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Accident Investigation Procedures

PREFACE

This handbook sets forth procedures for the conduct of investigations of accidents at the Nation's mines. The procedures in this handbook are intended to serve as organizational, technical, and instructional aids for MSHA's accident investigations with the recognition that investigator discretion may be appropriate based on circumstances specific to individual investigations. This handbook does not create legal obligations or confer legal rights for any persons or entities. Previously issued procedural and administrative instructions for this subject are superseded by this handbook.

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ACCIDENT INVESTIGATION PROCEDURES HANDBOOK

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LIST OF ABBREVIATIONS AND ACRONYMS

AIC	District Accident Investigation Coordinator
AI Team	Accident Investigation Team
AITL	Accident Investigation Team Leader
AIPM	Accident Investigation Program Manager (Headquarters)
APPM	Administrative Policy and Procedures Manual
AR	Authorized Representative of the Secretary
CFR	Code or Federal Regulations
Commission	Federal Mine Safety and Health Review Commission
Committee	Fatality Review Committee
EFS	Educational Field Services
ERP	Emergency Response Plan
FAI	Fatality Accident Investigation
HIPAA	Health Insurance Portability and Accountability Act of 1996
IAS	Inspection Application System
Mine Act	Federal Mine Safety and Health Act of 1977
MSH Division	Office of the Solicitor, Mine Safety and Health Division
OEM	Original Equipment Manufacturer
OPA	Office of Public Affairs
RSOL	Regional Office of the Solicitor
SOL	Office of the Solicitor
Technical Support	Directorate of Technical Support

ACCIDENT INVESTIGATION PROCEDURES HANDBOOK

CHAPTER 1 - INTRODUCTION

The objective of an accident investigation is to determine the root causes of the mine accident and to share this information with the mining community and others so that it can be used to prevent similar occurrences.

I. Purpose

This handbook provides direction for the investigation of accidents and other occurrences involving health and safety in coal, metal, and nonmetal mines pursuant to the Federal Mine Safety and Health Act of 1977 (Mine Act) as amended by the Mine Improvement and New Emergency Response Act of 2006 (MINER Act). MSHA's accident investigation procedures allow efficient and orderly collection of information relevant to a mining accident, which is then reviewed, analyzed, and included in a report issued by MSHA which describes the Agency's findings and conclusions for fatal and other select accidents. These reports are intended to disseminate information to the mining community and others for purposes of accident prevention.

II. Authority

The Federal Mine Safety and Health Act of 1977, Public Law 91-173, as amended by Public Law 95-164, as amended by Public Law 109-236 (MINER Act), requires that authorized representatives (ARs) of the Secretary of Labor make investigations in mines for the purpose of obtaining, using, and disseminating information relating to the causes of accidents.

Authoritative sources include:

- The Federal Mine Safety and Health Act of 1977, as amended, 30 U.S.C. § 801 *et. seq.*
- Title 30, Code of Federal Regulations (CFR)

III. "Accident" Defined

A. Section 3(k) of the Mine Act

Section 3(k) of the Mine Act broadly defines an "accident" to include "a mine explosion, mine ignition, mine fire, or mine inundation, or injury to, or death of, any person." 30 CFR Part 50.2(h) provides a list of specific events that constitute an "accident" within the scope of the Mine Act for operator reporting purposes. However, the broader definition of "accident" in section 3(k) applies to MSHA's accident investigation

activities. MSHA may investigate and issue orders under §§ 103(j) and 103(k) for events that meet the definition in section 3(k), even if they are not listed among the events that an operator must report under part 50.

B. Investigation of Occupational Illnesses and Health Incidents

The District should follow the guidance in the MSHA Health Inspection Procedures Handbook, using procedures from this Handbook where appropriate, when it receives a notification of an occupational illness.

Investigations of chemical exposures, illness symptoms or disease cases provide valuable information to the mining community about mining-related health hazards. The purpose of investigating these health-related symptoms and illnesses is to:

1. Understand how the exposure occurred;
2. Determine whether other miners have been affected by the same hazard;
3. Ascertain the miner's current health status (Is the condition temporary or permanent) and employment status;
4. Identify measures have been taken by the mine operator to prevent similar occurrences;
5. Share information regarding the hazard, the illness and the outcome within MSHA and with the mining community; and
6. Determine if there has been a violation of any mandatory health standards.

IV. Responsibilities

A. Notification of Accidents

The mine operator's responsibility for notification of accidents is defined at 30 CFR 50.10, which requires that accidents must be reported immediately, at once, without delay, and within 15 minutes to MSHA by the mine operator. Mine operators must call (800) 746-1553.

B. Accident Response

1. *District Emergency Response Plans.*

   Each District's Mine Emergency Response Plan (ERP) outlines the duties and responsibilities of district personnel during a mine

emergency. When an accident requiring an emergency response occurs, the District will follow the procedures for action and notification contained in its Mine ERP.

2. *Accidents.*

The District Manager[1], working with the consensus of the appropriate Regional Administrator, must promptly evaluate accidents and inform the mine operator: (1) whether an investigation will be made; (2) the approximate date and time of the investigation; and (3) the requirements under § 103(j) and Part 50, including the operator's responsibility to take appropriate measures to prevent the destruction of evidence that would assist in the investigation of the accident.

If the accident is to be investigated, the District Manager must direct the local office supervisor or available inspector to travel to the mine and to issue such orders as appropriate to ensure the safety of any persons at the mine. The District Manager should also initiate preparations for providing logistic support for an accident investigation team (AI Team).

The responsibilities of the person assigned to secure the accident site are discussed in Chapter 3.

The District Manager also will assign all AI Team members. Members of the AI Team should be personnel who do not have plan approval responsibilities and who are not assigned to an inspection work group that regularly inspects the affected mine. The District Manager will arrange to request the services of Educational Field and Small Mine Services (EFSMS) and the appropriate Regional Solicitor's Office (RSOL). The Accident Investigation Program Manager (AIPM) will arrange for any necessary assistance from the Directorate of Technical Support (Technical Support) in consultation with the district.

The District Manager should be notified regarding persons from outside the District who will participate as members of an AI team. To the extent possible, investigation activities should be coordinated so that all team members can participate. Technical Support should be consulted prior to disturbing equipment or materials that require technical interpretation or analysis.

1 References to the District Manager include his/her designated representative.

When a fatal accident occurs, the District Manager must notify the appropriate RSOL office. A regional attorney should be assigned to provide legal support to the AI Team. The AIPM will notify the Mine Safety and Health (MSH) Division of the Solicitor's Office. For more information regarding the involvement of SOL, refer to Chapter 1 Section IX.

Upon completion of the on-site investigation of a fatal accident, the AIPM should be advised by telephone of any preliminary findings or conclusions. This call should take place before the AI Team leaves the mine site. Promptly after the on-site investigation, witness interviews, and any technical analysis, there should be one accident investigation report written under the direction of the District Manager. An initial draft fatal accident report is due in Headquarters as soon as practically possible.

C. Headquarters Notification by Districts

1. Accidents Requiring Immediate Headquarters Notification.

Upon learning of the occurrence of any of the following categories of accidents, the District should immediately notify the AIPM. In addition to immediate notification, a completed Preliminary Report of Accident, Form 7000-13, should be promptly submitted. Periodic updates to the AIPM are required for cases involving serious injuries or other developing situations. The following require immediate Headquarters notification:

a. a death of any individual on mine property;

b. an injury on mine property that has a reasonable potential to cause death;

c. mine fires that result in evacuation of miners or cause significant damage to structures or equipment at a mine;

d. all explosions (e.g. methane or dust and/or unplanned detonation of explosives or blasting agents);

e. coal or rock outbursts (bumps or bounces) that result in injury or evacuation of an area, or that interrupts production for more than 30 minutes;

f. inundations by liquid or gas;

g. entrapment of any persons requiring mine rescue efforts;

h. any unstable condition at an impoundment or refuse pile that requires emergency corrective action to prevent failure and/or requires evacuation;

i. any accident at a mine that is likely to be the subject of immediate and/or extraordinary media interest;

j. a death of any individual off mine property resulting from activities on mine property (e.g. flyrock); or

k. unplanned roof falls at or above the anchorage zone in active workings, or one that impairs ventilation or impedes escapeways.

2. *Accidents Not Requiring Immediate Headquarters Notification.*

The following types of accident should also be reported to Headquarters, but immediate telephone reporting is not required:

a. methane ignitions which do not result in serious injuries or require evacuation of miners;

b. an unstable condition at an impoundment, refuse pile, or culm bank that requires corrective action, but does not cause an emergency or life threatening situation;

c. mine fires that last more than 30 minutes, but are extinguished without significant injuries or property damage;

d. bumps or bounces that disrupt mining activity for less than 30 minutes; or

e. damage to hoisting equipment that endangered individuals or disrupted the use of the equipment for less than 30 minutes.

D. Preliminary Reports

In case of a fatal accident, the report should include, on a separate page, the name, address, relationship, and telephone number for the victim's next of kin. Also, any equipment involved in the accident should be identified.

E. Interim Headquarters Briefings

At the conclusion of all mine-site portions of fatal accident investigations and associated interviews, a conference should be conducted between the AIPM, District Manager, SOL representatives, and AI Team members to discuss information obtained, the investigation status (including pending deadlines), resources needed, and any other pertinent issues. Technical

Support personnel who actively participated in the investigation shall be asked to participate in the conference and personnel who were not involved directly in the investigation may be asked to participate if their expertise is important at this stage. The District Manager will also brief the AIPM of any significant issues or findings as they arise.

V. Authority to Issue Statement

Briefings with the press and public shall be conducted by DOL Office of Public Affairs (OPA) or the Primary Communicator as stated in the MINER Act. To the greatest extent possible, sensitive information will be shared with the families before being disseminated to the public.

VI. Orders to Ensure the Safety of Any Person

Inspectors must exercise discretion and good judgment when using the broad authority provided by the Mine Act. Recognizing that site-specific circumstances affect the exercise of such authority, the following general instructions are provided.

A. Section 103 Orders

Following a mine accident, § 103(j) and § 103(k) of the Mine Act provide, in part, that an AR may issue in consultation with the District Manager orders appropriate to ensure the safety of persons at the mine.

When, as a result of an accident, a mine condition or practice threatens the safety of persons at the mine, after arriving at the mine, the AR generally will use § 103(k) to ensure the safety of persons in the mine (although, if the AR is not present at the mine, a § 103(j) order initially should be issued over the telephone, as explained below). A § 103(k) order does not preclude issuance of a § 107(a) order if an imminent danger exists.

Where a fire, explosion, or inundation has occurred in any underground mine, the § 103(k) order shall address the safety of the persons in all underground areas of the mine.

In other instances where an accident has occurred, a § 103(k) order shall include all areas of the mine, or equipment, where the inspector believes that a hazardous condition or practice related to the accident is likely to exist. In some instances, the conditions will be particular to the accident site, and, in such cases, the § 103(k) order would not apply to areas beyond the accident site.

A § 103(k) order should remain in effect until an AR conducts a systematic evaluation of the conditions and safety practices and determines that hazards similar to those that caused or contributed to the accident have been eliminated. The evaluation can be conducted either before or during the accident investigation. After this evaluation and determination, the § 103(k) order may be modified to permit an area of the mine to resume operations, modified to include other areas, or terminated when all investigation activities are complete.

When a § 103(k) order is issued, the mine operator is required to obtain approval of an MSHA representative, in cooperation with the appropriate State representatives when feasible, of any plan to recover any person in the mine or to recover the mine or return the affected areas of the mine to normal. When a § 103(k) order is in effect, the mine operator must obtain MSHA's approval before allowing anyone, even individuals exempt from other withdrawal orders by § 104(c), to enter the affected area of the mine.

B. § 103(j) Orders

In the event of a mine accident where rescue and recovery work is necessary, Section 103(j) grants MSHA broad authority to take whatever action, including the issuance of orders of withdrawal, is deemed appropriate to protect the life of any person. Section 103(j) also prohibits the destruction of any evidence which would assist in investigating the cause or causes of the accident.

Upon learning of a mine emergency involving rescue or recovery, unless an MSHA representative already is present at the mine, MSHA should verbally issue a § 103(j) order to the operator, including initial instructions, via telephone as soon as possible. The order, including any instructions, should be reduced to writing and transmitted to the operator as soon as practicable to protect all persons engaged in the rescue and recovery operation, as well as any other persons onsite. MSHA also should remind the operator of its obligation to prevent the destruction of evidence at the accident site. The operator's obligation to prevent the destruction of evidence that would assist in investigating the cause or causes of the accident exists even for accidents that are not presently mine emergencies (i.e., there are no ongoing rescue and recovery efforts), and MSHA may remind the mine operator of its obligation to prevent the destruction of such evidence even absent the issuance of a § 103(j) order. MSHA should make a record of such communications, including date, time, information conveyed, person communicated with, etc.

Upon MSHA's arrival on-site and following assessment of conditions, MSHA may modify the § 103(j) order, including all instructions, to reflect that MSHA is now proceeding under the authority of § 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 § 103(k) order.

