



A SunCam online continuing education course

Heavy Civil Construction Safety

Part 1. Rules and Roles of OSHA & MSHA

by

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Introduction

Welcome to this first PDH course in the Construction Safety series. Please consider taking the other courses as they become available to continue this important topic. Hopefully, you will find it interesting and informative. It is the intent of the course to provide the reader with a sound knowledge base of the fundamentals of safety so they can be considered one of the Industry's Competent Safety Personnel. Supervisory engineering responsibilities require this type of training so leaders can help the staff they oversee avoid accidents.



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The series of courses will attempt to make this material easy to read and understand. It does not go into any depth on technical subjects but will provide enough material for the reader to be aware of the fundamentals in a wide variety of subject areas. Some topics may not directly affect a present job, but it is important to become well rounded in all safety areas and to understand why certain things are done for better safety.

Course Topics of this series may include:

General OSHA and MSHA Responsibilities, Personal Protection, Hand and Power Tools, Ladders and Scaffolds, Excavation and Trenches, Equipment operations, Crane Safety, Rigging Safety, Traffic Control, Fire Protection, & Equipment Transporting

This first course: Rules & Roles of OSHA & MSHA discusses the similarities and differences between these two governing agencies, and their respective requirements for project safety

Part IA. - General OSHA Responsibilities

Purpose

The goal of this first section is to familiarize the reader with the basic policies and procedures of the Occupational Safety and Health Administration (OSHA). This material will include OSHA inspections, citations, a brief overview of recordkeeping practices, and similar subjects. Actual OSHA Standards will be addressed in future sections as they specifically apply to the topics of those courses. We apologize for the nature of this course's subject material, but the reader will hopefully realize that this material is necessary for a good foundation in work site safety. The other courses of the series will be more interesting.

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General



The Occupational Safety and Health Act of 1970 was written into law December 29, 1970. Also known as the Williams – Steiger Occupational Safety and Health Act, it took effect 120 days later and covered work performed by the vast majority of U.S. businesses. The government recognized immediately that the Construction Industry would require a unique set of rules and regulations and arranged a separate set of standards for construction.

The OSHA Standards which primarily govern the construction industry are otherwise known as Part 1926. All of the rules we must follow are identified by a standard number which begins with 1926. For instance, the rules that require the use of hard hats are



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listed under 1926.100 Head Protection. In some rare instances, construction may be required to follow rules under Section 1910, which are the Standards for General Industry, but those are primarily for hazards involving chemicals.

Each work site should have a copy of the most recent 1926 Standards. If any employee would like to review them, they should contact their supervisor at the location for a copy. Questions regarding interpretation should be directed to the company Safety Manager if the supervisor cannot answer them.

There are three ways OSHA is administered:

1. Most states are governed by Federal OSHA who develop and enforce the standards.
2. Seventeen states have State Plans where the State Government enforces the Federal Standards. They often have additional regulations. Most notably are the states Virginia, Maryland, Kentucky, and Vermont.
3. Four states have State Plans where the State Government develops and enforces their own standards. The Federal Government must approve those plans to assure that they are at least as effective as the Federal Government OSHA.

Inspection

One of the primary responsibilities of OSHA is to conduct workplace inspections. OSHA inspectors are called Compliance Officers and they are considered federal law enforcement officers. Their job is to determine if a company has complied with the published OSHA Standards. When they come to a work site, their purpose is to find violations, issue citations, and to issue penalties.

OSHA Compliance Officers basically take the following steps on each visit:

Opening

1. The Compliance Officers will present their credentials which identify them as OSHA officials. This will include a picture ID.
2. They will ask for the person in charge and, under normal circumstances, will not start an inspection until they have met the top manager of the site and explained



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the purpose of their visit. Whoever greets the Compliance Officers should personally either bring them to the Supervisor or stay with the Compliance Officers and wait for the Supervisor to arrive. On occasion OSHA develops Target Inspections, the Officer may start the inspection before the Supervisor arrives. These surveys will be limited to that work only and they must meet with the person in charge before leaving the site.

