

Task Training

It's Worth Talking About!



Debbie Combs
Training Specialist
EFSMS

Why talk about task training?

- Failure to provide task training has been a contributing factor in several fatal accidents
- Identifying the cause(s)
- What can we do to ensure all miners receive the task training required by Part 46/48 (compliance)
- How can we improve the quality of task training currently being provided

Why talk about task training?

- MNM Fatal Accident Reduction Initiative (2015)
 - 37 fatalities for period of OCT 2013 through JAN 2015
 - Of the 28 completed investigations, 11 **contributing** violations for either failing to provide task training or providing inadequate task training (39%)

Fatality #21, 2013



A water cannon operator walked to the edge of a 27 foot deep trench when the bank of the trench collapsed engulfing him.

Three months prior to the accident; **conditions at the mine and the associated tasks had changed.**

- The mine owner dug trenches to facilitate the flow of slurry material from the working face to the pump barge.

Fatality #21, 2013



The miners in the pit had no previous experience with trenches at the mine or the hazards associated with them.

The mine owner failed to train the miners in the pit to the new hazards.



Fatality #4, 2014

- 64-year old foreman w/32 years' experience was struck by a section of plastic water pipe as it was being moved by an excavator.



Fatality #4, 2014

■ Root

Cause: Management failed to establish procedures to ensure that persons could move the slurry pipe from place to place in a safe manner and failed to provide miners with adequate task training in safe operating procedures



Fatality #7, 2014

- 58-year-old truck driver w/3 ½ years' experience
- struck by an excavator bucket when he exited the truck



Fatality #7, 2014

- management failed to establish safe work procedures for truck drivers waiting to be loaded in the pit
- management failed to task train truck drivers and excavator operators on safe load out operation procedures



Preventing Common Mining Deaths

Rules to Live By III

- JAN 2001 - DEC 2010
 - 6 MNM Regulations identified that contributed to 47 fatalities in MNM

46.7(a)	New task training
56.15020	Life jackets and belts
56.3130	Wall, bank, and slope stability
56.3200	Correction of hazardous conditions
56.14100(b)	Safety defects; examination, correction and records
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Prevent Fatalities Rules to Live By III

- During the review period, violations of § **46.7(a)** contributed to 21 fatalities

Why talk about task training?

■ 2014

- 30 fatalities: 9 with contributing task training violations (30%)

■ 2015

- 17 fatalities: 2 with contributing task training violations (12%)

■ 2016

- 17 fatalities: 1 contributing task training violation (6%)

Why talk about task training?

■ 2017

- 13 fatalities: 3 with contributing task training violations (23%)

■ 2018

- 15 fatalities: 4 with contributing task training violations (27%)

■ 2019

- 6 fatalities – completed accident investigations not available

Is this just a MNM problem?

- Upper Big Branch Mine disaster occurred 2010 in which 29 miners were fatally injured
 - Contributing training violations included
 - Approximately 42 miners had not received task training including lack of task training for
 - mine examiners
 - rock dusting crew, and
 - several miners who operated and maintained the longwall shearer

Why talk about task training?

■ 2014

- 15 fatalities: 2 with contributing task training violations (13%)

■ 2015

- 12 fatalities: 4 with contributing task training violations (33%)

■ 2016

- 8 fatalities: 1 with contributing task training violation (12%)

Why talk about task training?

■ 2017

- 15 fatalities: 3 with contributing task training violations (20%)

■ 2018

- 12 fatalities: 3 with contributing task training violations (25%)

■ 2019

- 4 fatalities with 2 completed investigations

Fatality #5, 2019

- On March 7, 2019, a miner was fatally injured when he was caught between a push beam being removed from the highwall mining machine and a vertical support post.



Fatality #5, 2019

- The task training provided by the mine operator was not adequate because the training did not address the small area where the victim was standing as a pinch area as stated in the Superior Highwall Miners Safety, Operation, and Maintenance Manual.



Fatality #5, 2019

- Investigators obtained this manual and learned that the mine operator did not have the section of the manual related to safety. Instead, the mine operator only had the section of the manual necessary to maintain the highwall mining machine in operating condition.

Why talk about task training?

- 1st - Are we failing our miners by not providing or ensuring that adequate task training is provided?
- 2nd - Are we also failing the trainers who are delegated to conduct this critical training?
- 3rd - If so, what can we do?



Cause(s)?