While § 103(j) authorizes MSHA to supervise and direct the rescue and recovery activities in appropriate circumstances, the exercise of authority granted under § 103(k) traditionally has been sufficient in most situations to protect persons following mine accidents.

C. § 107(a) Orders

If an inspector or investigator determines that an imminent danger exists, a § 107(a) order should be issued forthwith, regardless of any other orders that have been issued. Because the purpose of a § 107(a) imminent danger order is to immediately remove miners from exposure to serious hazards in the mine and to prevent miners from entering such hazardous areas, an imminent danger actually must exist when the order is issued. It is not necessary to issue citations/orders for violations associated with the imminent danger at this time, as they can be addressed later in the investigation.

VII. Enforcement Actions

The accident investigation must determine whether there is compliance with all health and safety standards as encountered and, in this regard, is no different than a regular mine inspection. Violations found during an investigation should be completely evaluated and documented prior to the issuance of a citation or order. This evaluation and documentation is important as significant penalties may be assessed for the violations. For that reason, contributory citations or orders should not be issued until the end of the investigation when all the related facts are available. The issue date for citations and orders must be the date the citations or orders are given to the mine operator, not the accident date.

Citations and orders issued for violations that contribute to a mine accident must be contained in the accident report and coded as part of the investigation. Citations and orders issued for violations observed during the investigation that were not contributory to the accident will be included in a separate inspection report and coded for that activity.

VIII. Directorate of Technical Support

A. General

Technical Support's engineering, scientific, and analytical expertise should be used to the greatest extent practical, and representatives of Technical Support will ordinarily participate in all fatal accident investigations. This may include the onsite investigation, laboratory investigation, interviews, and report writing.

If Technical Support personnel are members of the AI Team they may participate in the preparation and review of the investigation report. Technical Support involvement may be to develop or facilitate the technical discussion of the item or area investigated. Only one report, the Agency's "Accident Investigation Report," must be published with respect to the details and circumstances surrounding the accident. Technical Support team members will ensure that the lead investigator is provided with copies of their field notes and any other supporting documentation they gathered or produced. The lead investigator will ensure that supporting documentation provided by Technical Support is included in the appropriate accident investigation file.

B. Laboratory or Analytical Studies

In some cases, Technical Support also may analyze and/or test evidence collected by the investigation team. The District Manager will coordinate requests for laboratory or analytical studies with the AIPM. Procedures (protocol) for all testing or studies will be agreed upon by Technical Support, the District Manager, and the AIPM prior to beginning the test or study.

C. Requesting Technical Support assistance

Upon arrival, efforts should be made to obtain the following information or documentation, where applicable:

1. Type of Equipment
2. Manufacturer
3. Model
4. Serial Number
5. Approval number - if permissible
6. Operator's manual

7. Maintenance manual for the subject equipment
8. Determine the systems (brakes, hydraulics, electrical, structural, etc.; exploding/ruptured vessel, fire protection, specific chemical processes, haul road design, etc.) that preliminary information indicates will need examined and/or tested.
9. Determine whether special hazards (e.g., chemical spill, blood borne pathogens, working at heights) exist at the accident site.
10. Equivalent information (i.e., blueprints, drawings, schematics) should be gathered for structural, process, impoundment issues, etc.

Investigators should alert the mine operator to the potential need for mine electricians, mechanics, or equipment manufacturers to be available to assist in the investigation.

IX. Office of the Solicitor (SOL)

When a fatality occurs, the District Manager must notify the appropriate RSOL Office. A Regional attorney will be assigned to provide legal support to the AI Team. The AIPM will notify the MSH Division of the Office of the Solicitor, which also will assign an attorney to provide legal support.

Disasters (i.e., accidents with three or more fatalities) will be coordinated at Headquarters level, and legal support for these will be provided primarily by the MSH Division of the Solicitor's Office.

Attorneys assigned from RSOL and the MSH Division should be included at any stage of the investigation where their input will facilitate resolution. RSOL and MSH Division attorneys need to have an opportunity to review all reports and relevant violations before they are finalized and issued.

ACCIDENT INVESTIGATION PROCEDURES HANDBOOK

CHAPTER 2 - JURISDICTION AND CHARGEABILITY

I. General

The responsibility for resolving questions of jurisdiction and chargeability rests with officials who are not normally present at the accident site. It is imperative, therefore, that on-site investigators confronted with questions of jurisdiction and/or chargeability gather all pertinent data and relay it promptly through appropriate channels to the District Manager.

The Preliminary Report of Accident for all deaths on mine property must be forwarded to the Headquarters Office, regardless of whether questions of jurisdiction or chargeability exist. If the death is ultimately determined to be outside of MSHA jurisdiction or not chargeable to the mining industry, Headquarters will correct the record with proper notations. If jurisdiction or chargeability is affirmed, a fatal case number will be assigned and all pertinent data recorded.

II. Jurisdiction

Questions of jurisdiction may arise during the initial notification of an accident to MSHA or upon arrival of the accident investigators at the site. If there is uncertainty regarding jurisdiction, the Agency representative must gather all related information and relay it to the District Manager, who must discuss it with the Regional Administrator. The Regional Administrator, in coordination with Headquarters, should seek legal guidance from the Associate Solicitor, MSH Division, in situations where MSHA's jurisdiction to investigate previously has not been determined or is not definitively established by the Mine Act. This should include the list below, and any additional relevant information.

A. Information about the operation

1. State the size, commodity produced, union status, when MSHA inspections began, whether the operation is seasonal, etc.
2. Give a step-by-step description of all mining, preparation, and transportation processes and procedures that take place at the property, and list the equipment used. If not explained in the MSHA portion of a MSHA/OSHA MOU, explain the technical aspects of applicable processes and procedures such as pressure, heat, additives, hydration, etc.
3. State the industry that uses or purchases the final product; and the use of the final product.

4. Provide any information on whether the operator shares equipment, employees, facilities, etc. with any other entities or businesses.

B. Information about the location

1. State the accident location, property owner, and/or mine operator control over the area.
2. Provide a map or sketch that shows the accident location, property lines, ownerships, roadways, extraction areas, mine/milling/preparation areas, etc. and a compass rose. If not to scale, provide approximate distances. Show any additional helpful depictions. For example, if the accident occurred on a road, please indicate such things as locations of speed limit signs, bridges, drop-offs, security gates, etc.

C. Information that deals with federal jurisdiction

1. Describe how the jurisdiction question arose and provide any information stating why the operator believes that MSHA does not have jurisdiction.
2. List any other federal agency that inspects the accident location or any portion of the property.
3. Provide a history of and information about any previous MSHA jurisdiction determinations that were made with respect to the property.
4. List the 30 CFR standards that could be cited if the accident location is determined to be within the scope of the Agency's jurisdiction.

Following a jurisdictional determination, the accident investigators must be notified immediately. If the District Manager determines that the accident falls under the jurisdiction of another agency, the other agency must be notified promptly and all accident-related data transferred to that agency.

III. Chargeability

A. Chargeability Determination Process

If a District Manager is reasonably certain that a death at a mine is the result of natural causes, immediately available personnel may conduct the investigation to gather information for a chargeability determination. In such cases, it is appropriate to assign the investigation to local field

personnel, who may be involved in regular inspection activities at the mine.

When the evidence as to chargeability is not conclusive, such as trespass, suicide, homicide, etc., the accident investigator must immediately gather all relevant information and relay it to the District Manager. Information may include police reports, death certificates, autopsy or toxicology reports, or witness statements. Additional chargeability information which becomes available during the accident investigation should also be forwarded promptly so that the chargeability determination can be based on all available facts.

All accident investigations should continue while the issue of chargeability is being determined. This will aid in the preservation of information and evidence and may assist in determining chargeability. If the death is determined to be chargeable to the mining industry, a fatal investigation report must be prepared. As with any inspection or investigation, the Accident Investigation file should contain an event cover sheet, inspection notes, record of witness statements, photographs, maps, sketches, copies of police reports, death certificates and/or autopsy results. Interviews should be recorded on a digital audio recorder or documented in the inspection notes with the name of each interviewee and a summary of their testimony.

If the District Manager believes that a death should not be charged to the mining industry, a memorandum report requesting a chargeability concurrence determination must be submitted to the Administrator, through the appropriate Regional Administrator, within 45 calendar days of the date of the death, unless the death certificate or autopsy report, if applicable, has not been received. The memorandum report must describe in detail the activities of the person prior to the time of death and any related information which addresses chargeability. For deaths involving natural causes, supporting documents must include a copy of the death certificate and, if possible, the autopsy report, the coroner's report, or the statement of an attending physician.

In addition, any information that clarifies physical stress, prior medical history, or medication should be included in the report.

The Health Insurance Portability and Accountability Act of 1996 (HIPAA) restricts access to medical records such as hospital intoxicant test results as well as to autopsy reports. MSHA is authorized by statute to obtain certain information necessary to conduct mandatory investigations. Written

requests on letterhead from the District Manager should be used to obtain necessary information. An example of such a letter is provided in Appendix 1.

In situations in which a District Manager has not determined that a death on mine property is chargeable to the mining industry, the District Manager must ensure that the investigation also provides information and documentation necessary to permit the Fatality Review Committee (the Committee) to determine whether the death is chargeable to the mining industry. After the investigation is completed, the District Manager will submit a memorandum to the Administrator, through the appropriate Regional Administrator, containing all of the required factual information and evidence for the Committee. The memorandum should read: "See attached investigation for determination of chargeability of the death at [mine name], Mine I.D. No. [ ]." In the memorandum, the District Manager should not offer a recommendation, opinion, or conclusion regarding chargeability.

The memorandum should contain the following information, if available:

1. The subject of the memorandum should be: Investigation of Death at Company Name, Mine Name, I.D. Number, Location (including the county and state), and time and date of the accident or occurrence.
2. Give the victim's name, age, total mining experience, job experience, time and date of death, and cause of death.
3. State the dates of the investigation and list the names of persons present during the investigation or who provided information.
4. Give a narrative description of the activities of the victim prior to the time of the accident, starting from the beginning of the shift.
5. List the victim's regular occupation, the occupation at the time of the accident, and the experience on the job being performed when the accident occurred. Duties normally performed by the victim in the regular occupation should also be given. Any duty that would not be considered routine should be identified.
6. So that the possibility of overexertion may be evaluated, state distances traveled by the victim, grades negotiated, weights lifted, etc. Specify time intervals between the performance of any arduous tasks and the time of the accident.

7. Environmental factors that may be relevant such as temperature extremes, elevations, noise levels, etc., should be given. This would include the presence of any noxious gases or a lack of sufficient oxygen.
8. Obtain the victim's previous medical history. Also, obtain the statement of death from a medical officer including any statements that indicate that death was aggravated by or the result of tasks performed. Attach copies of death certificates and autopsy reports, when available.

The Committee will apply the fatal injury guideline matrix shown in Appendix 2 when making chargeability decisions. The decision made by the Committee should be unanimous and will be final. The decision of the Committee will be provided to the Assistant Secretary, Deputy Assistant Secretaries, the Administrator, and the Chief, Office of Injury and Employment Information.

B. Fatality Review Committee Membership

The Director of Technical Support will serve as Committee Chair, but will recuse him/herself from participating in cases where Technical Support personnel had significant influence in the findings of the accident investigation. All other duties and responsibilities of Committee members remain the same. The Committee shall have the following members:

1. Director of the Office of Technical Support (Committee Chair)
2. Director of Educational Policy and Development, and Program Evaluation and Information Resources
3. Superintendent of the National Mine Health and Safety Academy
4. Associate Solicitor for Mine Safety and Health
5. Reviewing Medical Officer, Division of Patent Safety and Clinical Risk Management, Office of Quality Indian Health Service.

The Deputy Assistant Secretary for Operations has responsibility for oversight and management of this Committee.

The Chair of the Fatality Review Committee is authorized to make a determination that deaths are “not chargeable” in certain kinds of cases without referring the matter to the full Committee on the basis of third party medical examiner reports and/or law enforcement reports and on the basis of information gained during MSHA’s investigation.

1. Where a death certificate, coroner's report, or law enforcement report lists suicide or homicide as the cause of death, and there is no indication that the death was the result of an occupational danger or exposure, the Committee Chair may make a determination that the death is not chargeable.
2. Where a death certificate, coroner's report, or autopsy report lists heart attack or a similar natural cause of death, and where there is no indication that the death was brought about by an occupational hazard or exposure, the Committee Chair may determine that the death is not chargeable.
3. Where the decedent was a non-employee trespasser or had no authorization to be on the property, the Committee Chair may make a determination that the death is not chargeable.
4. Where the incident resulting in death did not occur on mine property or did not result from activity on mine property, the Committee Chair may make a determination that the death is not chargeable.

In all cases in which the Committee Chair is not reasonably certain that the death is not chargeable to the mining industry, the matter should be referred to the full Committee. If, following a determination that a death was "not chargeable," additional information is received that may cast doubt on the original determination, the matter should be referred to the full Committee.

C. Fatality Review Committee Report

The Committee will meet at least every 30 days to review pending cases, or sooner if a case is ready for review. A report from the Committee Chair will be sent to the Deputy Assistant Secretaries and the Assistant Secretary each month listing all outstanding chargeability cases.