3. Before starting the inspection, the Supervisor will be informed of the reason for the inspection. That will be:
 - A. To follow up on an employee complaint
 - B. To investigate a serious accident
 - C. As part of a scheduled visit
4. The person in charge will be told the scope of the visit, what records will be reviewed, who might be interviewed, how the Officers conduct the walkaround, and the make-up of the closing conference. If an employee complaint is involved, they will give a copy of the complaint (it might be anonymous)
5. The person in charge will accompany the inspectors. The Officers will also ask for a representative of the employees, who will be given the opportunity to go along with the inspectors.
6. The inspectors may choose to inspect any records before the start of the site inspection or may wait until the end to go through them.
7. Normally, the inspector will pass out pamphlets on OSHA requirements which are meant to better explain certain areas of concern.

The Inspection

1. As the inspector performs the walkthrough of the site, the inspectors will note hazards and discuss what standards are being violated. Most inspectors will also tell how to correct the violation, although they are not actually required to do so.
2. The inspector may take photographs. The accompanying person in charge should photograph the same things at the same time. This allows others to understand what the violations mean and what conditions actually existed at the time. This may be useful to contest a citation.



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3. Depending on the type of inspection, the inspector may take tests using equipment designed to sample for noise, air pollution, radiation, etc.. The person in charge should document what equipment was used, what tests were taken, and what was determined from the tests at the time of inspection, if available.
4. The inspector may ask employees questions about work practices. It is important that no one attempts to deceive the inspector. There is no reason to be anything but completely honest. Do not volunteer anything or point out hazards the Officer missed (they can be fixed on their own), but do not hide anything or stop operations to coverup hazards.

The Closing

1. The Compliance Officer will discuss any observed hazards and will indicate if a citation is likely. They will respond to any questions and will ask for an estimate of the approximate cost and time requirements to correct the apparent violations.
2. If a records check was not completed before the inspection, the Compliance Officer may look at them during the closing.
3. Normally the Compliance Officer will hand out a summary of employer's rights and will advise the supervisor of the informal conference procedures and the time frame which will be given to respond to the citation.

Citations

A formal letter will arrive containing information on what items were citations and what it might cost. The citations themselves must be posted in the general work area where the violations were found and must remain there for 3 working days (or longer if the violations remain uncorrected). It does not matter if the violations are considered invalid or if they were corrected on the spot during the inspection. The citation will state the time allowed to correct the hazard and it must be either corrected or contested.



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Types of Citations

1. **Serious** – A violation where there is a good chance that death or serious physical harm could occur due to the condition or practices found to be hazardous. A violation is not considered serious if the employer did not know that the violation existed or could not have figured it out if they had acted reasonably. Penalties WILL be charged \$975 to \$13,653 per violation.
2. **Other than Serious** – May be called non-serious. A violation jeopardizing health or safety which would most likely not result in a serious injury or death. Penalties MAY be charged \$0.00 to \$13,653 per violation.
3. **Willfull** - If an employer purposely violates the OSHA Standards they will be cited for a Willful violation. Normally this requires a situation where the employer either admits they knew they were in violation and didn't care, or actually planned to violate the Standards. If the violation results in death, the responsible people could face criminal charges. Fines will be from \$9,753 to \$136,532.
4. **Repeated** – An employer can be cited for a repeated violation if a second inspection finds a substantially similar hazard to a violation they were already found guilty of. To be considered repeated, the violation must take place within 3 years of the previous violation. Penalties can be \$9,753 to \$136,532.
5. **Imminent Danger** – This is a special circumstance which is rarely used. If the Compliance Officer feels certain that a hazard observed could easily result in serious injury or death, and there is a good chance that it will happen before they can complete their normal paperwork, they may pursue a court order to immediately stop the work until the matter can be resolved.

