Do You Understand Mine Emergencies?

Are You Prepared for a Mine Emergency?

PARTICIPANT'S GUIDE

MODULE 2: EMERGENCY RESPONSE PLANS

PENN STATE MINER TRAINING PROGRAM
UNIVERSITY PARK, PA
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PENNSTATE

MINER TRAINING PROGRAM

DO YOU UNDERSTAND MINE EMERGENCIES?

ARE YOU PREPARED FOR A MINE EMERGENCY?

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MODULE 2: EMERGENCY RESPONSE PLANS

Mark Radomsky
Joseph Flick
Joeseph DeSalvo
Larry Grayson
&
Raja Ramani

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Preface

The history of underground coal in the United States is notable for its successes and failures. In the distant past, coal played a prominent role in our industrial revolution, rail transportation, iron and steel making, and heating needs. Most recently, it has been the source for affordable electricity, and for a myriad of other fuels and products. Extracting and processing coal is challenging, and the miners who work in the industry work in one of the Nation's most hazardous occupations.

Mine emergencies, such as mine explosions, fires, and inundations have been all too common. Too many miners have lost their lives over the years, and many more have suffered serious injuries doing the job that typically provides challenge, high wages, and good benefits.

Recent mine emergencies, such as Jim Walter Resources No. 5 Mine, Sago Mine, Aracoma Alma Mine No 1, and the Darby Mine No. 1 have reminded us that continuous safety and continuous safety improvement is our goal—a challenge to every miner.

Acknowledgements

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The training program, titled, *Do you understand mine emergencies? Are you prepared for a mine emergency*? is the result of a 2007/2008 MSHA, Brookwood-Sago Mine Safety Grant. This grant, one of several awarded in 2007 by the Mine Safety and Health Administration, was awarded to the Penn State Miner Training program on September 30, 2007.

The program was the result of a cooperative effort between many mining stakeholders, and consists of an achieved webcast, titled, *Escape and survive*, and the training program referred to above.

These materials are available for a limited time at www.minerstownhall.org, or through the MSHA Academy at www.msha.gov.

We encourage you to help us improve this program. Please don't hesitate to contact us at 814.865.7472, or by contacting any of the authors (See Appendix B).

INTRODUCTION

Purpose

The training program, titled, *Do you understand mine emergencies? Are you prepared for a mine emergency?* was prepared to help miners deal with mine emergencies. The purpose of the training program is to improve your capability to survive a mine emergency, primarily through mine emergency preparedness (MEP). Surviving an emergency depends on many factors, such as size of the mine, location of miners, the scope of the incident, the amount of energy released, the effectiveness of emergency plans, training and good decision-making. Some factors in an emergency can't be controlled. What you can control is your knowledge and skills in emergency preparedness and response. By improving your knowledge of emergency principles, emergency skills, and decision-making capabilities, more miners will be able to survive mine emergencies.

Format/content

This training program uses Internet webcast technology and CD ROM based PowerPoint presentations, an Instructor's and Participant's Guide. The webcast can be accessed through the Internet at www.minerstownhall.org or played from a CD. During the webcast, various expert panelists will comment on mine emergency subjects. Informational slides appear to the right of the speakers to summarize most of the main points. In addition, a series of video clips are "rolled in" at the appropriate times. These realistic clips, shot on location at a working mine, represent a simulated mine emergency and response, and feature donning/switching of the SCSR, and the use of directional lifelines.

This training program consists of six training modules that address the following major mine emergency preparedness issues:

- Mine emergencies
- Emergency response plans
- Self-contained self-rescuers
- Emergency communications and miner tracking
- Escape and evacuation
- Breathable air safe havens/refuge chambers

Each module has a pre-test and a post-test (See Appendix A). You may be given a short test before each lesson to evaluate your knowledge of key points. You may also be given a slightly longer test at the conclusion of the module to evaluate if you grasped the key concepts of the module. If you missed some questions on the pre-test, pay close attention to those parts of the training module.

A few tips to help you with the learning process:

- Take notes
- Ask questions
- Apply your training to your mine
- Talk with other miners
- Think about the layout of your mine during the training
- Make suggestions to improve training
- Ask yourself (and discuss with other miners): "If an emergency were to occur at my mine, how would I apply these principles to escape or evacuate?"