The monthly report must include:

1. the date of death;
2. victim name;
3. brief description of accident;
4. whether the matter has been referred to the Committee;
5. date of referral; and
6. a preliminary determination as to cause of death.

The Committee will provide the Deputy Assistant Secretaries and the Assistant Secretary with a report whenever a chargeability determination has not been made within three months of a death. Follow-up reports are required for each month thereafter until a chargeability determination is reached.

The report should state whether the chargeability issue is pending before a District Manager or Administrator, or if it has been referred to the Committee and, if so, the date of the referral. The report should state what efforts have been made to obtain relevant documents, such as death certificates, autopsy reports, and toxicology reports. The report should also describe whether MSHA's fatality investigation is ongoing and, if so, what additional information is needed to reach a chargeability determination.

D. Additional Information

Whenever any person discovers additional information that should be considered in the Committee's review, the information should be sent to the appropriate District Manager, through the appropriate Regional Administrator, to the Administrator. The Administrator will verify the information, to the extent possible, and forward it to the Committee Chair. In the event a case has already been decided when additional information is submitted, the Committee Chair will review the new information, and if necessary, consult with the Associate Solicitor for Mine Safety and Health, and reopen the case if appropriate.

ACCIDENT INVESTIGATION PROCEDURES HANDBOOK

CHAPTER 3 - INVESTIGATIONS OF ACCIDENTS

I. Procedures for Initial MSHA Responder to Accident Scene

MSHA's initial responder should begin gathering information and investigating the accident. The priorities of the initial MSHA responder are to: take any steps necessary to ensure the safety of miners and anyone else present, ensure the integrity of the accident scene, and take actions to allow for the prompt initiation of the investigation. The Checklist available in Appendix 3 provides a list of actions the initial MSHA responder and investigators should take as the investigation commences.

All accidents and accident scenes are unique, and the investigatory process must be tailored to suit the circumstances of each accident. The steps in the Checklist may be initiated and completed in an order different than they are presented based upon the specific circumstances of the accident. Many Field Offices and investigators maintain an accident investigation kit that contains commonly used PPE, tools, hardcopy documents, etc., during accident investigations. A list of these items can be found in Appendix 4.

II. Accident Investigation Team Leader (AITL)

A. Collecting Information

1. The AITL should explain the investigative process to management officials and miners' representatives.
2. Ask for any records or documents (preshift/onshift) not previously gathered.
3. Collect any existing written witness statements.
4. Ask about the victim's family and provide family contact information to the assigned family liaison.
5. Allow the entire team to visit the accident scene and take pictures using only MSHA issued cameras and equipment – NOTE: all photographs are federal records that must be preserved.
6. Assign tasks to team members; follow up on their progress.
7. Accident scene must be sketched to scale (use compass for direction; put north at top of page) if not previously done.

B. Inspection of accident site

1. The AI team should ensure that all steps have been fully completed by the Initial MSHA Responder; refer to the Checklist. Validate the accuracy of the information collected.
2. Observe the area - ask if anything has been moved, changed, missing, or different from the MSHA Initial Responder's examination.
3. Follow-up on photos, sketches, initial statements, equipment information, etc., collected by initial responder (supplementing as needed or appropriate).

C. Collecting Physical Evidence

One member of the investigation team should be assigned responsibility for collecting, marking, and maintaining the chain of custody of physical and documentary evidence obtained during the investigation. Physical evidence (such as equipment, timbers, roof bolts, pre-shift books, etc.) should be collected according to the applicable procedures in the Special Investigations Procedures Handbook. As practices and procedures that yield reliable and admissible evidence often are common to both MSHA special investigations and MSHA accident investigations, accident investigators may consult the Special Investigations Handbook chapter on evidence for information that may be applied to further evidence collection during an accident investigation.

The following additional guidelines also apply to evidence collection:

1. Do not take or allow anything to be taken without establishing, maintaining, and documenting the chain of custody.
2. An MSHA accident team member must be present before anything is removed.
3. Evidence must be permanently marked (i.e., uniquely identified) or tagged with time and date of custody, as well as the name of person and his/her signature or initials taking custody.
4. Evidence must be properly and carefully taken into custody so that its physical properties are preserved and/or electronic data is not lost. Considerations include the storage container, temperature, battery, moisture, damage during transportation, etc. Consult Technical Support on such matters.
5. Evidence must be secured at all times.

6. Should the mine operator refuse to release any items or evidence, the matter should be referred to the District Manager for referral to the AIPM. Some states may have additional legal authority to obtain evidence; therefore, cooperation between MSHA and state officials in the above matters is imperative. If an issue arises concerning potential alteration of the evidence, including destructive testing, Technical Support and SOL should be consulted.

D. Preserving Digital Photographs and Images

All photographs taken during an inspection or investigation must be retained, uploaded and saved with current date and time according to policy.

III. Investigation Team

The District Manager should make every effort to assemble an investigation team that has had no direct inspection or plan approval responsibility. However, such persons may be used in an advisory capacity to provide information about conditions and practices at the mine or to perform administrative tasks to assist the investigation. Moreover, enforcement personnel assigned to the District or office responsible for the mine may be assigned duties to ensure that the mine is safe and is maintained safely for the investigation team.

IV. Investigation Participants

A. Participants during the Physical Examination of the Accident Scene

Mine operators and miners' representatives have a right to accompany MSHA personnel during the physical examination of the accident site. The mine operator and miners' representatives each should be asked to designate representatives for this purpose. Section 103(f) of the Act provides investigators the authority to control the number of representatives participating in the physical portion of the investigation to allow an orderly investigation.

If miners want to designate a representative following an accident, the procedures for such designation are prescribed in Title 30 CFR Part 40. Miners' participation in the designation of a representative will be treated as confidential to the extent allowed by law if they request confidentiality. Contact the District Manager as needed for further information regarding the identification of miners' representatives.

Many states have responsibility and authority under state law for investigating mining accidents. MSHA has historically cooperated with state mining officials in the performance of their investigations. In many cases, documents may be shared between MSHA and other governmental Agencies. See Appendix 5 for a document sharing protocol between MSHA, State, and other government agencies (and similarly Appendix 1 for requests for medical information).

B. Participation during Interviews of Witnesses

Accident investigations include interviews with witnesses who have knowledge of the conditions or practices which may have contributed to the accident (refer to Section VI of this Chapter for interview procedures).

C. Participation during Laboratory Testing

MSHA performs testing of equipment and other physical evidence as necessary to identify contributing or causative factors. State officials, representatives of the mine operator, representatives of the victim, and miners' representatives may observe in most cases, as long as it is safe for them to do so and their presence doesn't interfere with the process. When such testing is destructive in nature, appropriate efforts will be made to notify all interested parties prior to testing.

D. Participation during Review and Analysis of Evidence

MSHA carefully evaluates and analyzes all the facts and evidence gathered during the investigation before reaching a determination as to the cause or causes of a mine accident. The accident reports prepared by the mine operator, representatives of miners, and the state mining agency may be considered during this portion of the investigation. However, persons other than MSHA employees or consultants must not participate in the decision-making process of the accident investigation team.

V. Involvement of a Special Investigator

MSHA's accident investigations are separate and distinct from special investigations. There are circumstances, however, when a special investigator may be assigned as a member of the AI Team. The AITL is responsible for immediately notifying the District Manager when conditions are found that indicate the need for a special investigation, and the District Manager should assign a special investigator who is not a member of the AI Team to conduct an independent investigation.

VI. Information Gathering

Team members, individually or collectively, must completely and thoroughly investigate and, when circumstances and safety allow, observe all conditions and practices relevant to the occurrence under investigation. Detailed records must be maintained of all observations and information obtained to document the investigation. The investigators must determine what happened, when and where it happened, and who was involved. They must also determine how and why the incident occurred so that they will be able to ascertain the root causes and effective methods for preventing a recurrence.

Although preliminary information already may have been obtained and reviewed, the accident investigation does not begin until the investigation team has arrived and observed the accident scene. Investigators will observe any conditions, locations, and/or equipment pertinent to the accident, and they mentally begin the process of reconstructing the sequence of events that led to the accident.

A. Rescue and/or Recovery Work

Where rescue and/or recovery activities have occurred, the investigators should consider debriefing mine rescue teams, MSHA personnel, and other persons involved in such work. These persons can be interviewed if necessary.

B. Hospital Visit

Whenever possible, a member of the investigation team should proceed to the hospital where the injured miners have been taken to obtain preliminary statements, if permitted by medical personnel. A death certificate and, where available, an autopsy report will be obtained as a part of each fatal accident investigation. See Appendix 1 for sample letter requesting medical records.

C. Initial Steps

The team members must obtain copies of all relevant mine information from MSHA records as part of the investigation. This information will be analyzed along with records and information obtained at the mine. For mine accident investigation purposes, additional information from the operator (beyond that required to be maintained under the Mine Act) may be obtained under § 103(h).

All participants should be advised of the hazards of coming in contact with body parts (e.g. skin, limbs, hair), bodily fluids (e.g. blood, urine, feces), or other biological or health hazards. If appropriate, the AITL may contact the Division of Health for precautionary health or biological procedures to be followed while in the accident area. Refer to Administrative Policy and Procedures Manual (APPM), Volume IV, Chapter 428, "Blood Borne Pathogen Exposure Control Program" for guidance regarding blood borne pathogens.

D. Official Accident Investigation File

Any information relevant to a fatal accident - including physical evidence (such as methane detectors), documentary evidence (such as pictures, records and plans), or recorded/transcribed testimony - should be collected, and must be preserved, in a systematic manner and stored at a central location designated by the AITL in coordination with the District Manager. This information becomes the Official Accident Investigation File and is used to support the investigation findings and conclusions. Investigation files should include a running index (file log) of the file's contents. For non-fatal accident investigations, such information may be maintained with the inspection event file, in lieu of an investigation file. A separate E07 or E08 event must be opened for nonfatal and noninjury accident investigations.

A correspondence file should also be maintained, especially for disaster investigations that result in a high volume of correspondence between the AITL, other MSHA offices, and outside parties.

Files containing confidential information, including references to such information in the file log, must be identified as confidential to prevent inadvertent disclosure. For investigations involving multiple investigators, the files should be scanned and maintained electronically in a secure MSHA computer network folder to enhance access by team members, minimize the potential for loss of hard copy files, and simplify copying files for distribution. To facilitate future FOIA requests or other types of information sharing, voluminous documents associated with any accident investigation should be digitally scanned and stored when possible.

E. Sketch/Drawing

A sketch may suffice in the majority of cases; however, a scaled drawing may be necessary to reflect pertinent details of the accident scene. Consult

the AIPM for assistance if needed. A compass direction should be plotted, if it will be used in the text of the report. All dimensions and distances necessary in clarifying the accident should be measured and shown on a sketch. Although some distances can be subsequently reported as approximations, all measurements should be made and recorded to the smallest tolerance practical unless the location of an item is not a factor in the accident. Photographs and/or video recordings must be taken as a part of the investigation when conditions permit. All physical evidence at the accident site that may be relevant to the cause of the accident must be documented.

F. Additional Resources

MSHA personnel who are not on the AI Team can assist with the investigation. Requests for assistance with sketches or other scaled drawings, manipulating video, reviewing electronic tracking data, etc., can be made through the District Manager. For resources such as drones (for overhead photos) or 3-dimensional video (to conduct a visibility study) it may be advisable to add personnel with relevant expertise to the AI Team. The District Manager can make such requests in consultation with the AIPM.

VII. Interviews

A. General Guidance

All persons with information relevant to the accident should be interviewed as soon as reasonably possible. Interviews should be conducted after the accident scene has been carefully examined. However, if the recovery or examination of the accident scene is delayed by hazardous mine conditions or will otherwise be prolonged, consideration should be given to interviewing witnesses prior to the completion of the examination of the accident scene. Notes prepared based on information received during interviews must contain the initials of the person who prepared them and the date the information was collected. As techniques designed to produce useful interview statements often are common for interviews conducted to facilitate MSHA special investigations and MSHA accident investigations, accident investigators may consult the Special Investigations Handbook chapter on interviews for information that may be applied when conducting accident investigation interviews.

State agencies will often conduct their own investigation of the accident. MSHA will coordinate its accident investigation activities with the

authorized representatives of the state agency, recognizing the authority and responsibility of the state agency. However, MSHA will conduct its investigation independent of the state agency if a conflict of purpose arises between MSHA and the state.

B. Immediate Response Contact

Investigators should speak with miners to obtain background information as well as to identify those witnesses who will be interviewed. If a person should refuse to be interviewed, information gathered from preliminary discussions with that person should still be considered. Investigators should speak with anyone hospitalized as a result of the accident as soon as medical authorities permit. Any suggestions for potential interviewees offered by the operator or miners' representative should be considered.

C. Private Contacts/Preliminary Interviews

The investigator must endeavor to privately contact every potential interviewee, either by telephone or in person. These contacts can be facilitated by obtaining employee names, addresses, and telephone numbers from the operator. MSHA is authorized to obtain this information as essential to its mandatory investigatory function under §§ 103(a) and 103(h) of the Mine Act.