Penalties

The penalties involved in any of these citations are determined after considering:

1. The seriousness of the violation
2. The size of the company
3. Good Faith on the part of the employer. This may be exhibited by immediately correcting violations, or by the employer's obvious concern for safety.
4. The history of the violations previously found.



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Contesting the Citation

After receiving a citation, it can be contested if there is a disagreement.

Informal Conference

A request for an informal hearing can be made immediately to discuss the citation, the penalties, the standards involved, the means to correct the situation, the amount of time given to correct the violation, or anything else concerning the inspection. Providing the request is made quickly, an appointment will be given prior to the time for completing the requirements of the citation. This period is usually 15 working days.

Attending the informal conference will usually be the Compliance Officer from the site visit, the supervisor, and the Assistant Commissioner. The meeting will be an informal discussion around a conference room table with no official records documented. The intent is to reach a mutual agreement to settle any questions or disputes.

Formal Hearing

If a disagreement still exists after the informal conference, within 15 working days from the date of receiving the citation, a formal Notice of Contest must be filed. Once this is done, a court date will be set, and the matter will be resolved by an administrative judge in typical courtroom procedures. It is recommended that lawyers are retained for representation. Witnesses will be called, subpoenas will be issued, and sworn testimonies will be reviewed. This is a serious matter.

Employees are entitled to attend informal conferences and formal hearings.



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Record Keeping



We live in a world built on paperwork. Almost every facet of life is governed by a piece of paper. At one point in time, OSHA didn't subscribe to this philosophy and their only paperwork requirements were very limited, and their only request was that the paperwork that they did require was completed accurately and timely. Recently OSHA's paperwork has increased many times. The primary areas with huge increases center around chemical exposures and hazardous communications.

Records are required for a number of things such as, crane inspections, blasting operations, medical exams, training sessions, etc... Other parts the Course Series will discuss the records specific to those topics. This part involves the recordkeeping requirements for injuries and illnesses. The two main records are:



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1. The Log and Summary (OSHA No. 200)

This form is posted at every worksite every February and lists all of the injuries and accidents that occurred on the project in each calendar year.

All injuries and illnesses are posted on the form within 6 working days of their occurrence and are supposed to be kept up to date as far as lost time and restricted duty items. The only exception to the posting requirement is for first aid cases. Basically, if an injury occurs which is minor and does not result in lost time or treatment requiring a physician (recordable), the case is not reported. The case would also be considered first aid, and non-recordable, if a doctor treats the patient with only first aid procedures, and no prescriptions were given. Just because a doctor was used doesn't automatically designate the incident recordable.

The form serves as a good starting point to analyze accidents and to see if trends exist. Each accident is also broken down into various groupings based on how serious it is, so by the end of the year the project can get fairly good feeling for how their safety record is going and how many days were lost due to injury.

2. The Supplementary Record. Each injury or illness is recorded on a separate form and kept on file in each office. OSHA has a form for this (OSHA No. 101) but most employers use their insurance company's forms for reporting the incidents. They usually contain the same information and OSHA accepts them as substitutes. It is important that all injuries and illnesses are recorded on two forms, not just on the form being sent to the insurance carrier. OSHA specifically requires a report on each accident so they can verify the information on the OSHA 200 form and look into certain types of incidents further. For this reason, no matter how slight the incident, they must be reported into the office.

Reporting

OSHA requires that all accidents which result in a death or serious injury (resulting in hospitalization of 3 or more employees) be reported to them as quickly as possible and no later than 8 hours after the accident. An OSHA inspector will show up shortly after.