Application

Knowing how to react in an emergency is critical to your survival. Coal mining is serious business! Training is also serious business! Take your training very seriously! Pay attention to training on mine emergencies, and take it very seriously! Thoroughly prepare yourself by finding out about your mine's most important mine emergency preparedness procedures. In a real emergency your training and your knowledge could help save your life. A few tips to help you think about how to react to mine emergencies:

- Know the contents of your mine Emergency Response Plan.
- Know the contents of your emergency escape and fire-fighting plans.
- Know the layout of your mine and where escapeways, directional lifelines, emergency supplies, extra SCSR's and refuge chambers are located.
- Know how to report an emergency and provide accurate information.
- Know how to don and switch SCSR units.
- Know where to meet at the first sign of an emergency.
- Know how your mine tracking system works.
- Know how refuge chambers operate.

- Know where you are at all times in the mine, and how to escape from where you are located.

Of course, the best solution to mine emergencies is to have no emergencies! Your daily efforts to work safely, play by the rules, report problems and take care of yourself and your co-workers can go a long way to make “no emergencies” a reality. You must be prepared however for the unexpected and emergencies are unexpected.

Best wishes to you in your training and your mining career. Thank you for all you do to make mining a safer place to work! Never let a chance for something that could save your life pass you by. Learn all you can about mine emergency response! What you know could save your life, or help someone else save yours!

Module 2

Emergency Response Plans

Participant's Guide

Purpose of the Module

To increase the trainees' knowledge and understanding of key components of Emergency Evacuation Plans as required by Section 2 of the 2006 MINER Act.

Pre-test

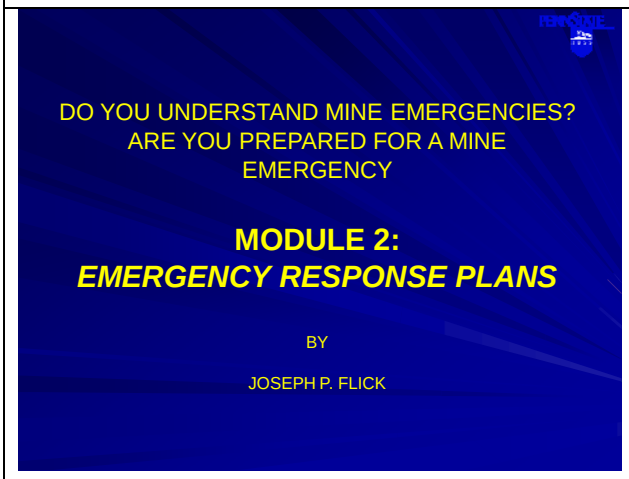
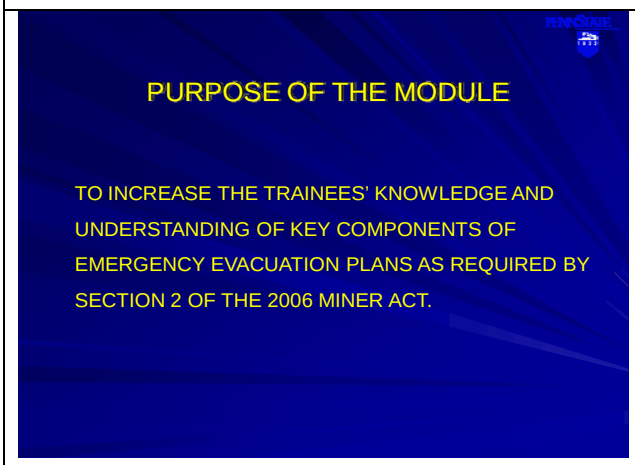
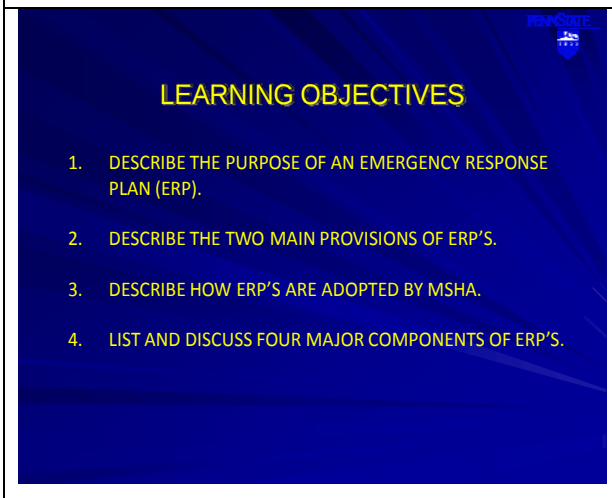
Following the introduction of this module, your instructor will ask you to complete a pre-test. The pre-test will demonstrate your knowledge and understanding of this topic.