During such private contacts, the interview process must be explained and an opportunity for a confidential interview must be offered. It should be made clear that a confidential interview is one where no other parties are present except MSHA, the witness, and their representative (if requested); and that MSHA will withhold such statements from public disclosure to the extent allowed by law. These private contacts should be made very soon after the accident, since these contacts should precede interviews.

If the individual consents, the investigator may conduct a preliminary interview to obtain initial information during the private contact. The individual should be asked whether he/she wants such information to remain confidential, and the individual's response should be documented. These preliminary interviews should be recorded when possible, but only if permission to record is granted.

Information obtained from preliminary interviews conducted before non-confidential interviews, can greatly enhance the interviews. The District Manager may assign persons to assist the lead accident investigator in making these private contacts and conducting preliminary interviews

while the investigator is examining the accident scene. Persons who provide information during a preliminary interview may be asked to participate in an interview, which may be conducted in a confidential manner or with the knowledge/participation of the operator, depending on the interviewee's preference. Persons who give confidential interviews may need to be interviewed again in a general manner during the non-confidential interviews to assist their confidentiality.

D. Interviews

In interviews where the mine operator's attorney is present, the AI Team may seek guidance from the District Manager to ask for RSOL to participate in person or over the phone.

Each witness is to be interviewed separately. Witness interviews are completely voluntary, and a witness may refuse to answer any question or may terminate the interview at any time. A witness' request to have a personal representative present during the interview should be granted. Each witness should be informed that a record of the interview will be made, and that the record will only be shared with individuals or groups to the extent legally required in response to a FOIA request (except where confidentiality is requested) or court order.

Normally, MSHA and the state agency (if any) will jointly conduct the non-confidential interviews. Where appropriate, MSHA and state investigators may cooperate in developing questions prior to the interviews.

The mine operator and the representative of miners (if any) may be invited to participate in private interviews when deemed appropriate. Each party will generally be allowed one representative to attend the interviews. In cases where technical assistance is needed, MSHA may allow a greater number of representatives to attend. The number of persons in attendance should be limited to the minimum needed to conduct an effective interview.

The AI Team is responsible for conducting the interview. Once the interview has concluded, the mine operator and the miners' representatives, if present, may be permitted to ask questions to follow up on questions by MSHA and the state agency, to expand upon information, or to clarify points made by the witness. If the mine operator or miners' representatives believe that new areas of questioning should be explored, they must submit the proposed questions to MSHA investigators, who will then decide whether to pursue that area of questioning. All questioning by

the mine operator or miners' representative is at the discretion of the AI Team member conducting the interview. An opportunity to question may be denied if there is a reasonable basis to believe that such participation would intimidate or confuse the witness or otherwise diminish the value of the interview as a means for obtaining factual and reliable information.

The AITL has the authority to limit attendance at the interviews to MSHA personnel, with or without state agency representatives. Factors the investigator should consider in determining whether to limit attendance include:

1. request by the witness for a confidential interview;
2. potential for public statements or disclosures from participants that may compromise the integrity of the investigation;
3. behavior during interviews that could interfere with the effectiveness of the interview process;
4. indications of disruptive conduct evidenced during the physical inspection of the mine; or
5. other factors which might create an atmosphere adverse to MSHA's investigation.

If appropriate, the witness may be questioned whether the personal representative was freely chosen by the witness and whether the witness is aware of a potential conflict of interest if the personal representative also represents the mine operator.

E. Location of the Interviews

To the extent feasible, interviews should be conducted in a neutral, informal environment, with comfortable seating and lighting, to put witnesses at ease as much as possible. Particularly for non-managerial personnel, off-mine sites should be considered in the location selection.

F. Scope of Questioning

An important consideration during the interview process is to treat the witness with courtesy and respect.

1. *Interviews will be more productive if the line of questioning for each witness is planned ahead of time*. Refer to Appendix 6 for the following statements:
   a. Introductory statement of MSHA investigators

b. Introductory statement for individual interviews
c. Concluding statement of MSHA investigators

2. *Let the witnesses tell their story in their own ways without suggesting an answer*. Allow the witness to fully answer a question before asking a follow up question.

3. *New information may come to light during interviews, and entirely new areas of inquiry may need to be addressed*. Advance preparation does not mean that adjustments cannot be made in the line of questioning; indeed, it often is essential follow-up on a witness' answers before returning to established questions. Where appropriate, a witness, if willing, may be taken back to the accident site so that details of the accident can be more thoroughly addressed during the interview or recalled for supplemental questioning.

G. Permanent Record of the Interview

1. A digital audio recorder may be used to record interviews.
2. In all cases, however, MSHA's record of the interview is the official record.
3. Copies of witness statements must be maintained in the official accident investigation file.
4. Release of confidential statements is not authorized without the express approval of the Office of the Solicitor.

H. Operator Records

The following types of records must be reviewed as a part of the investigation. For each record document when, from whom, and what documents were requested.

1. Mine Accident/Compliance Information.

The accident history and compliance record for at least the past year should be obtained and evaluated to determine if other accidents and violations have similar root causes to those under investigation. If so, an evaluation of whether corrective actions were implemented and followed by the operator should be made to assist in negligence and root cause determinations.

2. *Examination Books.*

   Examination books or other appropriate records should be obtained early in the investigation. In some instances, they may have been collected during the recovery operations. Under normal circumstances, the books should be identified by the team, and a copy promptly obtained. Under receipt and proper chain of custody, MSHA may keep the original records, if needed to support a citation, and provide a copy to the mine operator.

3. *Operator Accident Reports.*

   A copy of the operator's accident investigation report, as required by 30 CFR 50.11(b), should be requested from the operator. This report should be entered in the accident investigation file.

4. *Training Records.*

   The investigation team should determine from training records and by interview whether the victims had received training or instructions related to the task being performed at the time of the accident. If training was received, determine the date the training was given, the name of the instructor, and the training method used. Based on evidence gathered during the accident investigation, a determination should be made as to whether the training was conducted according to the approved training plan. Also, based on this evidence, conclusions may be reached as to whether the training covered appropriate topics.

5. *Rescue and Recovery Logs.*

   If the accident resulted in the recovery of the accident site by mine rescue teams, a copy of the log should be obtained to document any changes made in the mine environment during the recovery.

6. *Digital Records.*

   Early in the investigation, the operator should be advised that the requirements of § 103(j) of the Mine Act to prevent the destruction (including routine over-writing electronic data, memory, video, etc.) of any evidence which would assist in investigating the cause or causes of the accident. The prohibition applies to relevant digital records, including mine monitoring systems, such as atmospheric monitoring systems, belt conveyor systems, main mine fan records, electrical

systems, maps, camera systems. The investigation team should obtain copies of relevant digital records from the operator. This may include the downloading of digital information from the operator's computer hardware.

7. *Other Records, Information, or Making Reports.*

   Pursuant to § 103(h) of the Mine Act, upon request, the operator must provide other records, information, or make reports reasonably required to perform the investigation in addition to those specifically required to be maintained by the Act.

I. Report of Autopsy or Death Certificate

When fatalities are involved, investigators promptly must obtain a copy of the report of any autopsy and a copy of the death certificate. These documents should be reviewed before the formal report is finalized to ensure that the findings and conclusions of the accident investigators are consistent with the official cause of death. However, Districts should not delay finalizing a fatal accident investigation report due to problems in obtaining the death certificate or report of autopsy. The AIPM should be notified by the District Manager of the existence of any inconsistencies as soon as they are apparent.

In all instances where the cause of death noted in the autopsy report and/or death certificate is inconsistent with the findings of the accident investigators, the inconsistencies must be reconciled or explained in the report of accident investigation.

J. Information from Other Sources

MSHA will accept information relevant to mine accidents from any source. MSHA will accept such information either publicly or by confidential arrangement. The AITL must afford any interested party the opportunity to present relevant information. As an independent investigating authority, MSHA must make its own evaluation of the merit and meaning of such information independent from, and regardless of, any other party's evaluation.

K. Miner Accident Injury Information from Medical Institutions

MSHA may obtain medical information and records about a miner's injuries potentially caused by a mine accident under the HIPAA

regulations. Such disclosure is limited to information necessary to carry out MSHA's Mine Act public health responsibilities (refer to Appendix 1).

L. Management Structure of the Operation

Investigators should determine the management structure of the operation. This includes personnel directly affecting the instructions given the miners, how work procedures are established at the mine, and the methods used for mine planning, including:

1. The responsibility for conducting mine examinations, as well as the monitoring by upper management of such examinations,
2. The safety management procedures and organization to determine its function in relation to the accident, and
3. The responsibility for mine/workplace design and equipment selection and maintenance for any possible relationship to the accident.

As part of the accident investigation, it is important to determine if entities other than the identified mine operator played a significant role in operating the mine. Circumstances surrounding the operation of a particular mine (e.g., entities with few employees and with relatively short histories of operation at the mine site, entities who have lease agreements with other entities involved in mining), as well as information derived from local MSHA inspectors, may raise concern regarding the identity of the "operator" or the existence of multiple operators or independent contractors.

If information suggesting that an entity other than the one listed with MSHA as the "operator" may also be involved in the operation of the mine, such information should be included in the accident investigation report. Since a determination regarding the status of other entities as an "operator" will often involve an analysis of legal issues, it will be necessary to consult with the Office of the Solicitor.

VIII. Accident Causation Analysis

The primary purpose of an accident investigation is to determine the causes of an accident to prevent similar occurrences. The investigation ultimately must identify the root causes of accidents so that future unsafe work procedures and conditions may be identified and eliminated.

A complete and thorough accident investigation must be structured to properly identify, explore, and develop root causes in the interest of accident reduction or elimination.

After identifying the direct causes of the accident, the investigator must give full consideration to related or underlying conditions, practices, or circumstances. The investigator must constantly ask "why" or what caused or allowed these to occur and, if they had not existed, would the likelihood of a recurrence be reduced or eliminated. **Investigators ultimately must attempt to discover what decisions and actions / inactions were the root causes of the accident.**

Accident causation must be evaluated at three levels: direct, indirect, and root causes.

A. Direct Causes

All accidents result from a direct cause, which is the energy source or hazardous material that inflicted the injury or resulted in the unplanned event. The accident classification typically hints at the direct cause, such as fall of roof. However, the direct cause should be more specifically developed (e.g., the size and rock composition of roof that fell, or the specific nature of a machinery component failure). Environmental and physical factors must be determined to identify, quantify, and qualify the direct cause.

1. *Environmental Factors.*

   The effect of the mine environment on the accident must be investigated, such as:

   a. the mining height;
   b. ground conditions;
   c. climatic/weather conditions (e.g., precipitation, temperature, wind, lightning);
   d. gas liberation;
   e. material outbursts;
   f. road grades and conditions;
   g. material dusts; and
   h. environmental conditions (e.g., contaminants, noise, artificial illumination, radiation, and the adequacy of the work surface or space) should also be assessed for their possible influence on

personnel or equipment involved in the accident.

NOTE: An element or condition must not be considered a factor just because it exists; its contribution to the accident must be verified.

2. *Physical Factors.*

The physical factors involved must be evaluated for their effect on the cause of the accident, such as:

a. the design of the mining system, facilities, or equipment;
b. the size and shape of pillars that may affect roof stability;
c. the design of a ventilation system that may affect its sufficiency;
d. selection of equipment that may be unsuited to the mine or mining system;
e. the maintenance of the equipment or tools may be a factor in an accident; and
f. the use of protective clothing or devices that may be a factor due to their absence, condition, or improper use.

Material (equipment or components, structures, etc.) failures or malfunctions that may have impaired the operational capabilities of equipment or contributed to a structural failure must be assessed. Failure can be the result of exceeding the design capability or operating limits of the item in question.

The causes of failures must be identified. Damage that occurred during the accident should be identified in detail, and/or specimens gathered for analysis to determine the mode and sequence of failure.

A proper evaluation is dependent upon determining the difference between failures that may have caused the accident and damage caused by the accident. In cases where preliminary evidence (e.g., personnel statements) indicates that no failures or malfunctions occurred, the examination is still recommended. The purpose of the examination in this case would be to substantiate that a failure did not occur.

If the investigation team has identified or at least suspects a failure or malfunction, it must continue the search for evidence of the cause of failure.

Components that the investigation team has identified or suspects as having failed may need to be shipped to a testing facility. This type of analysis is important where the investigation team may not have the capability to determine why a component failed. Technical Support must be used whenever possible for these evaluations.

Equipment manufacturers can be used as a source of information concerning the design, operation, maintenance, failure or malfunctions of equipment. Contact with the manufacturer must be coordinated with the AIPM.

The lack of special tools or equipment may have been a factor in the accident. The investigators should be alert to this potential and evaluate whether the lack of a particular tool or equipment may have been a factor.