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Part 1B. - General MSHA Responsibilities

We already covered OSHA. There are many similarities between the two agencies, but there are also many differences. Most Readers of the course are familiar with OSHA and will need to comply with their requirements throughout their careers. A lesser number of readers will have projects that involve MSHA, but knowledge of their agency is important in understanding when they might need to be included on a project. Effective March 9, 1978, The Federal Mine Safety & Health Act of 1977 came into being. Although the thrust of the act was directed to coal and underground mining, the Act also covers surface mining. Some heavy civil construction projects can fall under the surface mining definition if they start a rock excavation and crushing operation to



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produce embankment and base course materials. In these cases, the project falls under both agencies. Neither agency has jurisdiction over the other so the project must maintain separate records and follow both of the different regulations.

MSHA was once known as the Mine Enforcement and Safety Administration (MESA), the new law replaced that agency with the Mine Safety & Health Administration (MSHA) under the Department of Labor.

The MSHA regulations are broken up into separate parts. Surface mines are governed by 30 CFR Part 56. Underground mines are governed by 30 CFR Part 57. It is important to note MSHA governs all mining in the US, unlike OSHA, states are not allowed to set their own standards or regulations. All states must utilize the Federal MSHA requirements.

Inspection

MSHA is required to inspect each covered operation at least twice per year. Similar to OSHA, they also make inspections to follow up on employee complaints, and to investigate fatalities or serious accidents and high frequency of accidents. Their inspections are also similar to OSHA as they allow a management member from the employer to accompany the inspection and hold pre & post inspection conferences. MSHA inspectors have the authority to issue "withdrawal orders" which shut-down an operation until their order is lifted.

Citations

MSHA will notify the site of the inspection findings in writing. The citation must be posted in a conspicuous place where all employees can readily see them. The citation will describe:

1. The nature of the violation
2. The specific section of law violated
3. The time allowed to correct the condition



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The citation will also state whether the violation is likely to cause an accident and whether the company has caused a “unwarranted failure to comply” (negligence). If the inspector took immediate action during the inspection and issued a withdrawal order, the order will state which operations are “shut down” and the reason. Operations may not resume, and employees are entitled to compensation of 4 hours per each day the mine is closed, up to one week.

Withdrawal Orders may be issued for the following reasons:

1. Failure to correct a cited violation within the time set on the citation.
2. Repeat offenses of violation.
3. Levels of dust above established limits.
4. Withdrawal of a single employee or group if they have not received proper training.
5. Imminent danger.
6. For “unwarranted failure to comply” with standards.

During withdrawal orders the only employees allowed on property will be:

1. Those necessary to correct the hazard.
2. Public officials in the act of performing their duties.
3. Employee representatives qualified to examine the conditions to ensure compliance.
4. Any consultant representing the above.

Penalties

Penalties of up to \$8,006 for each violation are possible. Penalties will also be charged for each day a violation remains uncorrected past the abatement date specified on the citation. The size of the penalties are based on:

1. The company size
2. Pattern of violations (history)
3. Whether negligence is involved
4. Seriousness of the violation
5. Good faith – rapid compliance
6. Effect of penalty on business



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Additional penalties may be arbitrarily assessed for:

1. Violations that result in serious injuries or fatalities
2. Unwarranted failure
3. Operating under a withdrawal order
4. Refusal to permit an inspection
5. Discrimination against an employee
6. Failure to correct the condition
7. Violations by subcontractors on company property
8. Any situation the inspector feels is warranted to set an example

Under MSHA, employees can also be fined. Any employee who smokes, carries matches or lighters, or other smoking materials into a "No SMOKING" area can be fined up to \$338.00. The company is NOT obligated to pay the fines given to employees. In addition to fines, criminal action can be taken against the company if they knowingly violate a standard or refuse to comply with a citation. Criminal action can also be taken if the company makes false statements to MSHA representatives.

Contesting Citations

After issuing a citation, MSHA allows 10 days to respond to the citation. The employer may request a conference, submit additional requested evidence, or pay the penalty and abate the condition.

If the employer requests a conference, it will be held within 33 days of receiving the initial correspondence from MSHA. MSHA has the right to deny a conference or if allowed, limit what items can be discussed. The conference can result in withdrawal of the citation, a resolution of questions concerning the case, or no action.