- Lack of knowledge or understanding of Part 48/46 Training Requirements
- Lack of knowledge of mine's approved task training program
- Failure to develop/obtain written instructional materials for use as a guide for trainers
- Failure to provide any training (formal/informal) for the persons who provide task training

Task Training Requirements



- What is a Task?
 - Part 48 - a work assignment that includes duties of a job that occur on a regular basis and requires physical abilities and job knowledge
 - Part 46 - means a work assignment or component of a job that requires specific job knowledge or experience

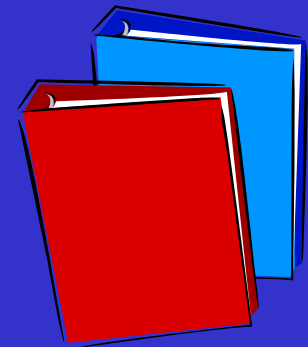
Task Training Requirements

- Example = Work assignment? Loader Operator
 - What are the Job Duties?
 - Fuel equipment
 - Operate mobile equipment
 - Pre/post operator checks on equipment
 - Load trucks
 - Routine maintenance
 - Emergency maintenance and repairs, etc.



Task Training Requirements

- based on the operators/independent contractors written task training programs (Part 48/46)
- other written materials, i.e. JSA's, JTA's, SOP's, operator's manual, manufacture's recommendations, etc.



Task Training Requirements

- When is task training required?
 - When assigned a new work task
 - or, assigned a task the miner has not done within the previous 12 months or has not demonstrated safe operating procedures for within the previous 12 months (Part 48)
 - or, reassigned to a new task in which the miner has no previous work experience (Part 46)



Task Training Requirements

- New or modified machines or equipment with new or different operating controls
- When changes occur in a miner's assigned task that affects health and safety

Task Training Requirements

- Minimum courses that must be covered?
 - Health and safety aspects of the task including safe operating/work procedures (includes HazCom)
 - Supervised practice during non-production
 - Supervised operation during production

Task Training Requirements

- Safe operating procedures for **new** or **modified** machines and equipment which require new or different operating procedures
- Any other courses required by the District Manager (Part 48)

Task Training Requirements

- Methods for providing and evaluating the training?
 - Part 48 requires a program for training miners in work tasks including
 - Complete list of task assignments
 - Titles of persons conducting the training

Task Training Requirements

- Outline of training procedures to be used in training miners in those work assignments
- Evaluation procedures used to determine the effectiveness of the training

Task Training Requirements

- Part 46 requires a written program for training miners for new tasks including
 - A list of tasks, general description of teaching methods, course materials to be used, subject areas to be covered and approximate time or range of time to be spent on each subject area
 - The names of competent persons who will provide training in each task

Task Training Requirements

- Evaluation procedures used to determine the effectiveness of the training

Lack of Knowledge?

- At a minimum, the approved task training program should be used to conduct task training
- Are the miners who are conducting task training and the supervisors who oversee the task training using this program as a guide?
 - Approved plan/program posted on mine bulletin board and never looked at?

Lack of instructional materials?

- Failure to develop/obtain written instructional materials for use as a guide for trainers
 - Job Safety/Task Analysis
 - Safe Operating/Work Procedures
 - Task training checklists
 - Operator's manuals
 - Manufactures recommendations
- Can be used to address safety and health aspects, including “established” safe operating/work procedures



Lack of instructional materials?

- Without any instructional materials for providing task training, what does the training consist of?
 - Trial and error training – “follow Joe around”
 - Process often consists of spending unstructured time with someone who has done the job
 - Leads to variability in the way miners do their jobs
 - Allows the trainers to overlook critical job steps

Lack of instructional materials?

- Also, if there are no “established” safe operating/work procedures for tasks, how can the task training cover those “procedures”?
 - Are the procedures based on whoever is doing the training and their ideal of what those procedures are based on their experience or the training they received?

Training for Trainers and Supervisors?

- Failure to provide training in basic instructional techniques and evaluation methods for trainers and supervisors overseeing training

What can “we” do?

- Mine Operators?
- Independent Contractors?
- Federal and State Agencies?
- Cooperative Trainers/Safety Consultants?
- Vendors?
- Associations/Labor Unions?

What can “we” do?

- Everyone here today can play some part in protecting the safety and health of our miners - either directly or indirectly

What can “we” do?