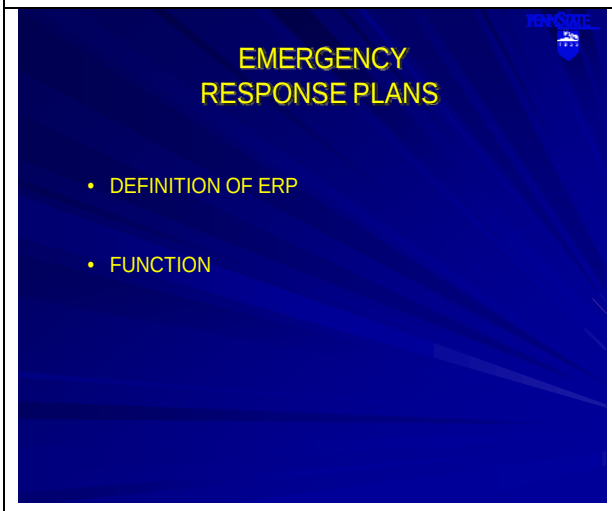
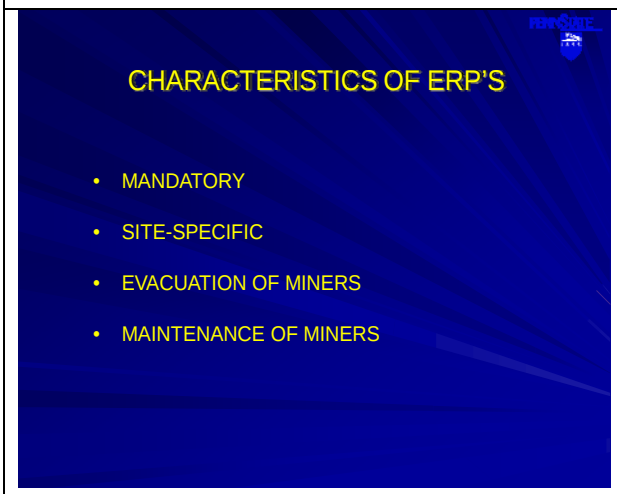
Post-test

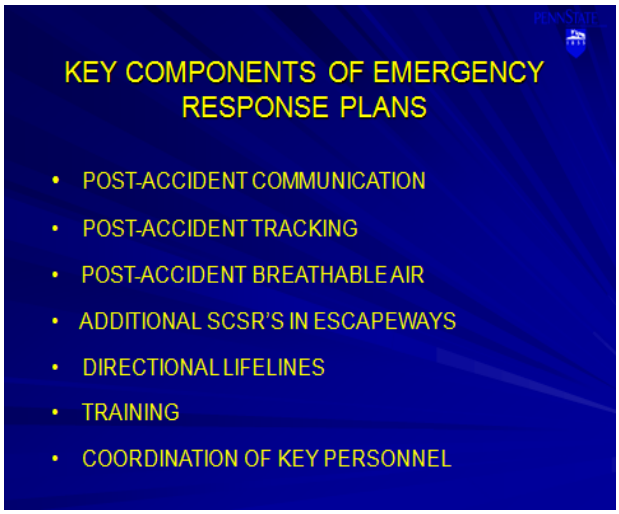
After completing this module, the instructor will ask you to complete a post-test. By comparing the group scores between the pre- and post-test, the instructor can demonstrate whether the training was effective.