B. Indirect Causes

Indirect causes are human actions or inactions associated with the hazard or unplanned event described in the direct cause. Safety programs and regulations require miners and mine operators to take **specific actions** to eliminate, mitigate, or reduce the miners' exposure to hazards, including: conducting examinations, providing installations, and correcting or eliminating hazards as they develop. To identify indirect causes, direct causes should be evaluated to determine if they resulted from one or more of the following actions/inactions:

1. *Examination*. Did the direct cause exist because of:
    a. No examination?
    b. Deficient/improper examination?
2. *Installation*. Did the direct cause exist because of:
    a. Lack of required installation?
    b. Improper installation?
3. *Correction*. Did the direct cause exist because a hazard was:
    a. Not recognized?
    b. Not reported?
    c. Not corrected if reported?
4. *Training*.
    a. Was training sufficient?
    b. Was training effective?

This evaluation of the actions or inactions of personnel involved in the accident must also determine compliance with applicable regulations, formal standard operating procedures, and generally accepted health/safety practices. All actions relevant to the accident must be documented so that a chronology of the events which occurred before, during and, where appropriate, after the accident, can be developed. Supervisory actions or inactions pertaining to the accident area or work activities of the victim must also be ascertained.

C. Root Causes

A root cause is a factor that caused a mine hazard and should be eliminated through process or operational improvement. The root cause is the core issue—the highest-level cause—that sets in motion the entire cause-and-effect reaction that ultimately leads to the accident. The root cause often lies in a failure to develop, implement, or follow appropriate policies, procedures or programs. Examples of operator's rules, policies, procedures or programs include: roof control plans, safety programs, mine ventilation plans, training plans, and other written company safety documents. Most root causes generally can be attributed to one of the following lapses in the operator's safety management program:

1. *Policies, procedures, or programs were not in place to guide miners in the appropriate actions*. In such cases, mine operators should be encouraged to develop and implement appropriate written procedures.
2. *Policies, procedures, or programs did not contain the correct / sufficient steps or direction*. In such cases, mine operators should be encouraged to revise their procedures to include appropriate information.
3. *Policies, procedures, or programs were not clear or properly communicated*. In such cases, mine operators should be encouraged to rewrite and clarify their policies, procedures or programs, adding drawings, maps, or pictures as appropriate, and/or effectively communicate their policies, procedures or programs.
4. *Compliance with policies, procedures, or programs was not monitored or enforced*. In such cases, mine operators should be encouraged to require monitoring and enforcement of their policies, procedures, and programs.

Most root cause statements can be formatted in one of the four categories listed above. To more specifically identify the root cause, evaluate the

operator's policies, procedures, and programs applicable to each action/inaction for:

1. *Information*: Did a misunderstanding or lack of communication have a bearing on the accident? Was the necessary information given to and understood by the miner?
2. *Knowledge/Training*: Even if the victim was trained in accordance with the regulations, the investigation should consider whether the victim understood the task and hazards related to it.
   a. Did the miner know how to perform the task?
   b. Could the miner apply the knowledge to the task?
3. *Tools/Equipment*:
   a. Were appropriate tools/equipment available?
   b. Were appropriate tools/equipment used?
   c. Did the procedures for using tools or equipment have a bearing on the accident?
4. *Incentive*:
   a. Was incorrect performance rewarded?
   b. Was correct performance punished with suitable consequences?
5. *Capacity*: Was the task made difficult because of the miner's:
   a. Physical ability?
   b. Concentration - did some event or circumstance result in apparent loss of concentration in the performance of a task or job?
   c. Habits?

D. Corrective Actions

Prior to terminating the § 103(k) or § 103(j) order, investigators must confirm that the mine operator has developed and agreed, in writing, to timely implement corrective actions addressing: (a) each direct cause (to eliminate existing hazards associated with the accident or violation); (b) each indirect cause; and (c) each root cause to institutionalize policies, programs, and/or procedures that plausibly may prevent similar occurrences in the future. Appropriate corrective actions must be reflected in the Action to Terminate section of corresponding enforcement actions.

IX. Close-out Conference

At the conclusion of the on-site examination portion of the accident investigation, a close-out conference must be held with both operators and miners' representatives to discuss future investigative actions and, if appropriate, the preliminary findings of the investigation. Where appropriate, operators should be informed that the investigation is on-going and that enforcement action may be forthcoming.

X. Personal Contacts and Visits to Surviving Family Members (section updated in May 2016)

The District Manager or family liaison will be as responsive as possible to requests from the families of mine accident victims for information relating to mine accidents.

A. Initial Contact

As soon as possible following a fatal accident, surviving family members should be contacted by an MSHA management official. All contacts, including personal visits, should be scheduled at a respectable time interval after the accident, with special consideration afforded to family religious or local customs and practices. In particular, at no time should initial contacts be scheduled so as to interfere with funeral arrangements.

The initial contact made by an MSHA management official should be as brief as possible, but express the sympathy of all MSHA personnel, as well as that of the mining community for the family's loss. The initial contact should also include the offer of a personal visit if the contact is being made by telephone. Family members should be provided contact information if they wish to consult with MSHA, provide information, or comment during the course of the investigation. Also, without disclosing internal or confidential information, the contacting official should discuss MSHA's role, normal procedures, and the status of the investigation.

In the event that a personal visit is requested, the MSHA management official should provide reasonable accommodation to family members, including the date, time, and location of such visit. Non-managerial investigation team members may accompany the management official; however, it is not necessary that the entire investigation team participate. The MSHA management official will take the lead in discussing the accident with the family.

Topics which should be included in the discussion with family members are the status of the investigation, the investigation process, and preliminary factual events surrounding the accident. The family members should also be provided an opportunity to comment and to ask questions. Given the investigation's preliminary stage, no conclusions or determinations regarding the accident should be offered.

Following all initial contacts, the District Manager should inform the AIPM, Regional Administrator, and Administrator by sending a memorandum via email.

B. Interim Contacts

During any contact with family members, particularly in the interim period before release of the final report, the management official should listen carefully and closely to the comments, concerns, and questions. Issues raised during this period are frequently those of most concern to the surviving family members and will require resolution, if possible, during the final family contact, at which time the finished report will be provided and thoroughly discussed. Although it is not necessary to notify Headquarters in regard to these contacts, the family liaison should log or otherwise track these contacts in the event reference to them becomes necessary.

C. Report Release Visit

In the case of fatal accidents, it is MSHA policy to attempt to provide the victim's family with the first copy of the final report of investigation prior to its general release. A personal visit should be scheduled with the family to provide them a copy of the report and to review the findings and conclusions prior to distributing the report to others. This visit will also be conducted by an MSHA management official. When scheduling these visits, the MSHA management official should make every effort to accommodate family members' preferences as to the location, date, and time of the visit.

During this visit, attending family members should each be provided a copy of the completed report, accompanied by copies of any contributory enforcement actions. In some instances, the management official (ordinarily the District Manager) may not have participated directly in the investigation and may not be fully familiar with all its aspects. In this case, a member of the investigation team, preferably the AITL, should also be present for consultation or assistance. The contents of the report, with

particular focus on its findings and conclusions, should be thoroughly discussed with those in attendance.

Family members should each be provided an opportunity to comment and to ask questions. Any significant issues raised by family members should be responded to, if possible or appropriate, and duly noted. However, any attorneys representing the family that may be present should not be allowed to dominate the discussion with negligence and liability questions, and MSHA representatives should not speculate or offer information beyond that developed during the accident investigation. In addition, MSHA representatives should not comment on, or provide advice or guidance regarding, any litigation (including potential operator challenges to contributory violations) that may arise from the accident.

Within five working days following the final contact or visit, a memorandum must be prepared for the Administrator and routed through the appropriate District Manager, Regional Administrator, and AIPM. This memorandum should contain the location and date of the visit, a listing of those in attendance, and a synopsis of any significant issues or points of comment raised by surviving family members.

In the event that surviving family members decline the offer of a personal visit and prefer to review the report privately, a copy must be forwarded to their specified address by certified mail, return receipt requested. This is a courtesy extended by MSHA. Public release of the report should be delayed until receipt and review by family members.

As soon as possible after the release to the family, a similar overview meeting must be conducted with the mine operator. This meeting should include the miners' representative. If extenuating circumstances won't allow this meeting to be held within a reasonable time, general distribution of the report will proceed with copies provided to the operator.

D. Contacts Involving Representatives of Families

All personal contacts initiated by MSHA are extended as a courtesy to surviving family members and are not intended to be adversarial or biased. These contacts are rather designed to involve family members in the process of the investigation and to serve as an additional resource to the family. Thus, non-family participation and involvement is not encouraged absent unusual circumstances. In the event that any contact is made or scheduled that involves parties other than family members, the District

Manager must contact the AIPM for guidance before continuing such contact.

CHAPTER 4 - REPORTING AND REPORT WRITING

I. Purpose

This chapter provides guidance regarding the compilation and dissemination of factual information derived from accident investigations. The procedures and format used for the reporting the findings of occupational illness investigations are different and are referenced in Chapter 1, Section III(B).

II. Preliminary Report of Accident

A. Reporting

The District should provide the Preliminary Report of Accident (MSHA Form 7000-13) as soon as possible but not later than 48 hours after the initial notification of the accident. Unless the system is out of service, the form will be completed on the appropriate database and sent by email to the AIPM.

When gathering preliminary information, any equipment involved in the accident must be identified by manufacturer, serial number, and model number.

B. Classification of Mine Accidents

Consult the AIPM for guidance on classifying the mine accident. The accident classifications can be found in Appendix 7.

III. Report of Investigation

A. Preparation of Report of Investigation

A formal report is required in all investigations involving fatal accidents. The District Manager also may require formal reports for other non-fatal or non-injury investigations. Promptly after the on-site investigation, witness interviews, and technical tests are completed, a report must be written under the direction of the District Manager.

The AITL will contact the AIPM for a sample copy of a report of investigation to use in preparing this report. The formatting and content in a report of investigation may change slightly over time.

Ordinarily, the AITL will not return to regular inspection assignments until

a draft report is complete. Additionally, absent unusual circumstances, no AITL will be assigned more than one fatal investigation concurrently.

1. *Interim briefing* – District, Accident Investigation Program Office, RSOL, MSH Division, and Technical Support when they assisted with the investigation.
   a. Conducted when all onsite investigations and interviews are completed.
   b. District sends rough draft of Description, Discussion, and proposed Enforcement Actions before briefing.
   c. Held as soon as is practical and no later than 20 calendar days after the fatal accident, unless there are extenuating circumstances. The District Manager must request, through the Regional Administrator, an extension from the AIPM if this rough draft will not be available within 20 calendar days, giving reasons for the delay. Extensions should rarely be necessary because investigators are to continue the investigation and complete a draft report without interruption unless essential technical testing or evaluation is needed or ongoing.

2. *Critical Review of Draft Report in the District* – The District will perform a critical review of the Report of Investigation. Thoroughly read, study, and evaluate the report. Ask questions, make comments and revisions to improve the report's message and readability, content and structure, and grammar and formatting. All proposed changes should identify the reviewer (i.e., handwritten, track changes format).

   The report must include maps, photographs, and other illustrations necessary to present a complete story of the matter investigated. The original maps and/or illustrations must be prepared in a manner that will allow copies to be made. If copies of the maps and illustrations cannot be prepared in the office responsible for conducting the investigation, they may be requisitioned through an MSHA office having the necessary facilities.
   a. AITL: prepares report
   b. District Accident Investigation Coordinator (AIC):
      1) Closely monitors progress made by AITL.
      2) Performs first critical review of report.
   c. Assistant District Manager performs second critical review of the report.

d. District Copy Editor (someone proficient in writing, formatting, grammar, etc.):
   1) Reviews report for grammar, punctuation, and readability by a layperson.
   2) District should have at least two people available who have these skills.

e. District Manager:
   1) Performs third critical review of report.
   2) The District Manager may elect to combine the critical review steps by having concurrent reviews of the report.

f. District AIC sends report to the AIPM only after each of these persons does a critical review of the report and as soon as the District believes the report is complete and ready to be posted on the MSHA website; but no later than 10 calendar days after the interim briefing, unless extenuating conditions exist.

3. AIPM initially reviews and returns with comments to District within 3 working days.

4. District revises and sends report back to AIPM within 2 working days unless there are extenuating circumstances.

5. *Violation conference call*: District, AIPM, RSOL, MSH Division, Division of Safety (or Division of Health, if applicable), Technical Support (when involved)
   a. Held within five working days of the AIPM receiving the revised report.
   b. RSOL, MSH, DOS/DOH, TS review report, provide comments, revisions, and ask questions. AIPM works with the District to address these comments, revisions, and questions. Because contributory violations often result in litigation involving SOL, particular emphasis should be focused on achieving consensus between the AIPM, the District, RSOL, and MSH Division regarding the fact and nature of any contributory violations.

6. The appropriate database must be updated with complete information for each E06, E07, and E08 event completed. The root cause analysis and text of the database report should coincide with the published paper report (in cases where one is produced). The completed 7000-50

forms should be reviewed by the supervisor and printed copies retained in the investigation file.

B. Report of Investigation Format

1. *Cover Page.*

Each cover page of a fatal accident investigation report must bear a case number assigned by the AIPM and positioned in the upper right corner. The catalog number provides a means whereby libraries and other repositories of fatal accident investigation reports may efficiently catalog and store reports for ready retrieval by interested parties. The case number must consist of the following three components:

a. FAI (Fatality Accident Investigation).

b. The Event Number.

c. The number of fatalities involved in the accident.

