ]			
[ ]	75.335(c)(1)	Approved Seal Design	[ ]			
[ ]	75.335(c)(2)	Certification of Provision of Approved Seal Design is	[ ]			
[ ]	75.336(e)(2)	Gas Sampling Records (1 Year)	[ ]			
[ ]	75.337(c)(5)	Seal Construction and Repair	[ ]			
[ ]	75.337(d)	Certification of Seal Construction, Installation, and	[ ]			

	30 CFR	Record Description	N/A	Reserved For	Date	Initials
[ ]	75.338(a)	Seal-Certified Person Sampling Training (records maintained	[ ]			

[ ]	75.338(b)	Certification of Training for Persons that Perform Seal Const & Repair (2 years)	[ ]			
[ ]	75.339(a)	Seal Recordkeeping Requirements	[ ]			
[ ]	75.342(a)(4)(ii	Methane Monitor Calibration	[ ]			
[ ]	75.351(o)	AMS Alert/Alarm Signals, Malfunctions, Tests, Calibrations, and Maintenance	[ ]			
[ ]	75.351(q)	Annual AMS Operator Training	[ ]			
[ ]	75.360(a)(2)	Pre-shift by Pumpers (hazards found)	[ ]			
[ ]	75.360(g)	Pre-shift / On-Shift Examinations	[ ]			
[ ]	75.363(b)	Recording of Hazardous Conditions	[ ]			
[ ]	75.364(h)	Weekly Examination of Hazardous Conditions	[ ]			
[ ]	75.400-2	Clean-up Program	[ ]			
[ ]	75.508	Map of Electrical System	[ ]			
[ ]	75.508-2	Electrical Map - Changes Made	[ ]			
[ ]	75.512	Weekly Examination of Underground Electric Equipment	[ ]			
[ ]	75.705-3	Record of Work on High Voltage	[ ]			
[ ]	75.800-4(a)	Monthly Tests, Exams, & Maintenance of UG High Voltage Circuit Breakers	[ ]			
[ ]	75.812 & 75.812-2	Movement of Energized High Voltage Power Centers and Transformers	[ ]			
[ ]	75.821(d)	Testing, Examination, and Maintenance of High Voltage Longwall Equipment	[ ]			
[ ]	75.832(g)	High Voltage Continuous Mining Machines	[ ]			
[ ]	75.900-4	Monthly Tests, Exams, & Maintenance of UG Low & Medium Voltage Circuit Breakers	[ ]			
[ ]	75.901(b)(12)	Diesel Powered Generators (moving equipment)	[ ]			
[ ]	75.1001-1(c)	Trolley Overcurrent Tests and Calibrations	[ ]			
[ ]	75.1003-2(b)	Examinations of Trolley Systems for Off-Track Equipment	[ ]			
[ ]	75.1103-8(b)	Weekly Examinations of Fire Sensors and Warning	[ ]			
[ ]	75.1103-8(c)	Monthly Calibration of Fire Sensors and Warning Device	[ ]			
[ ]	75.1103-11	Annual Tests of Fire Hydrants and Fire Hoses	[ ]			
[ ]	75.1107-16(c)	Weekly Inspection of Fire Suppression Devices	[ ]			
[ ]	75.1203	Mine Map	[ ]			
[ ]	75.1400-2	Bi-Monthly Tests of Hoist Safety Catches	[ ]			
[ ]	75.1400-4	Daily Hoisting Equipment Examinations	[ ]			
[ ]	75.1432	Initial Hoist Rope Stretch Measurements	[ ]			
[ ]	75.1433(d)	Bi-Weekly Hoist Rope Examinations	[ ]			
[ ]	75.1433(e)	Semi-Annual Hoist Rope Measurements and Nondestructive	[ ]			

	30 CFR	Record Description	N/A	Reserved For	Date	Initi
[ ]	75.1501(a)(3)	Annual Responsible Person Training	[ ]			
[ ]	75.1504(a)	Quarterly Mine Emergency Evacuation Training and Drills	[ ]			
[ ]	75.1504(c)	Annual Expectation Training for Donning and Transferring	[ ]			
[ ]	75.1504(d)(e)	Mine Emergency Evacuation and Drills	[ ]			
[ ]	75.1508(b)	Refuge Alternatives (maintenance and repair)	[ ]			

