MSHA Annual Refresher Training

Module 1

Course Introduction and the Mining Work Environment

MSHA Training Requirement:

A review of the mining work environment, the methods of mining operations, and common equipment. [Section 46.5(b)(1), Section 46.5(b)(7)]

Learning Objectives:

1. Understand the MSHA requirements for Part 46 New Miner Training.
2. Review the structure and assessment methods for this Part 46 New Miner Training.
3. Recognize the role and responsibilities of key stakeholders involved in ensuring mine safety in the US.
4. Identify and describe various common mining techniques, equipment, and environments.

Module Sections

- 1.1 Course Structure and Assessment Methods
- 1.2 MSHA New Miner Training Requirements
- 1.3 Mine Safety in the United States
- 1.4 Mining Accidents, Hazards and Your Right and Responsibility to Report
- 1.5 Basic Mining Process

1.1 COURSE STRUCTURE & ASSESSMENT METHODS

This course covers important topics from the Code of Federal Regulations: Title 30 - Mineral Resources - Chapter 1 - Mine Safety and Health Administration, Department of Labor. It reviews essential concepts and regulations that are part of your MSHA Part 46 New Miner Training.

In this introductory module, you will learn how to:

1. Review the structure and assessment methods for this Part 46 New Miner Training course.
2. Understand the MSHA requirements for Part 46 New Miner Training.
3. Recognize the role and responsibilities of key stakeholders involved in ensuring mine safety in the US.
4. Identify and describe various common mining techniques, equipment, and environments.

Course Modules

- Module 1: Course Introduction and the Mining Work Environment **(You are here!)**
- Module 2: Electrical Hazards and Safety Protections
- Module 3: Traffic Control, Transportation, and Equipment Safety
- Module 4: Safe Ground Control Practices
- Module 5: Airborne Hazards and Respiratory Devices
- Module 6: Hazardous Chemicals and HazCom Programs
- Module 7: Fire Prevention and First Aid Procedures
- Module 8: Miner Rights and Responsibilities

1.2 MSHA MINER TRAINING REQUIREMENTS

The MSHA governs training requirements for new and experienced miners.

'Experienced miner'

You are an **experienced miner** if you fall into one of these categories:

- You were working as a miner on April 14, 1999.
- You have at least one year of total experience in surface mining or an equivalent field by October 2, 2000.
- You started as a miner after April 14, 1999, but before October 2, 2000, and have completed training for new miners as outlined in CFR 48.25 of the regulations published on April 14, 1999.
- You began working as a miner on or after October 2, 2000, completed 24 hours of new miner training under CFR 46.5 or CFR 48.25, and have accumulated at least one year of experience in surface mining or an equivalent field.

If you are an experienced miner starting a new job with a mining company or contractor, you are not considered a 'new' miner. You are a **newly hired experienced miner**. [See 30 CFR 46.6]. If you are a newly hired experienced miner, check with your MSHA Office or mine operator regarding your training options and requirements.

If you are a **newly hired experienced miner,** you likely need **alternative training** to fulfill your training requirements.

Applicability of Part 46

Who is a miner?
A **miner** is anyone working at a mine, including operators, supervisors, and contractors doing mining tasks. This also includes construction workers exposed to mining risks.

Who is not a miner?
Many people may work near or around a mine worksite. Scientists, delivery drivers, customers (like truck drivers), vendors, or visitors, for example, may work at, near, or around a mine worksite, but they are **not** miners. Maintenance workers who do not regularly work in active mining areas are also not considered miners.

Even if you are not a 'miner', MSHA Part 46 regulations have applicability to everyone involved in the mining process.

Refresher Training and Documentation

After you complete your Part 46 New Miner Training, your mine operator must provide you with at least 8 hours of annual refresher training (which is where this course comes into play):

- Within 12 months of starting work at the mine
- Every 12 months after completing the previous refresher training

This refresher training will cover any changes at the mine that could affect your health or safety, and other topics relevant to operations at the mine. **Ask your mine operator about refresher training options.**

How is training documented?
It is your responsibility to keep records of your Part 46 New Miner Training. While mine operators have their own documentation and training record requirements, make sure to maintain your own training records for accuracy and safekeeping. **Ask for a copy of what your mine operator submits to MSHA regarding your personal training.**

1.3 MINE SAFETY IN THE UNITED STATES

All workplaces have mandatory requirements for ensuring safe and efficient worksites and processes. To help you understand the mine safety regulations that help keep you safe at your mine worksite, let's look at some key laws, stakeholders, and regulatory bodies who govern the health and safety of miners in the U.S.

The Federal Mine Safety and Health Act of 1977 establishes essential safety standards, including dust control measures and respiratory equipment guidelines, ensuring a safer working environment and addressing specific hazards like black lung disease. Agencies like Mine Safety and Health Administration (MSHA) enforce these regulations, conduct inspections, and provide training, while (National Institute for Occupational Safety and Health (NIOSH) develops guidelines and approves safety equipment. These combined efforts, overseen by the Secretary of Labor, ensure you are working in an environment where health risks are minimized, and safety practices are constantly being improved. These combined efforts, overseen by the Secretary of Labor, ensure you are working in an environment where health risks are minimized, and safety practices are constantly being improved.