Once the conference has been held, a second notice of proposed penalty will be mailed if the issue remains open. At that point, the citation penalty must either be formally contested, or payment must be made within 20 days.



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If the employer decides to contest the citation formally, they have 30 days from the receipt of the second notice of proposed penalty to file a request. The case will then be heard before an administrative law judge.

If the employer was shut down, they can be granted temporary relief until the matter is formally decided by writing to the Commissioner involved. A hearing will be held quickly, and temporary relief will be granted IF the citation is felt to be unwarranted and no employees' health and safety is jeopardized.

Standards

MSHA standards for surface mining (30 CFR Part 56) are made up of mandatory regulations covering the following subjects:

Subpart A. General Section	Subpart K. Electricity
Subpart B. Gound Control	Subpart L. Compressed Air & Boilers
Subpart C. Fire Prevention and Control	Subpart M. Machinery & Equipment
Subpart D. Air Quality and Agents	Subpart N. Personal Protection
Subpart E. Explosives	Subpart O. Materials and Storage
Subpart F. Drilling	Subpart P. Illumination
Subpart G. Presently Not Used	Subpart Q. Safety Programs
Subpart H. Loadiing Hauling & Dumping	Subpart R. Personnel Hoisting
Subpart I. Aerial Tramways	Subpart S. Miscellaneous
Subpart J. Travelways	

Separate sections deal with training and recordkeeping.

MSHA Standard are more clearly written and understood than OSHA. Their standards are less concerned about legal matters and more about completing the work safely.

On the following page is a picture of the MSHA Standard for Scaffolding alongside the OSHA Standard for the same subject. The first brief paragraph is the MSHA Standard. The next 17 pages are the OSHA Standard. The clippings are not presented to be read, they are just provided for comparison.



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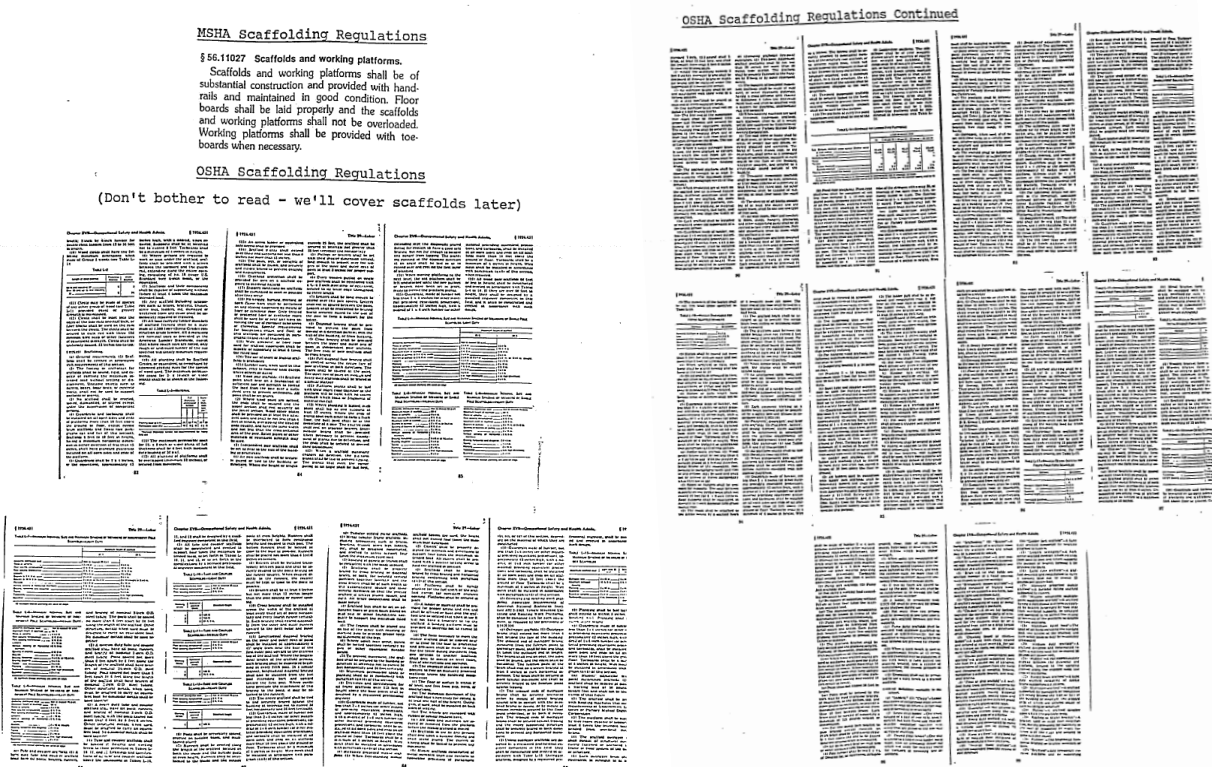
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MSHA Scaffolding Regulations