2. *Table of Contents.*

Refer to the sample copy provided by the AIPM for a general report outline and Table of Contents. Use the Table of Contents template in Word.

3. *Report Content.*

The report should inform stakeholders of the facts and circumstances that resulted in an accident, such that similar accidents might be prevented. Thus the report should convey the essential information as concisely and effectively as possible. Supplemental information can be maintained in the investigation file without being included in the report. The following is a description of the sections of a formal report:

a. *Overview*. The overview provides critical and concise information about the accident and conclusion early in the report. A photograph should be included in the Overview.

b. *General information*. This should include mine type, location, ownership, management; relevant involvement of independent contractors; mining method; and any unique factors pertinent to the operation. Also include MSHA inspection activity and non-fatal accident incident rate information.

List the principal officers of the company. These names and titles

should be stated exactly as they are listed in the Operator's Legal ID on file in MSIS. If the Legal ID is outdated, actions should be initiated to make the necessary corrections. Do not list management at the mine if they are not listed as principal officers in the Operator's Legal ID.

c. *Description of the Accident (Story of the Event)*. This is a chronological description of the mine or facility's operation or work procedures beginning at an appropriate time so that the reader can comprehend the events leading up to the accident and understand the total mine environment if it relates to or affects the accident. Investigators should include the times of day for the major events listed in this section, designating between "AM" and "PM" (do not use military time format in the report). Information not necessary to understand what happened, but needed to understand the cause or contributing factors, can be described in the discussion section.

   Information that is extraneous to the accident should not be included. Any recovery activities or post-accident activities can be covered in this section. Also, any MSHA participation in recovery activities can be woven into the story.

   Every person mentioned in this section must have his or her appropriate title capitalized with a statement concerning how this person arrived on the scene of the accident.

d. *Investigation of the Accident*. This section briefly outlines the investigation, stating when it started and ended, along with pertinent activity descriptions as necessary to provide an insight to the investigation.

e. *Discussion*. This section contains a discussion of all pertinent factual details or factors bearing on the event. Information relevant to the accident should be documented, discussed, and evaluated in paragraph or subsection format. The mining methods, equipment, plans, and work procedures believed to have an impact on or contributed to the accident should be discussed. This section should be used to document MSHA's consideration and determination of the relative importance of the information learned in the investigation.

   Information that supports the direct, indirect, and root causes of the accident, as well as information considered in excluding factors that

did not cause or contribute to the accident, is the basis of this section.

Also, include all information that supports any citations and orders issued as contributory violations. New information learned during any phase of the investigation, not mentioned elsewhere, can also be introduced and discussed here.

The results of any laboratory analyses should be presented in this section.

f. *Root Cause Analysis*. Root Causes, along with corresponding Corrective Actions, must be identified in this section. Corrective actions are written policies, procedures, and/or programs the mine operator adopted and implemented to prevent a recurrence of the accident. Corrective Actions should be available for review by the AIPM.

g. *Conclusion*. The conclusion states the causes of the accident. The conclusion should list the **direct**, **indirect**, and **root** causes of the accident. Facts or information not discussed elsewhere in the report should not appear in the conclusion. The conclusion must be fully supported by facts developed within the body of the report.

h. *Signature*. The report must include the approval signature and date.

i. *Enforcement Action*. This section must contain any enforcement action taken as a part of the accident investigation including § 103(k) orders, § 107(a) orders, and citations, orders, or safeguards issued for conditions or practices which contributed to the occurrence of the accident. The narrative portion of contributing citations and orders should be stated verbatim along with the CFR section cited and type of action. The entity cited must be stated and violation number can also be provided. There should be no information in the contributory citation and orders that is not contained in the report before the Root Cause section.

j. *Appendices*. The report must contain the following separate appendices, if applicable:

1) **Sketches and/or Photographs –** Additional sketches and/or photographs necessary to clarify the report must be included. Labels should be added to identify key objects or areas. Include

a compass on aerial sketches, drawings, and photographs. Include a scale or the words "NOT TO SCALE."

2) **Charts, Tables, Illustrations, and Maps –** This information can be included to clarify or substantiate the report. On illustrations and maps, labels should be added to identify key objects or areas. On maps, include a compass and a scale or the words "NOT TO SCALE."

3) **Persons who Participated in the Investigation** - List these persons and the organization they represented. Names and titles in this appendix must match exactly as they appear in the report.

4. *Equipment Identification.*

Descriptions of equipment should be factual and not suggest inferences about facts not in evidence.

a. The investigator should not assume, and therefore not state or infer in the report, that the equipment conforms in all respects to the Original Equipment Manufacturer's (OEM) configuration merely because an OEM is identified on an MSHA approval plate. Such assumptions and inferences can be avoided by using generic descriptions and reporting only incontrovertible physical evidence such as information on name plates and approval plates. For example, when referring to a permissible shuttle car in an accident investigation report, the report should state only that the equipment involved in the accident was an electrically-powered, rubber-tired, coal hauler which bore an MSHA approval plate which contained information explicitly stated on the plate. The report would then document any or all of the information on that plate as well as any other nameplate (such as a rebuild shop's plate) that might have been present.

b. It would also be appropriate to record any relevant specifications of the operating parameters of the equipment such as nominal voltage and any relevant physical characteristics of the equipment that may have contributed to the cause of the accident. If it is determined that the approval plate or any other identifier on the machine is improperly affixed to the machine, such determination also may be reported. The report also may list any observed permissibility violations.

c. The same guidelines exist for non-permissible equipment. For example, a hand-held pneumatic face drill should be identified only with that description and any nameplate information that may be present. Use of trade names commonly associated with such a device is not appropriate because the trade name may be registered by a particular manufacturer.

5. *Review of Report.*

When a fatal accident investigation report draft is completed, it is to be emailed to the AIPM for review. A copy of any enforcement actions issued or anticipated must accompany the draft report. A conference call will be arranged to discuss proposed enforcement actions and will include the District Manager or designee, the AITL and AI Team members, the RSOL, the MSH Division, the Division of Safety (or Health) designee, and the AIPM or staff. Following the AIPM review process, the report will be finalized.

6. *Delivery of the Report.*

MSHA policy is for the District Manager to hand-deliver a copy of the final fatal accident report to the victim's family prior to its release to any other entity. After the family visit, the District Manager or his designee will deliver the report to the mine operator, contractor, appropriate labor organization or miners' representative prior to its release to other entities.

a. Visit to the Victim's Family. A copy of the report will be hand-delivered to the victim's family first. More detail on this topic may be found in Chapter 3.

b. Visit to the mine operator and contractors (if applicable) to discuss the contents of the report and measures taken to prevent future similar accidents. At this time, any enforcement actions will be issued and discussed with the mine operator. Afterward, if no additional investigation activities are needed, the § 103(k) order is terminated in coordination with the District Manager.

c. Visit to labor organization or miners' representative. The contents of the report should be briefly explained with discussions on any measures to prevent future similar accidents.

7. *General Release of Report and Press Statement.*

Once copies of the report have been provided to the victim's family, the

mine operator, contractor (if applicable), and the labor organization or miners' representative, the report is released to the general public.

8. *Final Reports on the Internet.*

   As soon as possible after the meetings, the report will be posted on the MSHA public internet website.

IV. Report Forms

A. Accident Investigation Database

Completion of the appropriate Form 7000-50 and entry into the database is required for all investigation events coded E06, E07, or E08. **Non-chargeable accidents investigated under an E33 code should not be entered into the database**.

As the primary internal system for assembling/storing complete and accurate accident data, the system relies on the accurate completion of accident investigation data forms (MSHA 7000-50 series forms) for all chargeable accident investigations **(including those where formal reports were completed)**. The use of the AI data forms guide the investigator in considering specific topics in the investigation, ensuring the investigation is complete, and accurately populating the accident investigation information database.

B. Use of the Accident Investigation Data Forms 7000-50a – f

The AI data form set includes:

1. a general accident investigation data form (7000-50a),
2. a victim form (7000-50b),
3. an independent contractor form (7000-50c),
4. an ignition/explosion form (7000-50d),
5. a roof fall form (7000-50f), and
6. a continuation form (7000-50e).

Upon completion of the investigation, the appropriate forms will be approved and entered into the AI database. A copy will be maintained with the accident investigation file. These forms are not intended for public release, and should be filed under the cover of a completed MSHA Form 2000-22 as part of the investigation event.

A **set of AI data forms is not required, and no data should be entered into the database, for deaths on mine property that are determined to be natural causes or otherwise not chargeable to the industry**. A preliminary report is required, however, for all deaths on mine property, and data should be entered into the preliminary database. The accident descriptions for the preliminary report and the Form 7000-50a should be identical.

C. Reports

The database is designed to generate a data form report (a set of completed MSHA 7000-50 forms). The data form report may serve as the final report for **non-fatal** accident investigations.

Appendix 1: Example of Letter to Obtain Medical Information Necessary to Conduct Mandatory Investigations

To Provider/Plan:

The Mine Safety and Health Administration (MSHA), U.S. Department of Labor is requesting that you provide medical information concerning mine accident victims as requested by the Secretary of Labor's authorized representative.

We are requesting this information because we are conducting a mine accident investigation under the federal statutory authority of Section 103 of the Federal Mine Safety and Health Act of 1977 (Mine Act), 30 U.S.C. § 813, to investigate health and safety conditions, causes of accidents, diseases and physical injuries.

We recognize that the requested information is considered to be protected health information under the HIPAA Privacy Rule (45 CFR §§ 164.501 through 164.534), and that many of you must comply with this rule. We want to assure you that the Privacy Rule allows you to disclose this information to us without the individual's authorization under the following provisions:

For public health activities (45 CFR § 164.512(b)): A covered entity may disclose protected health information for the public health activities and purposes described in this paragraph to:

> A public health authority that is authorized by law to collect or receive such information for the purpose of preventing or controlling disease, injury, or disability, including, but not limited to, the reporting of disease, injury, vital events such as birth or death, and the conduct of public health surveillance, public health investigations, and public health interventions; or, at the direction of a public health authority, to an official of a foreign government agency that is acting in collaboration with a public health authority.

The Mine Safety and Health Administration, U.S. Department of Labor, is such a "public health authority" because it is responsible for public health matters as part of its official mandate set out in Section 103(a) of the Mine Act. See 45 CFR § 164.501. In that capacity, we are requesting information to conduct a statutorily required mine accident investigation.

MSHA is authorized to collect or receive this information under Section 103(a) of the Mine Act, 30 U.S.C. § 813(a), which provides in relevant part, as follows:

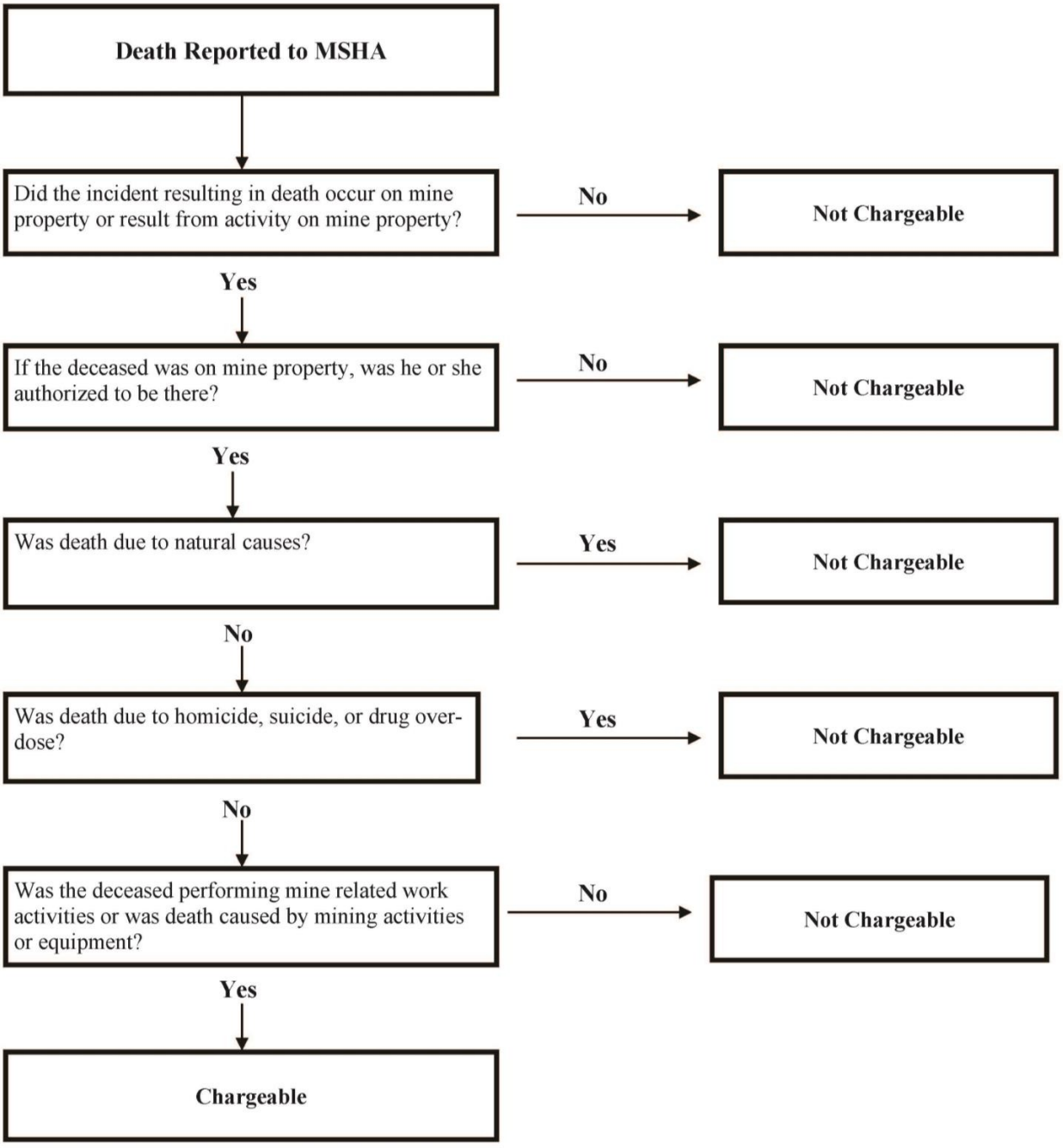
> Authorized representatives of the Secretary … shall make frequent inspections and investigations in coal or other mines each year for the purpose … of obtaining, utilizing, and disseminating information relating to health and safety

> conditions, the causes of accidents, and the causes of diseases and physical impairments originating in such mines ….