Having knowledge of the key players and regulations governing mine safety is vital for you as a miner because these frameworks directly protect your health and safety on the job.

1.4 MINING ACCIDENTS, HAZARDS, AND YOUR RIGHT AND RESPONSIBILITY TO REPORT

Mining is inherently hazardous due to the nature of the work and the environment in which it takes place. Training courses such as the one you are taking right now can help to prevent accidents, improve your awareness of such hazards, and equip you with the tools to report injuries in order to improve your safety.

Following accident reporting guidelines helps agencies identify trends, track workforce data, and improve emergency preparedness. In turn, these reports can improve your workplace safety and rights as a miner!

Your role in adhering to safety regulations and helping to enforce them is crucial in preventing accidents and ensuring a safe working environment for everyone. Remember, safety is a shared responsibility, and your actions and vigilance can make a difference in keeping yourself and others safe.

Rules and Procedures for Reporting Hazards

As a miner, your understanding of the safety protocols and resources for reporting is critical for your safety and the safety of your coworkers. Reporting hazards and following proper procedures ensures that risks are identified and mitigated promptly, preventing accidents and saving lives. You are often the first line of defense in spotting potential dangers, making your vigilance and timely reporting essential.

How do I report concerns?
You can call MSHA's toll-free emergency line at 1-800-746-1553 or submit a Hazardous Condition Complaint online to report accidents, hazardous conditions, an impoundment, or an abandoned mine. You are allowed to do this anonymously and at any time, as the form is available anytime online and the emergency line is staffed 24 hours a day, 365 days per year.

Do I have to report these concerns?
While you are not required by law to report accidents, you should still report them, as it is the best way to ensure protocols are followed and your worksite remains safe. However, all mine operators are *required by law* to report accidents and injuries by calling the MSHA's emergency line no later than 15 minutes after becoming aware of an accident.

What happens when an accident or incident is reported?
After your operator makes a report, the MSHA District Manager will quickly decide if an investigation is needed and will inform your operator of the decision. If MSHA decides to investigate, they will start the investigation within 24 hours of being notified.

Remember this rule: **one call does it all!** Knowing that one call can cover most incidents at your mine site can help you to remember to report hazards to help keep you and others safe.

1.1: Always be prepared to know when and how to report hazards

Having knowledge of the key players and regulations governing mine safety is vital for you as a miner because these frameworks directly protect your health and safety on the job!

1.5 BASIC MINING PROCESS

As a miner, it is valuable to understand key contributions of the American Miner and advancements in the U.S. mining industry. These contributions and advancements set the stage for how, where, and why you might conduct tasks at a mine worksite.

Your role as a miner may change during your career. Therefore, it is helpful that you have a general background of various common mining techniques, equipment, and environments.

1.2: A gold mine on federal land in Nevada; example of commonly dug and facilitated mining worksite

Primary Mining Industries and Advancements

There are five primary mining industries across the U.S. You may find yourself on a worksite at a coal, metal, non-metal, sand and gravel, or stone mine. In 2022 alone, there were over 12,000 active working mines.

The mining industry is a robust sector of the U.S. Let's learn more about different mine types and their associated basic mining processes.

Mine Types and Basic Mining Processes

As you begin work in the mining profession you will work with, or come across, various mining techniques, equipment, and environments.

In this section you will become familiar with common equipment and key steps in the mining process for each of the three mine types active in the United States and its territories:

- Facility
- Surface

- Underground

Facility Mines

Facility mines, also commonly referred to as “processing plants”, transform raw materials extracted from mines into refined products. The key steps in the mining process at facility mines include:

- Material handling
- Crushing
- Grinding
- Beneficiation
- Refining

Surface Mines

Surface mines, also commonly referred to as “open-pit mines” or “quarries”, involve the extraction of mineral deposits from the earth's surface using heavy equipment and machinery. The key steps in the mining process at surface mines include:

- Exploration
- Planning
- Stripping
- Drilling and blasting
- Loading and hauling
- Reclamation

1.3: Aerial view of a surface mine in an Appalachian coal field

Underground Mines

Underground mines involve the extraction of mineral deposits from beneath the earth's surface through tunnels, shafts, and drifts. The key steps in the mining process at underground mines include:

- Development
- Drilling and blasting
- Loading and hauling
- Support

1.4: Internal view of an underground mine

In summary, each type of mine–facility, surface, or underground–involves distinct processes and equipment tailored to the mine's specific characteristics and operational requirements. Understanding these differences is essential as you enter the mining industry, as it helps you be mindful of specific process and safety protocols and your responsibilities at a mine worksite.