§ 56.11027 Scaffolds and working platforms.
Scaffolds and working platforms shall be of substantial construction and provided with hand-rails and maintained in good condition. Floor boards shall be laid properly and the scaffolds and working platforms shall not be overloaded. Working platforms shall be provided with toe-boards when necessary.

OSHA Scaffolding Regulations

(Don't bother to read - we'll cover scaffolds later)



Training

MSHA requires training for employees for most tasks that can be encountered at work. MSHA requires the following:

1. Each covered company must have a written safety training program.
2. Every newly employed & inexperienced miner must receive 4 hours of training prior to starting work duties. An additional 20 hours of training must be completed within the first 90 days of employment.
3. Newly employed & experienced miners, or experienced employees given new assignments, must be trained in tasks they have not previously done, and in hazard recognition for the new place of employment.



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4. All employees must receive 8 hours of refresher training each year.
5. Other employees who do not specifically work at “mining”, such as office workers, must be given training in the hazards they may encounter if they should go into MSHA controlled areas.
6. Once training has been provided, the employee will become certified for the job.

Recordkeeping

MSHA also differs from OSHA in Recordkeeping requirements. MSHA requires a report filled out on their form (MSHA form 7000-1) for every recordable injury. This form must be completed and mailed to MSHA within 10 working days of the incident. A copy of the form is on the following page.

MSHA requires immediate notification of any:

1. Death
2. Injury likely to result in death
3. Employee entrapped in the ground for more than 30 minutes
4. Unplanned explosion
5. Fire not extinguished within 30 minutes
6. Unstable banks which require evacuation of an area and emergency support

MSHA also requires completion of a Quarterly Mine Employment and Coal Production Report. This report lists the number of employees and the hours they worked at the “mine” during the quarter. It also includes any recordable accidents during the Quarter.



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Mining Accident, Injury and Illness Report

U.S. Department of Labor
Mine Safety and Health Administration



Form Approved, OMB No. 1219-0007, Expires June 30, 1988

Section A-Identification Data
MSHA ID Number Contractor ID Report Category
Metal/Nonmetal Mining Coal Mining Check here if report pertains to contractor.

Section B-Complete for Each Reportable Accident Immediately Reported to MSHA
1. Accident Code (circle applicable code - see instructions)
01 - Death 02 - Serious Injury 03 - Entrapment
04 - Inundation 05 - Gas or Dust Ignition 06 - Mine Fire 07 - Explosives 08 - Roof Fall
09 - Outburst 10 - Impounding Dam 11 - Hoisting 12 - Offsite Injury
2. Name of Investigator 3. Date Investigation Started 4. Steps Taken to Prevent Recurrence of Accident