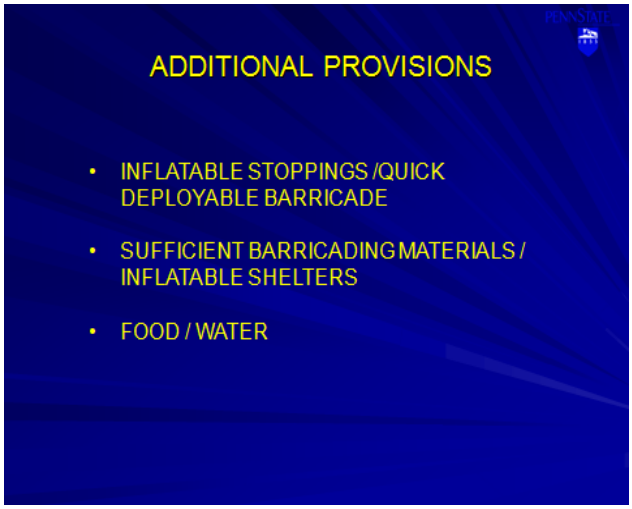
Evaluation

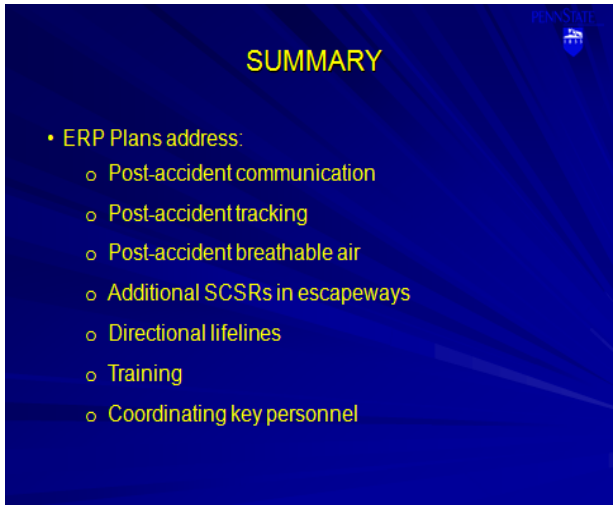
Following completion of the course, you will be asked to provide feedback to the instructor on whether you believe the course achieved its purpose. You will also be asked several questions regarding the design, and implementation of the course. An evaluation form will be used for this purpose.

Introduction	Notes
	
	The Emergency Response plan (ERP) is a company, mine-specific document that can help you in an emergency. What do you know about your ERP?
	The more you know about your ERP, the better able you will be to escape or survive a mining emergency.

Introduction and Important Points	Notes
	The ERP has a specific purpose.
	The ERP can help you if you are escaping or trapped.
	The mining company is responsible for following specific MSHA guidelines in developing the ERP. MSHA approves ERP's and reviews them every six months.

Important Points	Notes
	If an ERP is lacking certain material, MSHA will notify the company.
	**Your PRIMARY obligation in an emergency is to make every effort to escape the mine**! Barricading is the **ABSOLUTE LAST RESORT!**
	The ERP addresses many areas of miner communication and tracking. Do you know how your tracking system works? Do you know where additional breathable air is located? Do you know where ALL extra SCSR's in your mine are located? Do you know where your lifelines are located, how to find them, and use them?

Important Points	Notes
	The ERP also provides for additional barricading supplies to be provided. Again, these would only be used as a LAST RESORT! The ERP also specifies that extra first aid materials and gas detectors be provided. Do you know where these supplies are located and how to use them?
	The ERP is a document that you should be familiar with. You should review your ERP with your supervisor at regular intervals.
	

Important Points	Notes
	

APPENDIX A

MODULE 2
EMERGENCY RESPONSE PLANS

PRE-TEST

This pre-test consists of five multiple-choice questions. Each question is followed by four choices. Circle the letter that indicates the best choice.