[ ]	75.1702	Smoking Program	[ ]			
[ ]	75.1708	Monthly Fire Doors Tests (when non-fireproof structures are within 100' of mine openings)	[ ]			
[ ]	75.1710-1(e)	Certification of Canopies or Cabs	[ ]			
[ ]	75.1713-3	First-Aid Training of Underground Supervisors	[ ]			
[ ]	75.1715.5	First-Aid Training of Underground Supervisors (Retraining)	[ ]			
[ ]	75.1714-3(e)	Self-Rescuer Device Tests	[ ]			
[ ]	75.1714-8(a)& (b)	Self-Rescuer Inventory Update	[ ]			
[ ]	75.1715	Check-In / Check-Out System and Belt Identification	[ ]			
[ ]	75.1901(a)	Diesel Fuel Evidence	[ ]			
[ ]	75.1911(j)	Inspections and Tests of Fire Suppression for Diesel Powered Equipment	[ ]			
[ ]	75.1912(i)	Inspections and Tests of Fire Suppression for UG Permanent Diesel Storage	[ ]			
[ ]	75.1914(h)(1)	Diesel-Powered Equipment, Weekly Tests and Examinations	[ ]			
[ ]	75.1915(c)	Diesel Training and Qualifications	[ ]			
[ ]	77.106	List of Certified and Qualified Person for Part 77 Duties	[ ]			
[ ]	77.216-3(c)	Impoundment Examinations	[ ]			
[ ]	77.314(c)	Quarterly Inspection and Calibration of Thermal Dryer Control Instruments	[ ]			
[ ]	77.403-1(d)	Certification of ROPS & FOPS	[ ]			
[ ]	77.502	Monthly Examination of Surface Electrical Equipment	[ ]			
[ ]	77.704-3	Working on Energized High Voltage Lines	[ ]			
[ ]	77.800-2	Monthly Tests, Exams, & Maintenance of Surface High Voltage Circuit Breakers	[ ]			
[ ]	77.900-2	Monthly Tests, Exams, & Maintenance of Surface Low & Medium Voltage Circuit Breakers	[ ]			
[ ]	77.1202	Mine Map (Posted and Available) (if applicable)	[ ]			
[ ]	77.1404	Daily Hoisting Equipment Examinations	[ ]			
[ ]	77.1432	Initial Hoist Rope Stretch Measurement	[ ]			
[ ]	77.1433(d)	Bi-Weekly Hoist Rope Examinations	[ ]			
[ ]	77.1433(e)	Semi-Annual Hoist Rope Measurements and Nondestructive	[ ]			
[ ]	77.1501(a)&(b)	Auger Mining Inspections (Surface) (If applicable)	[ ]			
[ ]	77.1606(a)	Record of Equipment Pre-Operational Checks (defects	[ ]			
[ ]	77.1702(e)	Emergency Medical Assistance Arrangements (Surface Mine)	[ ]			
[ ]	77.1703	First Aid Training of Surface Supervisory Employees	[ ]			
[ ]	77.1708	Safety Programs Instructions (Surface Mine)	[ ]			
[ ]	77.1713(c)	Daily Examination of Active Areas of Surface Mines	[ ]			
[ ]	77.1901(f)	Daily Examination of Slope and Shaft Sinking	[ ]			
	30 CFR	Record Description	N/A	Reserved For	Date	Initi
[ ]	77.1906(c)	Daily Inspection of Man-Hoists for Slope and Shaft Sinking	[ ]			
[ ]	77.1911(a)	Shaft and Slope Ventilation	[ ]			
[ ]	316(b)(2)(a)	Post-Accident and Tracking Failure	[ ]			
[ ]	316(b)(2)(a)	Post-Accident and Tracking Weekly	[ ]			

Removed Equipment

Equipment Description	CO#	Serial#	Location	Remove Next Qtr/Hal