Section C-Complete for Each Reportable Accident, Injury or Illness
5. Circle the Codes Which Best Describe Where Accident/Injury/Illness Occurred (see instructions)
(a) Surface Location: 02 Surface at Underground Mine 30 Mill, Preparation Plant, etc. 03 Strip/Open Pit Mine 04 Surface Auger Operation
05 Culm Bank/Refuse Pile 06 Dredge Mining 12 Other Surface Mining 17 Independent Shops (with own MSHA ID) 99 Office Facilities
(b) Underground Location: 01 Vertical Shaft 02 Slope/Inclined Shaft 03 Face 04 Intersection 05 Underground Shop/Office 06 Other
(c) Underground Mining Method: 01 Longwall 02 Shortwall 03 Conventional Stopping 05 Continuous Mining 06 Hand 07 Caving 08 Other
6. Date of Accident 7. Time of Accident 8. Time Shift Started

9. Describe Fully the Conditions Contributing to the Accident/Injury/Illness, and Quantify the Damage or Impairment

10. Equipment Involved Type Manufacturer Model Number

11. Name of Witness to Accident/Injury/Illness 12. Number of Reportable Injuries or Illnesses Resulting from This Occurrence

13. Name of Injured/Ill Employee 14. Sex 15. Date of Birth
Male Female Month Day Year

16. Last Four Digits of Social Security Number 17. Regular Job Title 18. Check if this Injury/Illness resulted in death. 19. Check if injury/Illness resulted in permanent disability (include amputation, loss of use, & permanent total disability).

20. What Directly Inflicted Injury or Illness? 21. Nature of Injury or Illness

22. Part of Body Injured or Affected 23. Occupational Illness (circle applicable code-see instructions)
22 Dust Diseases of the Lungs 23 Respiratory Conditions (toxic agents) 24 Poisoning(toxic materials)
25 Disorders (physical agents) 26 Disorders (repeated trauma) 29 Other

24. Employee's Work Activity When Injury or Illness Occurred
Experience Years Weeks
25. Experience in This Job Title
26. Experience at This Mine
27. Total Mining Experience

Section D-Return to Duty Information
28. Permanently Transferred or Terminated (if checked, complete items 29, 30, & 31) 29. Date Returned to Regular Job at Full Capacity (or item 28)
30. Number of Days Away from Work (if none, enter 0) 31. Number of Days Restricted Work Activity (if none, enter 0)

Person Completing Form (name) Title
Date This Report Prepared (month, day, year) Area Code and Phone Number

MSHA Form 7000-1, Feb 80 (revised)

Page 1 MAIL THIS PAGE TO THE HEALTH AND SAFETY ANALYSIS CENTER, MINE SAFETY AND HEALTH ADMINISTRATION, P.O. BOX 25367, DENVER, COLORADO 80225

For Official Use Only
Degree
Accident Type
Accident Class
Scheduled Charge
Keyword



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CONCLUSION

OSHA & MSHA are formal compliance organizations, and their jobs are not easy.

Many of the readers of this course will never actually escort a Compliance Officer through a jobsite and even more will never have to attend a contested hearing, but it is necessary to understand these processes so projects can abide by OSHA & MSHA Standards and remain in compliance.

OSHA's & MSHA's purposes provide an essential role in the prevention of accidents, and they deserve our respect and assistance in their function.

As previously stated, this is the first course in a proposed series on Construction Safety. The series of courses offer only a brief introduction to each topic and do not offer or imply any type of certification or level of expertise upon completion. For a better understanding, the reader should consider getting their OSHA 10-hour and OSHA 30-hour Construction Safety and Health Card by successfully completing OSHA recognized Classes.

Lastly, safety must be a constant focus of every operation. Because of the variability of Heavy Civil Construction Projects, they are often chosen to be constructed in some of the most adverse and inaccessible areas imaginable. Working with extreme weights, at excessive heights, in adverse conditions, and around large equipment requires safety diligence from every stakeholder. Personal protective devices must be worn at all times. Please be **safe**.