The information that we have requested is the minimum amount necessary for us to carry out this public health project under the Privacy Rule. See 45 CFR § 164.514(d).

We trust that this explanation provides the assurances that you require to provide us the requested information. Please contact [MSHA officials] at [202-693-9547] if you have additional questions or concerns.

Appendix 2: Fatal Injury Guideline Matrix



Appendix 3: Procedures for Initial MSHA Responder to Accident Scene – Checklist

MSHA's initial responder should begin gathering information and investigating the accident scene immediately. The following checklist provides inspectors a list of items that need initiated to protect miners as well as to preserve the accident scene and ensure the integrity of the accident scene.

A. Initial Notification (start notes or a journal with timeline)

1. Was this an "immediately reportable accident"?
2. Did mine operator call 800-746-1553?
3. How was MSHA notified, by whom, when?
4. How many deaths occurred (or, if the event is ongoing, could occur)?
5. Retrieve accident investigation kit if possible. Suggestions for a list of items commonly used during accident investigations can be found in Appendix 4.
6. Name, phone number and location of Accident Investigation Team Leader (AITL) and approximate arrival time.
7. Names, phone numbers, and locations of other persons joining the investigation team.
8. Pertinent mine information: ID, mine name, mine operator/contractor, contact person at mine, GPS or 911 address.
9. Was § 103 j/k order issued? (Time, to whom, by whom, area affected, requirements/restrictions placed on the mine).
10. Relay your contact phone number to the District and AITL.
11. Equipment and area of mine involved. Get coordinates of accident scene if applicable.
12. Number persons injured and conditions.
13. Motel accommodations with phone number for investigators (everyone should stay in same motel; someone else can make room reservations - 5 days minimum).
14. SOL been assigned? Who and phone number? Contact District Office for assistance.
15. Any other agencies onsite – which agencies, representatives, and phone numbers.

B. Travel to Mine

1. You DO NOT have to wait for the above information to depart - can be forwarded.

2. Advise District and AITL of departure time and estimated arrival time.
3. Travel to the accident site without delay (have your AR credentials available).

C. Arrival at Mine/Accident Site

1. Meet with management and introduce yourself.
2. Remind mine management that they are under a closure order and explain.
   a. Ensure the § 103(j) or (k) order has been written or issued appropriately.
   b. Explain specifically the area that is under closure order and that no one is allowed within the affected area without MSHA's written permission in the form of a modification to the (k) order.
   c. Have mine management help gather information to complete the 7000 series of forms.
   d. Is there a miners' representative (if so afford the representative the opportunity to be included in everything)? Clarify if there is a union affiliation or if this is an onsite representative.
   e. Allow management to explain what happened.
   f. Obtain copies of records (training, onshift, preshift).
   g. Obtain a list of management, attorneys, contractors, and miners' representative with titles at mine.
   h. Ask mine management if witnesses' statements have been reduced to writing (ask for copy).
   i. Ask mine management if any first responders have been onsite.
   j. Have the mine operator separate witnesses; witnesses should not remain at the accident scene.
   k. Obtain a list of phone numbers for all employees.
   l. Ask if anything at the accident site has been moved or changed - if so, why, by whom, and document original location.
   m. Do not talk about writing violations with anyone except MSHA.
   n. Use respectful terms when referring to the manner of death.
   o. Determine what PPE is needed for hazards at the accident site, such as chemical spills, blood borne pathogens, and working at heights.
   p. Inquire into video surveillance, monitoring, tracking, GPS, and data collection systems (including routine over-writing data, memory, video, etc.). Consider such systems used by neighboring properties, visiting traffic, and local police.

3. Travel to accident scene
    a. Evaluate the scene and determine if it is safe for all persons involved in the accident investigation, including the accident investigators.
    b. Do a visual overview of area - ask if anything has been moved or changed. Do not disturb the scene.
    c. REMEMBER: have an open mind to what may have caused the accident and don't fixate on one specific accident cause.
    d. Ask witnesses to explain what happened and procedure for doing job or task.
    e. Take photos (overview and close-up, using only MSHA issued cameras and equipment).
    f. Have area secured and access restricted. In general this should be limited to one miners' representative and one representative for the mine operator.
    g. Identify physical evidence.
    h. Have people on site to explain what has changed since the accident occurred. Write what they say and make a sketch of the site.
    i. Obtain info on tools and/or equipment related to the accident (make, model, serial no., MSHA approval no., operator/user manuals, maintenance records). Equivalent information (i.e., blueprints, drawings, schematics) should be gathered for structural, process, impoundment issues, etc.
    j. Obtain the name/location of the accident scene according to operator (Example: North Wall, 400 level).
    k. Avoid contact with blood and body fluids.
    l. Obtain measurements of tools and/or equipment involved in the accident including, distances, spacing, etc.
    m. Call District and explain what you have seen and what has been told to you. One or two photographs transmitted by a text message can be extremely helpful to District or Headquarters management.

4. Meet with witnesses
    a. Talking with witnesses upon arrival is one of the most important parts of the investigation - document, and be conscious of the emotional condition of the witness.
    b. Have witnesses explain in their words what happened (let them talk).
    c. Any problems in the accident area before or with equipment?

d. Any other similar accidents before?
e. Who is the supervisor for that area or person?
f. Why did the witness think the accident happened?
g. What could be done to prevent the accident?
h. Ask if the witnesses have been interviewed yet and if so by whom.
i. Ask if the witnesses have provided a written statement already.

5. An AI Team will be arriving; some things they may need:
   a. Person to assist EFS with training records.
   b. Room for interviews.
   c. Copy of onshift/preshift examinations, maintenance and training records.
   d. Victim information.
   e. Copy of any statements or mine operator investigation documentation.
   f. Maintenance records and user and maintenance manuals.
   g. Transportation and person to travel with and answer questions.
   h. Potential need for mine electricians and/or mechanics to assist.

6. Obtain information to complete MSHA Forms to the extent possible for the investigation team, including next of kin. Refer to Chapter 4 for more information.

7. Contact information for other entities involved in the accident investigation or response.
   a. Local police
   b. Coroner
   c. EMS
   d. Hospital
   e. State Regulatory Agencies

8. Do not talk or respond to mine operator about potential Mine Act violations.
   a. At this stage, MSHA is attempting to find out what happened. Do not state or imply that the victim was at fault.
   b. Do not state or imply that you know what happened – this will be determined based on the investigation.

D. Wait for AITL if practical

1. Brief AITL of all information and provide documents you have obtained.
2. Be prepared to provide all original material including notes, computer disk with photos.
3. It is MSHA policy to segregate the initial response from the formal investigation. Thus, you will be asked to leave, and you cannot be part of the AI Team.

E. Before Leaving Mine Site

1. Call District and AITL (additional information may be needed before you leave).
2. Ask the AITL for possible job assignments that may provide administrative assistance to the investigation team.

F. Meeting with the AI Team

1. Discuss findings.
2. Inform the AI Team of the necessary PPE to avoid contact with hazardous materials (e.g., blood, bodily fluids and other biological hazards, sharp metal).
3. Explain managerial chain of command at mine.
4. Explain victim's role in the mining operation.
5. Offer input regarding equipment that may be necessary to complete investigation (any specialized equipment or tools necessary for the investigation).
6. Discuss things to look for or questions to ask.
7. Describe the type equipment or tool involved in the accident.
8. Provide your business card with cell numbers.

G. Return to Mine with the AI Team

1. The AITL may want you to take them to the mine.
2. Upon arrival at the mine you can introduce the AITL.

ACCIDENT INVESTIGATION PROCEDURES HANDBOOK

Appendix 4: Items Commonly Used in Accident Investigations

Tools:

- MSHA Digital Camera with extra batteries and charging adapters; set to local time and date
- Blank CDs or thumb drives
- 100′ tape measure
- 25′ tape measure or digital tape with inclinometer
- Flashlight and batteries
- Clip Board
- Pens/pencils and sketch paper
- Cap lamp
- Hand-held spotlight
- W65 or SCSR
- Anemometer and extension pole
- Air current kit
- Reflective vest
- Ear muffs/ear plugs
- Abney level
- Range finder
- Lock and tag
- Safety glasses
- Rubber gloves
- Digital recorders and microphones

Documents:

- Accident Investigation Handbook (the Handbook is also available on the inspector Tablet)
- Procedures for Initial MSHA Responder to Accident Scene - CHECKLIST
- General Field Notes (Form 4000-49F)
- Citation/Order Documentation (Form 4000-49E)
- Preliminary Report of Accident Forms (Form 7000-13)
- Accident Investigation Data Forms (7000-50 a-f)
- MERP Handbook
- Chapters on Evidence and Interviews from the Special Investigations Handbook
- Chain of Custody Forms (Form 2000-200), Evidence Identification Tags (Form 2000-181), Itemized Receipts (Form 2000-201), and red "Closed" tags for the § 103(k) order
- Notebook
- Citation & Order Writing handbook (optional)
- 30 CFR, Mine Act, PPM etc. (optional)

Appendix 5: Example of Letter to Establish a Document Sharing Protocol between MSHA, State, and Other Government Agencies

[Date]

[Name]
[Address]

RE: [Operator's Name]; MSHA Accident Investigation [ID No. or description]

Dear [ ]:

This letter is in response to your request for a copy of investigative materials compiled by the
[ ] District Office, Mine Safety and Health Administration ("MSHA"), United States Department of Labor (the "Department") regarding an accident investigation at [Operator's Name] [mine name] [on specific date OR in specified months/year].

It is the policy of the Department to cooperate with federal, state and local law enforcement agencies to the fullest extent possible under the law, subject to the general limitations that any such cooperation must be consistent with the Department's own statutory obligations and enforcement efforts. It is the Department's view that an exchange of information regarding matters of mutual concern is to our mutual benefit. [***If sharing with a state agency with which MSHA has a Memorandum of Understanding or a "sharing arrangement," include***:] Our common interest in sharing information with your agency, among other things, is discussed in the Memorandum of Understanding [or other title of document] between the Department and the [applicable state agency], effective [date].

In order to share documents with a federal, state or local agency, the Department requires the agency to provide a written statement describing the specific information requested and setting forth the law enforcement purpose for which it is needed. Your [letter/email] dated [date] sufficiently sets forth the documents requested and the law enforcement purpose for which the information is needed. Accordingly, the Department will loan you the following documents from MSHA's investigative files: [description of documents provided] totaling [number] of pages. We are providing you an un-redacted copy of these documents.

Please note that the records provided to you are federal records that we are loaning to your agency. We do not view our release to you to be a public disclosure under the Freedom of Information Act ("FOIA"). *See* 5 U.S.C. 552. The Department has sole

ownership and authority over these records and does not relinquish control over these records by loaning them to your agency. These records shall not be duplicated or further disclosed without MSHA's prior written authorization. The records provided to you in this matter shall be returned to MSHA upon request. *See U.S. v. Napper,* 887 F.2d 1528, 1529-30 (11th Cir. 1989).

Accordingly your agency has no authority or control over the documents provided by MSHA and is not authorized to release them to the public or to introduce these records, or any information gleaned from these records, into any proceedings without the prior approval of the Department. In particular, we ask that you be especially mindful of the following types of information, which may be in the records provide to you, and that the Department considers to be particularly privileged and/or confidential and **not releasable to the public**:

1. Internal opinions, emails, notes and recommendations of federal personnel, including but not limited to, investigators, inspectors, supervisors and District personnel;

2. Confidential and privileged attorney-client communications between Department attorneys and their clients;

3. Department attorneys' work product;

4. The identities of persons who have given information to the Department in confidence or under circumstances in which confidentiality can be implied;

5. Personal and medical information on living persons, including, but not limited to, names and other personal identifiers of individuals in the file such as addresses, telephone numbers and job titles or other descriptions that might tend to identify an individual;

6. Trade secrets and/or confidential commercial or financial information submitted by a person to the Department in the course of MSHA's investigation;

7. Material specifically exempted from disclosure by FOIA or by a federal statute other than FOIA; and

8. The names and identities of MSHA District Office and Field Office personnel with the exception of the District Manager and the Assistant District Manager.