1. Emergency Response Plans are required to address:

    a. The evacuation of endangered miners and maintenance of trapped miners
    b. The hiring of new miners and experienced miners
    c. The rescue of trapped miners
    d. Drilling of exploratory holes to find trapped miners

2. In the event of a mine emergency, which of the following options should be the primary objective of miners?

    a. Barricading
    b. Entering a refuge chamber
    c. Finding an alternative escape route
    d. Evacuation

3. If changes are made in a company's Emergency Response Plan (ERP), training must be provided to the miners within _____ days of MSHA's approval of the ERP changes.

    a. 7 Days
    b. 21 Days
    c. 30 Days
    d. 45 Days

4. Training drills on donning and switching Self-Contained Self-Rescuers (SCSR's) must be conducted at least how often?

    a. Monthly
    b. Quarterly
    c. Semi-annually
    d. Annually

5. Post-Accident breathable air must be supplied to miners to last for at least how long?
    a. 24 Hours
    b. 36 Hours
    c. 48 Hours
    d. 96 Hours

MODULE 2
EMERGENCY RESPONSE PLANS

POST-TEST

This post-test consists of 10 multiple-choice and two True or False questions. Each multiple-choice question is followed by four choices. Circle the letter that indicates the best choice.

1. TRUE or FALSE? If hardwired systems are used to meet the requirements for communication between the surface and underground, the system must be redundant.

2. TRUE or FALSE? Until post accident tracking technology becomes more reliable, ERPs allow the use of a dispatcher system to track persons underground.

3. At least how many SCSR's must be provided on the working section for each miner?

    a. 1
    b. 2
    c. 3
    d. 4

4. SCSR's must be located within a ____ minute walking distance in escapeways.

    a. 10
    b. 15
    c. 30
    d. 45

5. The point on directional cones on post-accident lifelines must point in what direction?

    a. Inby
    b. Outby
    c. Up
    d. Down

6. One of the quarterly training drills on donning SCSR's shall be conducted in:

    a. The mine
    b. Total darkness
    c. An atmosphere of artificial or simulated smoke
    d. An atmosphere of less than 1.0% Methane.

7. What other emergency supplies must be maintained in each working section?

    a. Inflatable stoppings
    b. Food and water
    c. First aid kits
    d. All of the above

8. Emergency Response Plans are required to address:

    a. The evacuation of endangered miners and maintenance of trapped miners
    b. The hiring of new miners and experienced miners
    c. The rescue of trapped miners
    d. Drilling of exploratory holes to find trapped miners

9. In the event of a mine emergency, which of the following options should be the primary objective of miners?

    a. Barricading
    b. Entering a refuge chamber
    c. Finding an alternative escape route
    d. Evacuation

10. If changes are made in a company's Emergency Response Plan (ERP), training must be provided to the miners within _____ days of MSHA's approval of the ERP changes.

    a. 7 Days
    b. 21 Days
    c. 30 Days
    d. 45 Days

11. Training drills on donning and switching Self-Contained Self-Rescuers (SCSR's) must be conducted at least how often?

    a. Monthly
    b. Quarterly
    c. Semi-annually
    d. Annually

12. Post-Accident breathable air must be supplied to miners to last for at least how long?

    a. 24 Hours
    b. 36 Hours
    c. 48 Hours
    d. 96 Hours

APPENDIX B

MARK C. RADOMSKY
E-mail: mcr4@psu.edu
Address: 0212 RES BL WEST
UNIVERSITY PARK
Telephone Number: +1 814 865 6335

JOSEPH P FLICK
E-mail: jpf1@psu.edu
Address: 0213 RES BL WEST
UNIVERSITY PARK
Telephone Number: +1 814 865 7472

JOSEPH NICHOLAS DESALVO
E-mail: jnd10@psu.edu
Address: 0213 RES BL WEST
UNIVERSITY PARK
Telephone Number: +1 814 865 7472

ROBERT LARRY GRAYSON
E-mail: rlg19@psu.edu
Address: 0103A HOSLER BUILDING
UNIVERSITY PARK
Telephone Number: +1 814 863 1644

RAJA V. RAMANI
E-mail: rvr@psu.edu
Address: 0209 RES BL WEST
UNIVERSITY PARK
Telephone Number: +1 814 863 1617