- EFSMS Stakeholder Outreach
 - Reaching out to the industry stakeholders to form training partnerships
 - Can their efforts be leveraged with those of EFSMS to provide more effective training for miners
 - Development of new and better training materials

Guidelines for Effective Task Training

- Ensure operators/contractors have **effective** task training programs in place that include requirements for
 - performing task training on all machines and job duties
 - performing training on all maintenance activities
 - performing task training when there is a change to the equipment, process or condition

Guidelines for Effective Task Training

- Conduct an assessment to ensure the program addresses training on all tasks *utilizing*
 - equipment or job checklists
 - job safety analysis/job task analysis
 - safe operating/work procedures
 - operator's manuals for determining specific hazards related to equipment



Guidelines for Effective Task Training

- Maintain a current listing of all tasks in the approved plan
- Develop a plan to address any changes to equipment, process, or mining conditions

Guidelines for Effective Task Training

- Ensure task trainers have the knowledge and skills to perform adequate and efficient task training
 - What are the requirements?
 - Experience in the task (how much, how recent)
 - Communication skills

Guidelines for Effective Task Training

- Train-the-trainers

- Provide some basic training for those providing OJT

- instructional techniques

- evaluation methods

Guidelines for Effective Task Training

- Ensure trainers are providing the same training on all equipment and job duties
 - Utilize written instructional materials/guides for the trainers
- Allow the trainer and the trainee sufficient time to conduct and complete task training

Guidelines for Effective Task Training

- Establish evaluation procedures for determining that the trainee has the necessary skills to perform tasks in a safe manner, i.e.,
 - pre- and post- operation checks
 - proper start-up and shut down procedures
 - safe operating procedures for equipment operation and safe work procedures for other tasks

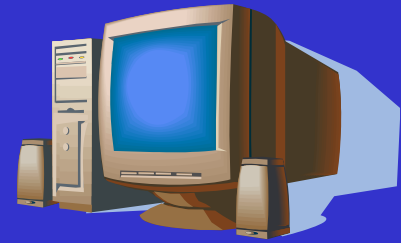
Guidelines for Effective Task Training

- knowledge of any required maintenance and service of equipment
- understands how and where to report any problems or malfunctions
- knows the location of HazCom Program/MSDS's

“Structured” vs “Unstructured” Task Training

- “Structured” training requires more time upfront, but
 - Practical and effective way to get the most from the time you spend on job training
 - Provides consistency and the ability to evaluate effectiveness
 - Can include all aspects of a job including production, maintenance and safety

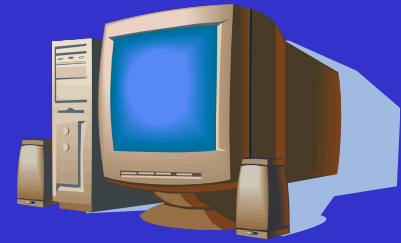
On-line Training Assistance



- MSHA Training Center page providing materials, guidance, and hands-on assistance to help miners and operators meet their training obligations and more

<http://www.msha.gov/training/>

On-line Training Assistance



- Samples of Completed Job Task Analysis
 - 50+ JTA's on equipment operation and other work tasks (Coal and MNM)

<http://www.msha.gov/interactivetraining/tasktraining/sampledocs.htm>

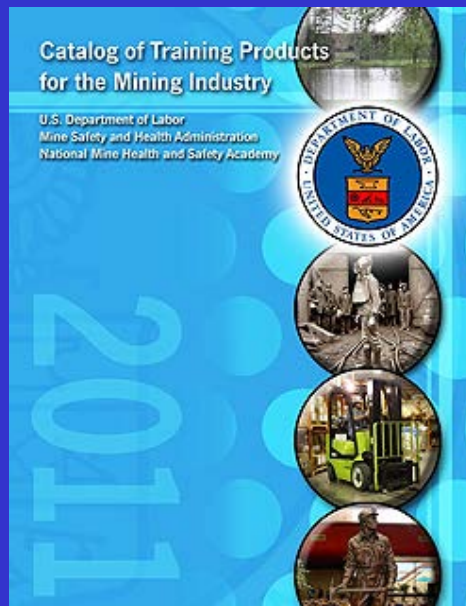
Products Available from MSHA

- Modules describing the basic job steps, potential hazards or accidents, and recommended safe job procedures for tasks
 - On-the-job Training Modules for Sand, Gravel and Crushed Stone, IG 40
 - <http://www.msha.gov/training/part46/ig40/ig40.htm>

Products Available from MSHA

- Several other On-the-job Training Module Guides for Surface Coal, UG Coal, Surface Metal and NonMetal, Prep Plants/Shops, etc.

Products Available from MSHA



Instructional Guides
Multimedia
Safety Manuals
Best Practice Cards

National Mine Health and Safety Academy
1301 Airport Road
Beaver, West Virginia 25813-9426
Phone: 304-256-3257
Fax: 304-256-3368
Email: MSHADistributionCenter@dol.gov

EFSMS Training Assistance

- For on-site assistance:

[http://www.msha.gov/epd/efsms/
contact.asp](http://www.msha.gov/epd/efsms/contact.asp)





QUESTIONS