Further, please note that the Department takes the position that sovereign immunity shields it from a subpoena issued by a non-federal court. *Houston Business Journal, Inc. v. Office of the Comptroller of the Currency,* 86 F.3d 1208, 1211 (D.C. Cir. 1996). A non-federal court's review of a federal agency's decision concerning production of evidence would violate the Administrative Procedure Act (5 U.S.C. sec. 702) and, therefore, the

Supremacy Clause of the United States Constitution. *Boren Oil Co. v. Downie,* 873 F.2d 67, 70 (4th Cir. 1989).

The Department considers it a violation of this sharing arrangement if, without prior consultation and approval by the Department, any information within these federal records is disseminated or discussed with sources outside your agency, including representatives of [operator's name], legal representatives of any individual or organization bringing suit against [operator's name], miners or their representatives, or any media outlet.

In the event a request is made by an outside party for any information that has been provided to you, we ask that you decline to make the disclosure and refer the requestor to MSHA's [District Manager's name]. In the event your office receives a subpoena or other demand for any of the records that we have loaned to you, we request that you take reasonable measures, including but not limited to, asserting the common interest privilege, to preclude or restrict the production of information and promptly notify the Department that such a subpoena or demand has been received so that the Department may take all appropriate steps to preclude or condition the production of such information.

If there is a public proceeding, such as a trial, in which you desire to use the records provided to you or you seek testimony of Department employees, we consider it necessary for you to comply with the procedures set forth in 29 CFR § 2.21, the regulations governing the disclosure of information in matters to which the Department is not a party. Similarly, if another party to the proceeding seeks DOL records or testimony, we request that you refer the requestor to the Department.

If you have any questions regarding this letter or need additional information, please contact
[District Manager's or Assistant District Manager's name] at [phone number].

Sincerely,

Appendix 6: Standard Interview Statements

I. **Introductory Statement of MSHA Investigators to a group of interviewees.** All witnesses may be assembled at the interview site immediately prior to commencement of the interview phase of the investigation.

> My name is _____. I am a [position title] with the Mine Safety and Health Administration, an Agency of the United States Department of Labor. [Introduce other MSHA representatives and any other individuals who are present].
>
> I have been assigned to conduct an investigation into the accident that occurred at [mine operator's name and mine name] on [date of accident] in which [brief description of accident, including number of miners involved and resulting deaths or serious injuries].
>
> The investigation is being conducted by MSHA to gather information to determine the cause of the accident, and these interviews are an important part of the investigation.
>
> After the investigation is completed, MSHA will issue a written report detailing the nature and causes of the accident. MSHA accident reports are made available to the public in the hope that greater awareness about the causes of accidents can reduce their occurrence in the future. Information obtained through witness interviews is frequently included in these reports. Your statement may also be used in other enforcement proceedings.
>
> I would like to thank all interview participants in advance for your appearance here. We appreciate your assistance in this investigation. The willingness of miners and mine operators to work with us is critical to our success in making the nation's mines safer. [Provide opportunity for state representative to make an introductory statement.] After reading the statement, all witnesses except the one to be interviewed first should be excused from the interview site.

II. Introduction to Individual Interviews.
A statement similar to the following may be read into the record at the beginning of each individual interview (if a court reporter is not used, and a digital audio device is used, the digital audio recording device should be started at this time). Alternatively, the key aspects can be stated in a conversation with the interviewee.

> This interview with [name of person interviewed] is being conducted under Section 103(a) of the Federal Mine Safety and Health Act of 1977 as

part of an investigation by the Mine Safety and Health Administration into the conditions, events, and circumstances surrounding the fatal accident that occurred at [mine operator's name, name and location of mine, and date of accident]. This interview is being conducted at [location, date, and time of the interview]. The following individuals are present at the interview: [names and titles of MSHA employees and all parties participating in the interviews].

[Name of person interviewed], the interview will begin by asking you a series of questions. Feel free at any time to clarify any statements that you make in response to the questions. After we have finished asking questions, you will also have an opportunity to make a statement of your own and provide us with any other information that you believe may be important. If at any time after the interview you recall any additional information that you believe may be useful in the investigation, please contact [provide name, telephone number of contact person].

You are permitted to have a representative with you during this interview and you may consult with your representative at any time. You may designate any person to be your representative.

Your statement is completely voluntary. You may refuse to answer any question and you may terminate (end) your interview at any time. If you do not understand a question, tell me and I will rephrase the question. If you need a break for any reason, please let me know.

A court reporter will record your interview and will later produce a written transcript of the interview. [This statement applies when a court reporter is used. If a court reporter is not used, and a digital audio recorder is used say, "A digital audio recording will be made of this interview. A written transcript may or may not be produced."]

If any part of your statement is based not on your own first-hand knowledge but on information that you learned from someone else, please let us know. Please answer each question as fully as you can, including any information you have learned from someone else. We may not ask the right questions to learn the information you have, so do not feel limited by the precise question asked. If you have information about the subject area of a question, please provide us with that information.

Do you have any questions regarding the manner in which this interview will be conducted?

[To the Court Reporter "or State Official" if applicable] Will you please swear [name of person interviewed].

Please state your full name, address, and telephone number, and please spell your last name for the record.

Are you appearing voluntarily at this interview? Has anyone made any promises to you for giving the statement or offered you any rewards in exchange for making your statement? [If so, who?] Has anyone threatened you or warned you not to provide a truthful statement? [If so, who?] Do you understand that you may refuse to answer any question or terminate this interview at any time?

Do you have a representative with you? [If so,] Please identify the representative. [If not,] Do you wish to have a representative with you?

III. Concluding Statement of MSHA Investigators.

At the conclusion of each interview, a statement similar to the following should be made. Alternatively, the key aspects can be stated in a conversation with the interviewee.

On behalf of MSHA, I would like to thank you for appearing and answering questions. Your cooperation is very important to us as we work to determine the cause of the accident.

If you wish, you may now go back over any answer that you have given during this interview and you may also make a closing statement covering any additional points you believe should be raised [Pause to give person opportunity to think].

We ask that you not discuss your interview today with any person who may have already been interviewed or who may be asked to give a statement in the future. This will ensure that everyone's statement will be based on each person's independent memory of the events surrounding the accident.

After questioning other witnesses, we may wish to ask you further questions, and we will call you back if necessary. If at some later point you have additional information regarding the accident that you would like to provide to us, please contact [name of appropriate investigator assigned to accident investigation team] at the telephone number given to you prior to this interview.

The Mine Act provides certain protection for individuals who participate in accident investigations. If at any time you believe that you have been treated unfairly because of your cooperation in this investigation, please

immediately contact [name of appropriate investigator assigned to accident investigation team]. Thank you again for your help.

Appendix 7: Accident Classifications

ELECTRICAL - Accidents in which electric current is most directly responsible for the resulting accident.

ENTRAPMENT - In accidents involving no injuries or nonfatal injuries which are not serious, entrapment of mine workers takes precedence over roof falls, explosives accidents, inundations, etc. If a roof fall results in an entrapment accident, the accident classification is "Entrapment."

EXPLODING VESSELS UNDER PRESSURE - These are accidents caused by explosion of air hoses, air tanks, hydraulic lines, hydraulic hoses, and other accidents precipitated by exploding vessels.

EXPLOSIVES AND BREAKING AGENTS - Accidents involving the detonation of manufactured explosives that can cause flying debris, concussive forces, or fumes.

FALLING, ROLLING, OR SLIDING ROCK OR MATERIAL OF ANY KIND - Injuries caused directly by falling material require great care in classification. Remember that it is the accident we want to classify. If material was set in motion by machinery, haulage equipment, or hand tools, or while material is being handled or disturbed, etc., charge the force that set the material in motion. For example, where a rock was pushed over a highwall by a dozer and the rock hit another rock which struck and injured a worker - charge the accident to the dozer (machinery). Charge the accident to that which most directly caused the resulting accident. Without the dozer, there would have been no resulting accident. This includes accidents caused by improper blocking of equipment under repair or inspection.

FALL OF FACE, RIB, SIDE OR HIGHWALL - Accidents in this classification include falls of material (from in-place) while barring down or placing props; also pressure bumps and bursts. Since pressure bumps and bursts which cause accidents are infrequent, they are not given a separate category. Not included are accidents in which the motion of machinery or haulage equipment caused the fall either directly or by knocking out support; such accidents are classified as machinery or haulage, whichever is appropriate.

FALL OF ROOF OR BACK - Underground accidents which include falls while barring down or placing props; also pressure bumps and bursts. Not included are accidents in which the motion of machinery or haulage equipment caused the fall either directly or by knocking out support; such falls are classified as machinery or haulage, whichever is appropriate.

FIRE - An unplanned underground mine fire not extinguished within 10 minutes of discovery; or an unplanned mine fire in a surface mine or in the surface area of an

underground mine that is not extinguished in 30 minutes. Fires of shorter duration may be responsible for reportable injuries. In those cases, the fire would still be the cause of the accident. Not included are fires initiated by electricity or by explosion of gas or dust.

HANDLING MATERIAL (lifting, pulling, pushing, shoveling material) - The material may be in bags or boxes, or loose sand, coal, rock, timber, etc. The accident must have been most directly caused by handling material.

HAND TOOLS - Accidents related to non-powered tools when being used as hand tools. Do not include electric tools or air-powered tools.

NON-POWERED HAULAGE - Accidents related to motion of non-powered haulage equipment. Included are accidents involving wheelbarrows, manually pushed mine cars and trucks, etc.

POWERED HAULAGE - Haulage includes motors and rail cars, conveyors, belt feeders, longwall conveyors, bucket elevators, vertical manlifts, self-loading scrapers or pans, shuttle cars, haulage trucks, front-end loaders, load-haul-dumps, forklifts, cherry pickers, mobile cranes if traveling with a load, etc. The accident is caused by the motion of the haulage unit. Include accidents that are caused by an energized or moving unit or failure of component parts. If a car dropper suffers an injury as a result of falling from a moving car, charge the accident to haulage.

HOISTING - Damage to hoisting equipment in a shaft or slope which endangers an individual or interferes with use of the equipment for more than 30 minutes. Hoisting may also be the classification where a victim was injured by hoisting equipment but there was no damage to the equipment, such as accidents involving cages, skips, buckets, or elevators. The accident results from the action, motion, or failure of the hoisting equipment or mechanism. Included is equipment such as derricks and cranes only when used in shaft sinking; suspended work platforms in shafts; mine cars being lowered or raised by hoisting equipment on slopes or inclines; a skip squeezed between shaft structural members or rails resulting in an accident; or an ore bucket tipped for any reason causing an accident.

IGNITION OR EXPLOSION OF GAS OR DUST - Accidents resulting as a consequence of the ignition or explosion of gas or dust. Included are exploding gasoline vapors, space heaters, or furnaces.

> *Methane Ignition* - A methane ignition occurs when methane burns without producing destructive forces. Damage resulting from an ignition is limited to that caused by flame and heat. Personnel in the immediate vicinity of an ignition may be burned and line brattice or other materials in close proximity may be discolored, melted or burned. Ignitions generally involve small quantities of

methane and are usually confined to a small area; however, in the case of methane roof layering, flame spread may be more extensive.

Methane Explosion - A methane explosion occurs when methane is ignited and burns violently. The flame of the explosion accelerates rapidly, heating the environment and causing destructive forces. Evidence of the destructive forces may be manifest on victims, equipment, structures, etc. Witnesses to an explosion may hear the noise generated by the resulting sound pressure wave.

IMPOUNDMENT - An unstable condition at an impoundment, refuse pile, or culm bank which requires emergency action in order to prevent failure, or which causes individuals to evacuate an area. Also the failure of an impoundment, refuse pile, or culm bank.

INUNDATION - An unplanned inundation of a mine by a liquid or gas. The mine may be either a surface or underground operation.

MACHINERY - Accidents that result from the action or motion of machinery or from failure of component parts. Included are all electric and air-powered tools and mining machinery such as drills, tuggers, slushers, draglines, power shovels, loading machines, compressors, etc. Include derricks and cranes except when they are used in shaft sinking (see HOISTING) or mobile cranes traveling with a load (see POWERED HAULAGE).

SLIP OR FALL OF PERSON - Includes slips or falls from an elevated position or at the same level while getting on or off machinery or haulage equipment that is not moving. Also includes slips or falls while servicing or repairing equipment or machinery; includes stepping in a hole.

STEPPING OR KNEELING ON OBJECT - Accidents are classified in this category only where the object stepped or kneeled on contributed most directly to the accident.

STRIKING OR BUMPING - This classification is restricted to those accidents in which an individual, while moving about, strikes or bumps an object but is not handling material, using hand tools, or operating equipment.

OTHER - Accidents not elsewhere classified. This is a last resort category.